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USING A STANDARDIZED COMMUNICATION TOOL SBAR TO IMPROVE LVN STUDENTS’ SHIFT REPORTING

A Dissertation Presented to The Faculty of the School of Education Learning and Instruction Department In Partial Fulfillment of the Requirements for the Degree Doctor of Education

by
Anna Yan Yan Kwong
San Francisco, CA
May 2011
This dissertation, written under the direction of the candidate's
dissertation committee and approved by the members of the committee,
has been presented to and accepted by the Faculty of the School of
Education in partial fulfillment of the requirements for the degree of
Doctor of Education. The content and research methodologies presented
in this work represent the work of the candidate alone.

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Using a Standardized Communication Tool SBAR to Improve LVN Students’ Shift Reporting

This study investigated the effectiveness of implementing a traditional communication lecture and a treatment lecture SBAR: Situation, Background, Assessment, and Recommendation (SBAR) to Licensed Vocational Nursing (LVN) students and the use of SBAR for shift reporting. Twenty students in a long-term-care setting were observed over 6 weeks. Two intact groups of 10 students each were randomly assigned to receive a traditional communication lecture or the SBAR treatment lecture at Week 2, and then the SBAR lecture for both groups at Week 4.

This study used the SBAR Knowledge Acquisition Quiz (SBARKAQ) to measure knowledge retention, the Self-Reported Anxiety and Confidence scale to measure students’ perceived anxiety and confidence, the Shift-Report Assessment Tool (SRAT) for shift reporting inventory, and an open-ended survey for the SBAR lecture and tool feedback. Using Bandura’s self-efficacy concept as the framework, students were expected to retain knowledge, decrease perceived anxiety and increase confidence, and increase their use of the SBAR for shift reporting.

There were statistically significant differences for the SBARKAQ scores after receiving the SBAR lecture to support knowledge retention. There was a statistically significant difference with the SRACS subscale anxiety in the treatment group from Pretest to Week 3; other SRACS subscales were not statistically significant for both groups. The SRAT was not statistically significant for both groups with the use of SBAR or reported items during shift reporting. The open-ended survey resulted in suggestions for a revised version of the SBAR for LVN students in long-term-care clinical rotations.
This study examines a number of critical issues with incorporating SBAR in the nursing curriculum and use of SBAR when shift reporting. Further research focusing on revisions of the SBAR tool for LVN students in long-term-care facility and longitudinal study of the students in subsequent clinical rotations for knowledge retention and continual use of SBAR are essential.
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CHAPTER I
INTRODUCTION

A nurse is someone who has met educational and clinical requirements to help promote, maintain, and restore a patient’s health and well-being. There are different levels of preparation for nurses. The term “nurse” with whom the general public associates most commonly is a Registered Nurse (RN), a board certified healthcare professional who has received scientific education and clinical training to care for patients. There is, however, another group of healthcare providers who are also board certified nurses except that they must work under the supervision of an RN or a physician; they are called Licensed Vocational Nurses (LVN) or Licensed Practical Nurses (LPN). LVNs were the focus of this research.

LVN is the title given to nurses in the states of California and Texas, whereas the LPN is used in the 48 other states. The certification examination for LVNs and LPNs is the same as well as the level of supervision required by nurses and physicians. The current study was conducted in the state of California, so the term LVN was used.

LVN training programs are located in vocational schools or associate degree programs that run approximately 12 to 18 months depending on whether the students are attending fulltime or parttime. LVNs are hired in the hospitals, outpatient clinics, homecare settings, or long-term-care facilities; they are able to perform routine nursing care such as taking vital signs, feeding, changing, and monitoring patients under the authorized treatment plan of a physician or registered nurse (All Nursing Schools, 2009).

In the state of California, the demand for LVNs are on the rise because of the economic crisis in 2008 and 2009 that had displaced workers in labor, housing, and
financial sectors. LVN programs are able to offer short-term training programs and to provide a workforce for entry-level healthcare positions in clinics and long-term-care facilities where there is a need for LVNs to care for the increasing aging population (Browning, 2009).

LVNs need to communicate effectively with the registered nurses and physicians in order to carry out the treatment plans that they have developed for the patients; the LVNs have a responsibility and a liability to prevent medical errors from occurring as much as their supervisors (Stanley, 2009). Margie (1979) and Kim (2003) identified that RNs and LVNs had self-disclosed level of anxiety based on the amount of training during their educational preparation, the authority and title of the person, and the years of experience of the RN or LVN. Therefore, effective communication must be taught and practiced while the LVN students are in school so that they will be able to communicate effectively and confidently when they are working as LVNs.

How can LVN students feel less anxiety and more confidence when communicating a shift report? Is it possible to create a lecture and give LVN students a template to help them with shift reporting? How can LVN schools prepare nursing students to improve their communication? This study addressed these questions.

Statement of the Problem

In 1999, the Institute of Medicine (IOM), an independent, nonprofit, nongovernmental agency whose purpose is to conduct research and give unbiased advice to policy makers and to the public to improve health, wrote a report that revealed the alarming rates of medical errors that were occurring in the United States. The report that subsequently was published as a book titled “To err is Human: Building a Safer Health
System” indicated that there were an estimated 44,000 to 98,000 deaths that resulted from medical errors annually. The IOM concretized that the number dying every day from medical errors was equivalent to one to two crashed jumbo jets filled with people, that is, the estimated number of medical deaths per day was approximately 120 to 268 (IOM).

The IOM wanted to alert the public of the astounding rate of medical errors so that changes could be made. Hospitals, hospital accrediting agencies, and other hospital safety organizations reviewed the reported cases of medical errors to identify the root causes for these deaths and errors. Communication failure was found to be the root cause in 70% of the cases reviewed; the failure to communicate was systemic in that it was not limited to healthcare provider communication but between departments such as medication error from the physician or the pharmacy or as surgery site on the wrong limb. The IOM’s report titled, To Err is Human recommended that improving communications in the healthcare setting is essential to reduce medical errors. Since the report was published in 1999, hospitals have been developing protocols and standards to improve communication between healthcare providers, specifically between nurses and physicians because there were communication failures between nurses and physicians that were associated with patient reporting and verbal orders exchanges (Currie, 2006).

Ineffective communication in nursing care is a threat to patient safety and was the focus of this study. During shift reporting, research studies and articles indicated that registered nurses are required to be able to identify and report the status of their patients, any changes in their conditions, and the plan of care during handoff from one department to another, to physicians, and to family members to ensure the patients’ welfare and safety. In long-term-care facilities or outpatient clinics, the LVNs would report directly to
the RN or physician; the LVNs would need to provide a shift report just as the RNs
(Ascano-Martin, 2008; Board of Registered Nursing, 2009; Krautscheid, 2008;
Vocational Nursing Practice Act, 2009). Any breakdown in communication can lead to
the wrong treatment, delays in treatment, life-threatening adverse events, increased
healthcare costs, longer lengths of stay in the hospital, a higher level of staff frustration,
and more patient complaints (The Joint Commission, 2008). The articles found that
barriers that exist to prevent effective and clear communication for RNs were (a) lack of
preparation in communication during their nursing education programs, (b) lack of
structure and standardization in the communication process, (c) lack of ability to identify
what and how to communicate, and (d) lack of confidence in the student nurses’ ability to
communicate (Ascano-Martin; Haig, Sutton, & Whittington, 2006).

Ascano-Martin (2008) and Haig et al. (2006) addressed the needs for registered
nurses to have effective communication; however, their stated barriers to effective
communication also apply to the LVNs who are working with nurses. The LVNs also
will benefit having the confidence and practice to effective communication.

Once communication failure was identified as the root cause of medical errors;
the hospitals and hospital accrediting agencies wanted to find a solution to address and
reduce medical errors. One hospital developed a standardized communication method
known by the acronym of SBAR; SBAR stands for Situation, Background, Assessment,
and Recommendation (SBAR). It is one of the standardized communication tools that
was developed by a group of physicians from Kaiser Hospital in Colorado to improve
communication between physicians and nurses. Since the development of SBAR, The
Joint Commission (2008) recommended using SBAR (Situation-Background-
Assessment-Recommendation) as a tool to improve communication handoff to promote patient safety and to improve patient outcomes. SBAR is a “standardized communication format” that leads to precise, complete information exchange (Guise & Lowe, 2006; Institute for Healthcare Improvement, 2005). Using SBAR will lead to precise, complete information exchange of the following: S-Situation (what is going on with the patient?), B-Background (what is the pertinent medical history about the patient?), A-Assessment (What I found when assessing the patient, what I think the problem is?), R-What do you or I recommend? (Leonard, Graham, & Bonacum, 2004). SBAR will help to enhance predictability and promotes critical thinking. Other hospitals and healthcare institutions have come up with other types of acronyms to assist healthcare workers to communicate with each other, such as DAR (Data, Action, and Response) or PIE (Problem, Intervention, and Evaluation). SBAR gained widespread popularity within the healthcare community; SBAR is one of the most effective communication tools and is currently in use in all Kaiser facilities and is being adopted widely by hospitals to meet the The Joint Commission (TJC) safety standards (Groff & Augello, 2003; Hohenhaus, Powell, & Hohenhaus, 2006).

Purpose of the Study

The need for nurses to communicate effectively in the hospital setting is evident to promote patient safety; a standardized communication tool SBAR has been adopted widely in the hospitals since 2003 to assist health-care givers in communicating more clearly and effectively with each other (Leonard et al., 2004). The purpose of this study was to measure the effectiveness of an SBAR training to improve LVN students’ communication with nurses by (a) assessing knowledge retention of SBAR, its definition,
origin, usage, and categories; (b) comparing students’ self-reported perception of communication with nurses; and (c) observe the frequency and usage of SBAR when giving a shift report.

The study consisted of two groups of clinical students who were enrolled in a LVN school in Northern California and who were in their first medical-surgical clinical rotation at a skilled nursing facility. The groups were assigned randomly to either the treatment group (the group that received a SBAR lecture) or the traditional group (the group that received the traditional lecture on communication). This study utilized a crossover design, a research design where the participants of the traditional group receive both the traditional lecture and the treatment, to observe participants over 6 clinical practicum weeks.

At Pretest, both the treatment and the traditional groups received an SBAR-Knowledge Acquisition Quiz (SBARQAQ); this quiz was given to establish baseline knowledge of SBAR and communication. A pretest and posttest knowledge retention 10-item quiz regarding the SBAR tool was used to measure effectiveness of the SBAR training knowledge retention.

The self-reported anxiety and confidence scale (SRACS) also was administered at Pretest; the SRACS was given to the students to assess the students’ perception of their communication with nurses before the SBAR, during shift reporting over a series of observations.

At Week 2, the groups were randomly assigned to receive either the traditional lecture or the SBAR lecture. Following the lecture, the Shift reporting Assessment Tool (SRAT) was used to measure the required shift-reporting information. At Week 3, the
SBARKAQ, SRACS, and SRAT were administered to observe the effectiveness of the respective communication lectures. At Week 4, both groups received the SBAR lecture as part of the requirement of a cross-over design to measure differences in the treatment. At Week 6, the SBARKAQ, SRACS, and SRAT were administered again to measure changes in the traditional group after receiving the SBAR lecture. An open-ended short-answer questionnaire regarding the usefulness of SBAR and whether the students would continue to use SBAR in the future was administered.

Significance of the Study

This study is important for three reasons. First, it addressed the identified needs and research literature gap that exists in the area of LVN student communication with SBAR. Research studies with SBAR reporting and communication between nurses and physicians in the workforce were available, but the studies did not identify LVNs or LVN students (Krautscheid, 2008; Rodgers, 2007; Thomas, Betram, & Johnson, 2009; Velji et al., 2008). Second, the study focused on authentic situated learning environment, where the students did their clinical at an Alzheimer’s residential facility. Conducting research in a real-time setting provided authentic learning experience that is more effective than a classroom or simulated case scenario situation (Lave & Wenger, 1991). Krautscheid (2008) conducted a research study with nursing students by using a case scenario and a simulated SBAR report to the instructor; the simulated SBAR report was not an authentic communication to a staff nurse as in this study. Third, the present study utilized quizzes, self-reported scales, and performance assessment SBAR reporting to provide quantitative data to measure effectiveness of the SBAR training for LVN students. The available research is weighted heavily toward measuring patient safety outcomes such as reduction
in medication error, decrease in falls, and increase in patient satisfaction, yielding little
data regarding the efficacy of the SBAR training and perception of the person using
SBAR to improve communication. The present study attempted to address the
methodological weaknesses in these studies by using a rigorous, quasi-experimental
design.

Background and Need

The following section provides the background and need for the study and the
need to avoid miscommunication in hospitals. An explanation for patient safety, LVN
training and preparation, and the development of SBAR are provided in the section.

Patient Safety

According to the Institute of Medicine (1999), every year approximately 44,000
to 98,000 people die from sentinel events; sentinels events are unanticipated in a
healthcare setting and result in death or serious physical or psychological injury to a
person or persons not related to the natural course of the patient's illness (Institute of
Medicine).

Sentinel events are required to be reported to The Joint Commission, a hospital-
accrediting agency. During the period from1996 to 2003, The Joint Commission received
notification of 47 cases of sentinel events from various accredited labor and delivery
units in the United States (The Joint Commission, 2004). The Joint Commission
published the following findings in the Sentinel Event Alert Report on July 21, 2004:

In the 47 cases studied, communication issues topped the list of identified root
causes (72 percent), with more than one-half of the organizations (55 percent)
citing organization culture as a barrier to effective communication and teamwork,
i.e., hierarchy and intimidation, failure to function as a team, and failure to follow
the chain-of-communication. Other identified root causes include: staff
competency (47 percent), orientation and training process (40 percent),
inadequate fetal monitoring (34 percent), unavailable monitoring equipment and/or drugs (30 percent), credentialing/privileging/supervision issues for physicians and nurse midwives (30 percent), staffing issues (25 percent), physician unavailable or delayed (19 percent), and unavailability of prenatal information (11 percent). (The Joint Commission, 2004, Issue 30)

The Joint Commission cited that the root cause for the sentinel events was attributed to miscommunication due to organizational structure, organizational culture, and barrier to communication. Examples of communication errors caused the wrong medication to be administered to the patient, inappropriate written physician orders were transcribed from phone conversation with physicians, and miscommunication exchanges between health-care providers (Haig et al., 2006).

Given that communication failures have caused patient harm and unanticipated deaths, all members of the health-care team must communicate effectively with each other in order to prevent sentinel events and to promote patient safety (The Joint Commission, 2004). In 2003, The Joint Commission developed a set of National Patient Safety Goals (NPSG) that includes the goal of improving “the effectiveness of communication among caregivers” (Haig et al., 2006). The NPSG specifically required a standardized approach to handoff communication from one caregiver to another with opportunities to ask and respond to questions. Handoff communication occurs between nurses at the end-of-shift, from physician to physician, or when a patient is transferred from one department to another (Mikos, 2007; O’Connell, Macdonald, & Kelly, 2008).

LVN Training and Preparation

Vocational nurse training was initially a work-training program for the Young Women’s Christian Association (YWCA) in New York City in 1892; the vocational students learned homemaking and how to care for patients (Texas Collaborative for
Teaching Excellence, 2007). In the 21st century, LVN training occurs in accredited trade schools or college-based associate degree programs with state-approved curriculum for required courses and practica (Reichmann, Foust, Gilliam, & Keyser, 1995).

There are approximately 700,000 persons employed in the United States as vocational nurses; the ratio of RN to LVN is 1:4 (U.S. Department of Labor, 2008). Thus, LVNs are a vital part of the healthcare team and their communication skills are essential to patient care.

The employment of LVNs is expected to increase for the following three reasons. First, the shortage of registered nurses effects hospitals, long-term-care facilities, and outpatient service areas because registered nurses are paid higher than LVNs for their scopes of practice and their skills level, that is, the complexity of their patient care that they can perform. Healthcare administrators and facilities are hiring additional LVNs while cutting back RN staff as a cost-reduction method. Fewer RNs are hired to supervise LVNs in roles. This practice occurs commonly in long-term-care facilities and outpatient-care clinics, home health, and hospices agencies (Cherry et al., 2007). Second, there is an increasing elderly population, and, with the longer life span for the elderly, the need for nursing care is expected to rise (Quinn et al., 2004). Third, the economic crisis of 2008 has had an impact not only in the financial, housing, auto, and technology areas but also in healthcare. People have put off elective procedures. Medicare was scrutinizing patient care, not reimbursing for errors, and reducing its reimbursement for many procedures and treatments (Bogner, 2007). Therefore, hiring more LVNs in place of Registered Nurses is likely (Sochalski, Konetzka, Zhu, & Volpp, 2008). The RN is expected to supervise several LVNs while adhering to the same safety standards and
patient outcomes as they have been now. To ensure that LVNs can communicate effectively with the RNs and other healthcare givers in the exchange of pertinent patient information, they must be taught in their LVN training programs how to communicate effectively as part of the healthcare team (Thomas et al., 2009).

A review of licensed vocational nursing programs in California revealed that a high-school diploma or a high-school equivalent certificate is the only prerequisite for enrollment in these programs (All Nursing Schools, 2009). A survey of four LVN schools that were selected randomly indicated that their curricula emphasized interpersonal communication with patients and families and stressed the need for effective communication. The curricula, however, did not specify how to report to a nurse or to other healthcare providers.

There is also a gap in the literature that specifically studies LVNs; most of the time the articles would provide a descriptive data of the percentage of LVNs and RNs who participated in a particular study. Of the articles that addressed SBAR, nurses, and communication, the articles concluded that there is a lack of standardized communication training for nurses when they are hired (Krautscheid, 2008; McLeod-Clark, 1988; Norris, 1986; Thomas et al., 2009). There is an urgent need to institute training to prepare these providers to communicate effectively with other healthcare givers. The present study focused on the LVN student in training, but it used techniques that were already in use for RNs and physicians in practice and well established at Kaiser hospitals (Leonard et al., 2004).
Development of SBAR

Michael Leonard, M.D. and his colleagues at Kaiser Permanente in Denver, Colorado developed the SBAR communication format as a mental model for improving communication between physicians and nurses (Leonard et al., 2004). Doctor Leonard developed the idea with a quality and safety leader at Kaiser Permanente, Doug Bonacum who was a retired U.S. naval submarine officer.

When Bonacum was a low-level naval ensign assigned to a night shift watch of a nuclear submarine during the Cold War (1985 to 1988), his duties included reporting dangerous situations that might emerge and strong recommendations when he had to notify the captain. Because of the extreme power hierarchy between the Ensign and the Captain, Bonacum used a method of verbal communication that provided clear briefing information to the Captain. Bonacum understood the existence of differences in authority that stood as a barrier in his verbal communication (Denham, 2008). Later, when Kaiser Permanente hired Bonacum, he and his colleagues identified that the barrier between nurses and physicians is a result of hierarchy, gender, ethnic background, and communication styles (Dayton & Henriksen, 2007; Leonard et al., 2004; Rosenstein, 2002). The purpose of the creation of the SBAR tool was to provide a shared mental model for nurses and physicians to promote effective communication and patient safety (Leonard et al.). Michael Leonard, M.D. is acknowledged as the original developer of the SBAR communication tool in the healthcare arena (Dayton & Henriksen; Haig et al., 2006).

Although the social barriers such as hierarchy, gender, ethnic background, and communication styles mentioned above were the initial reasons for the development of
SBAR in order to narrow the communication gap, this research did not investigate the hierarchy, gender, ethnic background, and communication styles for communication between nurses and physician because the purpose of this study was to investigate anxiety and confidence about using SBAR and the knowledge retention of SBAR among nursing students (Rodgers, 2007; Velji et al., 2008).

Theoretical Rationale

This study was grounded in the self-efficacy component of Bandura’s (1977) Social Cognitive Theory. Self-efficacy is defined as the belief in a person’s ability to succeed in a specific situation. The concept of self-efficacy is the center of Bandura’s social cognitive theory. Self-efficacy is a context-specific assessment of competence to perform a task in a given domain; context-specific means that it depends on the task or knowledge that is being acquired. For example, the task of a communicating a shift report for LVN students or newly hired nurses can be an anxious experience, because they would not have the amount of practice and exposure as the seasoned experienced nurses would have. An experienced nurse would know exactly what to report and how to report the information in a clear and concise way, whereas the LVN students need to know what to report and how to report and need practice over time to overcome the anxiety associated with shift reporting to the RN or physician. Self-efficacy is the belief in one’s capability to organize and execute the courses of action required to manage prospective situations (Bandura, 1995). Self-efficacy influences the choices an individual makes. The stronger the efficacy, the more effort the persistence a person will put forth in the face of obstacles and aversive experiences (Bandura, 1977).
Bandura (1977) found that there are four major sources of efficacy expectations: (a) performance accomplishment, such as mastering a skill; (b) modeling or learning by observing others successfully performing a given task; (c) verbal persuasion or verbal encouragement from others; and (d) emotional stimulation, such as anxiety, in connection with a certain behavior. Reported anxiety usually is related inversely to reported confidence. For example the expected findings in this study is to learn if a LVN student’s self-reported confidence is high when communicating with another nurse, then the student’s anxiety level should be low.

In this study, a quiz about using SBAR as a communication tool will be assessed for Bandura’s category of “performance accomplishment”. The quiz will assess prior knowledge of SBAR and identification of the usage and purpose of the tool. The LVN students were given a lecture, an example of the tool, and a case scenario of how the SBAR tool was used to communicate the shift report. Demonstration and participation by the student to give the shift report using the SBAR tool during their clinical shifts should decrease anxiety and increase confidence.

The second source of efficacy was learning by modeling that would be achieved through learning and observing the staff nurses give reports to each other when the student is uncertain about his or her own ability or have a lack of prior experience. Self-believe must be instilled to influence individual’s behavior and take action. During the course of the intervention study, the participants in the intervention group had a template and hands-on training. Live modeling with the instructor and observing others learn in the clinical group should help the students learn the new skill of reporting with SBAR.
The third source of efficacy expectations, the LVN students received feedback and social encouragement from the instructor to reach higher self-efficacy belief. Use of a posttest, questioning, and observation from the instructor helped achieve the goal of communicating with SBAR.

Finally, the fourth source of efficacy expectation is emotional stimulation that can be caused by anxiety, stress, fatigue, and mood change. When students were giving a shift report, the anxiety of not knowing what to say or how the nurse would receive the information may create a level of anxiety in the student.

Perceived self-efficacy is concerned with individuals’ beliefs in their capabilities to exercise control over their own functioning and over events that affect their lives. Efficacy expectation is an individual’s belief to perform a particular behavior successfully (Bandura, 1986). In this study, the LVN students had an opportunity to practice using SBAR to communicate their shift report. The exposure and practice with SBAR reporting should help to decrease anxiety and increase confidence.

A model based on Bandura’s (1977) self-efficacy theory in SBAR communication has been created (Figure 1). The model hypothesizes that a SBAR training that incorporates all four major components of efficacy expectation would influence positively communication confidence and lower anxiety toward shift reporting to a nurse, leading to communication self-efficacy.

Research Questions

The research questions for this study were as follows:

1. To what extent does SBAR training promote knowledge retention in LVN students receiving the treatment and in LVN students receiving the traditional lecture?
For the treatment group, comparisons were made on the SBARKAQ between Pretest and Week 3, Week 3 and Week 6, and Pretest and Week 6. For the traditional group, the same comparisons were made.

2. To what extent does SBAR training promote knowledge retention in LVN students who received the treatment communication lectures compared with students who received the traditional communication lecture?

3. To what extent does SBAR training promote the use of the SBAR tool to reduce anxiety and promote confidence and use of the tool in LVN students receiving the treatment and in LVN students receiving the traditional lecture?

4. To what extent does Self-reported Anxiety and Confidence (SRACS) in LVN students who received the treatment communication lectures compared with students who received the traditional communication lecture?
5. To what extent do LVN students who received the SBAR lecture utilize the SBAR tool for shift reporting compared with students who received traditional communication lecture when observed with a Shift Reporting Assessment Tool (SRAT)?

6. To what extent does SBAR training promote the LVN students perceived level of preparedness for shift reporting in the two groups?

7. To what extent do the LVN students differ in their open-ended survey of the usefulness and evaluation of the SBAR Shift Report format?

Definition of Terms

The following were the operational definitions of key terms used in this study. There may be other definitions of the terms listed below; however, for the purposes of this study, the stated definitions apply.

**Alzheimer’s residential facilities** are nonmedical facilities that provide a level of care that includes assistance with activities of daily living, such as bathing, grooming, dressing, eating, transferring for patients diagnosed with early to advance stage of Alzheimer’s disease. LVNs may be hired to work at such facilities (Alzheimer’s Association, 2009).

**Handoff** is a communication method of passing along essential patient-care information to another care provider (Currie, 2002; Mikos, 2007). Some studies use the term handover to represent handoff.

**Handover** is defined as the same as handoff; see definition for handoff. Some studies use handover especially in the United Kingdom (Kerr, 2002).

**Knowledge retention** is defined as the changes from pretest to posttest at various time intervals to measure how much content the individual can retain. In this study, the SBARKAQ was used to measure the changes.
License vocational nurse/License practical nurse (LVN/LPN) is a nurse who has completed a practical nursing program and is licensed by a state to provide routine patient care under the direction of a registered nurse or a physician (Vocational Nursing Practice Act, 2009).

Medical-Surgical Clinical Practicum is a course in the field of nursing that gives students supervised practical application of previously studied theory. In this study, Medical-Surgical Clinical Practicum occurs in a long-term-care facility.

Nursing Staff are license vocational nurses or registered nurses who are hired by a facility or hospital to care for patients.

Registered Nurse (RN) is a board certified healthcare professional who has received scientific education and clinical training to care for patients (Board of Registered Nursing, 2009).

Situation, Background, Assessment, and Recommendation (SBAR) is the acronym for a communication mental model that was developed by Michael Leonard, M.D. in 2004 at Kaiser Permanente, originally to use between communication between physicians and nurses (Leonard et al., 2004).

SBAR Knowledge Acquisition Quiz (SBARKAQ) is a 10-item quiz to assess for retention of knowledge of SBAR.

Self-Reported Anxiety and Confidence Scale (SRACS) is a 14-item Likert scale rating of perceived anxiety, confidence, and use of SBAR tool related to communication with other nurses. There are 5 items each for anxiety, confidence. Use of the SBAR tool is assessed with three items, and one item assesses the preparedness for shift reporting.
Sentinel events are unexpected occurrences involving death or serious physical or psychological injury (The Joint Commission, 2004).

Shift report is a verbal or written reporting for exchanging essential patient-care information with other nursing staff at the change of shift (Ascano-Martín, 2008). For this study, shift reporting was verbal reporting from LVN students to LVN or RN nursing staff.

Shift Report Assessment Tool (SRAT) is a 30-item checklist used to assess the most frequently reported items from the SBAR tool during a shift report.

Skilled Nursing Facility is an establishment that houses chronically ill, usually elderly patients, to provide long-term nursing care, rehabilitation, and other services (Senior Resource, 2010).

The Joint Commission (formerly the Joint Commission on Accreditation of Healthcare Organizations JCAHO) is a healthcare accreditation organization that oversees safety and high quality care for patients. Audits of participating hospitals’ records and compliance with local, state, and federal healthcare guidelines are monitored periodically (The Joint Commission, 2004).

Summary

The first chapter presented the problems outlining the need for effective communication between nurses, the need for standardization in communication with a mental model tool such as SBAR, the importance of teaching SBAR in nursing school, and the need for research with LVN students because there will be an increased demand to hire LVNs for economic cost-saving measures and increase in the need for the elderly population.
This chapter also included an explanation on how Bandura’s (1977) Social learning theory, self-efficacy, is used as the theoretical framework to guide this research. Self-efficacy perception are measured by comparing SBARKAQ, changes in self-reported anxiety and confidence scale, and through observations of the usage of SBAR for shift reporting during clinical.

Chapter II contains a review of the relevant literature that provided a foundation of research to support the use of SBAR for shift reporting. A framework for the study was established from the literature review. Chapter III contains information about the methodology of how LVN students are recruited, the tools that were developed, and the research procedures. Chapter IV presents the results of the research findings, and chapter V contains a summary, discussion of results, and recommendation for future research.
CHAPTER II
REVIEW OF THE LITERATURE

This study investigated the effectiveness of using Situation, Background, Assessment, and Recommendation (SBAR) as a communication tool to help Licensed Vocational Nursing (LVN) students improve their shift-report communications to nurses; therefore, a review of the relevant literature provides a foundation of research to support the use of SBAR for shift reporting. This literature review is divided into three sections. Section one detailed the research on shift reporting and communication. Section two introduced the use of SBAR in the healthcare industry, and section three connected knowledge retention and self-efficacy. Finally, the summary section brings together all the information that informed the design of this study.

Shift Reporting

Shift reporting is defined as either verbal or written reporting and exchanging of essential patient-care information with other nursing staff at the change of shift (Ascano-Martin, 2008). Important patient data can be omitted or forgotten by the person giving the report if there are no structured guidelines to the report (Ascano-Martin; Haig, Sutton, & Whittington, 2006). The literature below identifies the problems associated with different reporting styles and the need for standardization in shift reporting.

Problems with Shift Reporting

Prior to the inception of using SBAR as a mental model to communicate shift reports, shift reporting varied from nurses to nurses and within the individual based on the nurse’s years of experience; preference to talk in narrative story format, a body system approach, or a report of abnormal findings; and the ability to recall data if the
information was not written down (Ascano-Martin, 2008; Currie, 2002; Kerr, 2002; Pothier, Montiero, Mooktiar, & Shaw, 2005).

A qualitative study conducted by Kerr (2002) investigated the different methods of shift reporting and the feedback of the effectiveness and problems with shift reporting. Kerr studied shift handovers on two pediatric units in a large-national-health services pediatric-hospital trust where in each unit 20 handovers were observed and audiotaped and 12 individual and two-group interviews with nursing staff about handovers were conducted. The purpose of the study was to gain a better understanding of how handovers operate and examine the nature of nurse-to-nurse communication. A cross-sectional, comparative, case study design was used and an inductive approach was adopted using multiple and opportunistic data-collection methods with a combination of quantitative and qualitative analyses.

Data collection consisted of noninterventionist and semistructured observations and interviews. The two wards compared were the Hematology/Oncology ward and the surgery ward that included the specialties of: Ear Nose Throat (ENT), Dental, and Plastic surgeries. The researcher arrived 1 to 2 hours prior to shift change and engaged in orientation activities with the oncoming shift. Orientation activities included speaking to the outgoing shift nurses and joining the oncoming staff nurses for a change of shift report that was audio-recorded. After the report, the researcher shadowed one or two of the oncoming shift nurses or engaged in observation around the nurses’ station. Individual or group interviews were conducted near the end of data collection on each unit to cover a list of key issues and participants’ views requesting why they had these views. All interviews were audio taped and conducted in a quiet location and typically
lasted between 15 and 30 minutes with a time schedule agreed upon in advance. Responses were anonymous and confidential in order to ensure openness.

Data analyses involved transcription of taped handovers, interviews, field notes, and repeated reviewing of these transcriptions. Handover practices were characterized by the nurses’ roles, the communicative processes involved, and the support provided by documents and technology. All verbal handover communication was classified by function, providing a quantitative overview and the basis for qualitative thematic analysis. The interviews also were analyzed inductively with themes constructed around the categories of practices, functions, problems, and effectiveness.

The results of the study showed that handovers on both units could be divided into three phases: a prehandover (activities done by outgoing shift nurses in preparation for intershift meetings such as updating care plans and other official documents), an intershift meeting (change of shift report), and a posthandover (activities done by incoming shift nurses to gather information such as nursing assessments and other direct patient-care activities). The handover observations looked at the number of occurrences when the nurses would report about patient care (information), social chat and joking (social), plans that are related to the shift (organizational), and teaching and explaining as part of learning about nursing care (education). The researcher observed 84 occurrences of information patient content, 27 social, 12 organizational, and 9 educational. The ENT, Dental, and Plastic surgery floors had a total of 79 occurrences of informational content, 9 social, 24 organizational, and 11 educational.

The qualitative portion of the study involved interviewing nurses how they performed the practice of handover, whether there are technologies or a location
specifically assigned for handovers, the functions of handovers, and the problems of handovers. The study concluded that the years of experience of the nurse based on the number of years in practice, the setting, and use of technology affected whether they would give more informational content, social, or educational. When a senior nurse, one with more than 10 years of experience, is reporting off to a new-hire, she spent more time educating and providing information instead of socializing (Kerr, 2002). The significance of the study is that it supports the need for standardization of the nurse-to-nurse handoff communication because of the varying level of experience of the nurses giving and receiving handovers, the environment of the unit, and the knowledge-base of the nurse. SBAR is a standardized method for communicating shift reports.

Currie (2002) investigated the need for a standardized checklist for nurse-to-nurse handoff in an emergency department. Currie (2002) identified which topics of handover should receive the highest priority.

The questionnaire design was a content checklist. The questionnaire was revised from a previous audit and consisted of 14 questions covering three categories: order of priority to handover topics, problem areas of handover, and handover at bedside or nursing station.

Sampling was achieved by posting a cover letter and questionnaire for each nurse working in the emergency department at the time of the study. After 3 weeks, the study was closed. Data analysis was quantitative. Of the 46 questionnaires posted, 28 were returned for a 61% response rate. Results of nurse responses were analyzed and categories emerged. The order of priority assigned to handover topics was one category and problem areas of handover another. The top three topics of priority in handoff were
(a) patient's reason for admission, (b) treatments patient had received, and (c) patients name and age. Nurses indicated that patient information should be prioritized so as to pass the information on as quickly and efficiently as possible in a busy emergency department. Information missed at handoff was cited as the main problem area; the omission of patient details could seriously endanger care by encouraging errors. Distractions, irrelevant, inaccurate information, and inattention were the other problems areas. One respondent stated there were no guidelines for handover. Shift reporting has been inconsistent with missing information, and the need to create some level of standardization is necessary. The current study accounts for the need for consistency in shift reporting with the use of a standardized reporting tool.

Recommendations of Currie (2002) were to develop standard guidelines for handover. Using a clinical guideline to frame handover may improve the consistency, accuracy, and focus of each handover that would be reflected in an improvement in the quality of nursing care delivered by the next shift. This research supported a standard guideline be implemented and then evaluated by audit to evaluate its strengths and weaknesses. Indeed, it was noted by Currie (2001) establishing the priority that nurses in the emergency department give to topics of handover and the need for a standardized guideline. Limitations of the study include the small sample size. The relevance of this article is that it reinforces the need to standardize nurse-to-nurse handoff to improve the quality and safety of patient care.

Pothier et al. (2005) compared the loss of important patient data during various types of nursing handover in a quasi-experimental design. Three handover styles, a purely verbal handover, a note-taking style, and a typed sheet with verbal handover, were
identified and randomly assigned to patients for handover. In the study, the handover of 12 simulated patients was observed through five consecutive handovers. Each fictional patient contained 21 data points that were grouped into broad categories: medical history, social history, and general nursing data. Each patient was assigned an equal amount of each category. Three independent investigators, each blinded to the results of the others, evaluated the amount of data lost in each style during handover. The number of correct data points, the number of omitted data points, and the number of incorrect data points inserted were recorded only when there was agreement among all three investigators.

One investigator handed over all the patients to the first of five volunteer nurses using the handover method randomly assigned to that patient. After a wait of 60 minutes, the first participant handed the patients over to the second participant in the same randomly assigned manner. The handovers continued in the same manner until the fifth participant handed back the patients to the investigator.

Results showed that there was an overall loss of data. The verbal style of handover showed the most loss of data, the note-taking group had less data lost, and the sheet group had very little data lost. Both important and less important data were lost, with loss of nursing data occurring most often. The study also found that of 18 instances of substituted data; 12 incorrectly substituted data points were considered important pieces of information. Substitutions of data points occurred only in the verbal group and were not present in either the note taking or the sheet styles of handovers.

The researchers cited ethical concerns as reasons for not conducting the study on an active unit with real patients. They did not make claims regarding the loss of information that would occur during an actual handover; rather they chose to compare
constructed case study handoffs against each other. The facts that the nurses did not have contact with the patients and that the handover occurred within a shortened timeframe were acknowledged as a limitation of their study.

The crucial finding of Pothier et al. (2005) study, in relation to the present study, is that loss of data appears during handovers was identified as the problem with verbal reporting. The researchers recommended that the nurses would benefit with the aid of a template or a standardized written data sheet to accompany the verbal handover to prevent loss of data when giving verbal handoffs.

Because human beings only can recall instantly small amount of information, in addition to using a standardized tool, a written template of the tool was given to the students in this study to allow them to write down the information they collected during clinical, so that it would reduce the communication problem of recall.

Sexton et al. (2004) indicated that time spent in nursing handover may be wasted if nurses are not given useful information. They noted that there has been a lack of structure and guidelines for handover in the nursing literature and that the majority of published reports tend to be anecdotal.

Sexton et al. (2004) designed their study to examine the content of verbal nursing handover when compared with formal documentation references. Twenty-three nursing handovers were observed and videotaped. Handover content and data were assigned to appropriate categories (e.g., medication and nursing-care plan) reflecting existing documentation. Their findings indicated that of the content handed over almost 85% could be located in existing documents, 9.5% was not relevant to patient care, and less than 6% of the content could not be located elsewhere. In addition, almost no formal
references of patient information were used during the handover. Some handovers promoted confusion, and some handoffs appeared to be of random content. Care plans were neglected and did not provide up-to-date information regarding patient status, treatments, and management. Significantly, the researchers acknowledge that written handover may help eliminate problems associated with verbal handovers (Sexton et al., 2004).

Nursing students were not interviewed for the above handover studies. The conclusion drawn from each study is the need for standardized format to communicate in order to help both the nurse giving the report and the receiver who is receiving the handover to make sense of what the priority and plan of care will be necessary for the patients. In addition to the need of a standardized communication tool, barriers such as anxiety and confidence can affect how effective the nurse communicates. The next section focuses on communication and perceived anxiety and confidence associated with communication.

Communication

In their 2006 report, *Interdisciplinary communication: An uncharted reference of medical error?*, Alvarez and Coiera (2006) reviewed 110 articles. The focus of their analysis was the role of poor communication among clinical disciplines as a cause of medical errors, particularly in the intensive-care setting. They acknowledged that hospitals are complex organizations with clinicians using a multitude of communication modes and that clinical decisions are made as a result of the examination and interpretation of all the bits of data obtained through communication. They also noted that, although researchers and organizations have been pointing out the existence of poor
communication and calling for improved communication, there is neither an adequate
definition of good communication nor criteria for what constitutes effective
communication.

Based on the reviewed studies, Alvarez and Coiera (2006) indicated communication as a perceived reference of latent error, but few researchers have studied the reasons for communication failures. There have been studies that have attempted to identify patterns of communication. Findings of these studies indicate high levels of communication time with multitasking and interruptions common. It is noted that many of the participants in the studies prefer face-to-face communication.

Many of the studies they reviewed reflect on the lack of teaching of communication skills. They acknowledged an upcoming trend to assess and teach communication skills, yet raised the question if new graduates will utilize these skills or will other factors influence these skills. Alvarez and Coiera (2006) pointed out that lack of teaching of communication skills as a common theme. The current study incorporated teaching LVN students SBAR communication with clinical demonstration, so that the students would understand the importance of using a structured SBAR communication to prevent the loss of pertinent information or distraction with other events that are occurring simultaneously in the long-term-care facility.

In the article Communication Theory and the Shift Handover Report, Odell (1996) examined the concepts of communication theory and its application in the change of shift report. She defined communication as a “basic human response to a stimulus” and as the transfer of information from the sender to the receiver.
This communication model may have different formats but all contain the four basic elements: (a) the sender, (b) the message, (c) the receiver, and (d) the feedback. The sender would experience some sort of stimulus, which is then encoded by the sender and put into a symbolic form (language, writing, or nonverbal cues) made ready for transmission. The message is then transmitted to the receiver who perceives and decodes the message and provides feedback regarding the message back to the sender. This process, however, is not flawless and is subject to many errors. Breakdowns in communication can occur during transmission of the message between the sender and receiver or during the perception and decoding of the message by the receiver. Breakdown in communication occurs less frequently if there are more commonalities (such as the same profession) between the sender and the receiver.

Odell (1996) stated that applying the communication process to the shift handover process allows one to make certain assumptions and recommendations such as (a) the skills and abilities of the nurse giving report, (b) the personal feelings and biases that can influence both the outgoing and oncoming nurse, (c) limited opportunities for clarification, (d) different meanings in the decoding for staff with different levels of ability and experience, and (e) lack of time for feedback resulting in serious misunderstandings and adverse consequences for the patient. This article was chosen because it provided a clear recommendation for change of shift report to be an “all-channel group network” format with equal participation from each group member and ample time for feedback and clarification thus reducing the confusion and misunderstanding. Communication is the foundation for every effective organizational activity and by applying communication and group network theory to change of shift
report, it is possible to develop nursing skills and knowledge and to improve patient care (Odell, 1996).

Odell (1996) defined how the communication is processed from the sender to the receiver; the study also indicated the barriers and distractions that can occur when the channel of communication. Communication is not a linear function; the receiver needed to provide feedback for understanding and to ask questions to clarify what was unclear.

The articles that Alvarez and Coiera (2006) reviewed in addition to Odell (1996) emphasized with the application of the communication principles to shift reporting supported the need for communication and shift reporting with priority, clarity, and feedback. In the next section, the literature that supported the development of a communication tool that encompasses the principles of communication are presented.

**SBAR**

The SBAR tool initially was developed by the U.S. Navy and adopted by the healthcare setting to improve communication. A review of the literature of hospitals that used SBAR is presented.

SBAR is a way of achieving improved communication and reduction in medical errors by designing a clear communication strategy to enhance patient safety by standardizing the way caregivers talk to each other (Leonard et al., 2004). With more than 70% of sentinel events in the hospital estimated to be due to communication errors, The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has made improving communication among caregivers a patient safety priority (Leonard et al., 2004).
Handoffs involving the SBAR model are in use in large healthcare organizations throughout the country. The articles reviewed describe SBAR as a standardized checklist that can be used to communicate critical elements that are needed to make the patient handoff process effective and to reduce the chance that important information will not be overlooked or misunderstood (Leonard, 2006).

The implementation of SBAR as a communication tool at Order of Saint Francis (OSF) St. Joseph Medical Center in Bloomington, Illinois is the subject of the article *SBAR: A Shared Mental Model for Improving Communication Between Clinicians*, by Haig et al. (2006).

In this institution, the implementation of SBAR began in the Fall of 2002 with the recognition of communication problems between clinicians and realized a mean of 96% use of SBAR in the fiscal year (FY) 2005. The medical center, in pursuing a culture of safety, introduced SBAR in 2003, and it was spread house-wide in April 2005. The effort to introduce SBAR involved an interdisciplinary team that met biweekly for a one-year period.

Neither adverse events or medication discrepancies were dependent directly on SBAR, the staff or administrators at the medical center thought that improvement in these areas would be indicative of better communication and SBAR use. The frequency of medication discrepancy on admission went from a mean of 72% to a mean of 88% and discharge reconciliation went from a mean of 53% to a mean of 89%. The rate of adverse events was reduced from 89.9 per 1,000 patient days in October 2004 to 39.96 per 1,000 patient days for FY 2005. In addition, adverse drug events went from 29.97 per 1,000
patient days to 17.64 per 1,000 patient days. Staff members were empowered and job satisfaction had improved.

Leonard et al. (2004) and Haig et al. (2006) conducted studies in the hospital to address The Joint Commission compliance for improving communication. The research studies provided results for decrease in medical errors, cost-savings for the hospital, and patient and staff satisfaction. There are many confounding variables as to why patient outcomes have improved. The observer effect alone and constant monitoring of the staff can promote safety; it is difficult to isolate SBAR as the causative variable for improvement in the hospitals, and therefore, measuring the effectiveness of SBAR to patient outcomes can be challenging and difficult to isolate. For the current study with LVN students, the effectiveness of SBAR, the tool, was not measured; rather, measurement of using SBAR to improve communication measured by knowledge retention and self-report anxiety and confidence was undertaken.

Knowledge Acquisition and Retention

SBAR has only been implemented and documented in the literature since 2004. The focus and push for SBAR has been adopted and utilized in the hospital to comply with The Joint Commission safety guidelines (The Joint Commission, 2004). It is just recently, since 2008, that nursing researchers are thinking proactively to prepare nursing students with the ability to use SBAR to communicate shift report or simulated scenario (Ascano-Martin, 2008; Krautscheid, 2008).

Krautscheid (2008) developed a Clinical Assessment Simulations (CAS) at the University of Portland where she taught medical-surgical nursing students. Krautscheid created a simulation module with hands-on assessment. The nursing students in her study
were given scenario data that correlated to a human patient simulator; the students had to assess vital signs and perform physical assessments such as blood pressure, heart rate, lung sounds, and heart sounds in order to think critically of the intervention needed for the human patient simulator. When the patient’s condition deteriorated, the nursing student being observed had to communicate with a physician for medical interventions. Krautscheid incorporated SBAR when the students needed to call a physician, which was actually an instructor behind a curtain. Her study goal was to investigate the effectiveness of using SBAR to communicate pertinent patient information to a physician. Krautscheid had 285 nursing student participants from the undergraduate nursing in Portland from Spring 2005 to Fall 2007. The first set of results in Spring 2005 had lower frequencies for reporting content areas that the nursing student should report: client identification, baseline blood pressure, current blood pressure, baseline heart rate, current heart rate, oxygen saturation percentage, oxygen flow rate, and nasogastric tube amount.

The goal was for the students to meet 80% threshold in all categories; however, only two of the eight categories met the threshold: client identification and oxygen saturation percentage. Even though only two out of the eight reportable categories were reported consistently, Krautscheid reported a significant increase in the reporting of baseline blood pressure from 21% to 78% when Spring 2005 was compared with Fall 2007. The limitation of the study was that it could not compare one class of students to another because of group differences. Also, Krautscheid did not have any comparative group to investigate whether using SBAR made a difference in the simulated physician reporting (Krautscheid, 2008). The researcher recommended future research to include a
comparison and a treatment group to investigate the effectiveness of the SBAR tool. Long-term follow up also would provide adherence and retention of SBAR usage.

Communication and Self-efficacy

Because there were no other studies on nursing students using SBAR to improve communication, an extensive search of other disciplines outside of nursing were investigated to identify research regarding how people react to a new task and to look at how studies evaluated anxiety and confidence.

Chu (2008) completed her doctoral studies in Texas that assessed for computer anxiety, confidence, and self-efficacy of an online computer and Internet training for older adults. Chu (2008) conducted her study at senior centers in Houston, Texas. Seniors citizen over the age of 65 were recruited for the study (n = 112). One group was assigned randomly the control group that did not receive any training to use a computer, and the other treatment group received 2-hour sessions once a week with help from trained computer operators. The control group was offered the 2-hour computer class after the completion of the study.

Bandura’s (1977) model of self-efficacy was the theoretical framework of this study. The assumption with Bandura’s model is that anxiety will decrease, confidence will increase if the learner believes or perceives that he or she can do the task with active participation, modeling by trained computer operator, feedback from the operator, and an opportunity to practice. The mean age of the study participants was 75.33, and 80 % of the participant had never used a computer before. The study measured computer anxiety, computer confidence, and computer self-efficacy scales for the control and treatment at the beginning, at week 5 at the end of the class, and 6 weeks after the completion of the
class. The results for computer anxiety were at the beginning $M = 26.13$ and $SD = 5.77$, at $5^{th}$ week $M = 34.87$ and $SD = 5.37$, and at 6 weeks after training $M = 35.05$ and $SD = 5.39$. Repeated measures analysis of variance (ANOVA) comparing the three different time intervals yielded a statistically significantly $F (2, 109) = 68.14$ finding indicating that there was a reduction in computer anxiety. The researcher did acknowledge that the means of the items were large and, therefore, the lower the anxiety. The baseline mean and 6-weeks postmean were statistically significantly different. Computer confidence values were $M = 28.26$, $SD = 5.40$; $M = 35.95$, $SD = 5.25$; and $M = 36.10$, $SD = 5.18$, respectively for the same time periods as above for computer anxiety. The repeated measure ANOVA was statistically significant $F (2, 109) = 51.61$. All three scales of computer anxiety, computer confidence, and computer self-efficacy yielded statistically significant differences. The recommendation from the researcher was to offer computer class training for older adults when it came to introducing computers to the elderly.

Chu (2008) methodology and measurement scales provided the model of study for this current research. Even though SBAR anxiety and confidence scales do not exist, an SBAR self-report anxiety and confidence scale (SRACS) was developed.

Summary

The review of literature presented in this chapter provided justification for the need to investigate the effectiveness of using a standardized communication tool SBAR would improve LVN students’ shift reporting. The literature provided support of the problems with shift reporting in the following five areas. One, there was variability of nursing experience, personality, setting of the report area, and lack of standardization (Ascano-Martin, 2008; Currie, 2002; Kerr, 2002; Pothier et al., 2005). Two, there was a
failure in communication between the message sender and receiver are functioning in a unilateral flow, no feedback of clarification to the communication was noted (Alverez & Coiera, 2006; Odell, 1996; Sexton et al., 2004). Three, the development of the SBAR tool had been instituted in hospital settings for patient outcomes and cost-savings strategy for the hospital, but effectiveness in using the SBAR tool was not mentioned or investigated (Leonard et al., 2004). Four, there was one study about nursing students, SBAR, and communication, but the study did not isolate whether the SBAR tool directly improved the frequency of nursing students reporting pertinent patient data in a simulated laboratory learning environment, and the study did not provide an authentic on-the-job nursing environment, rather one that was simulated (Krauscheid, 2008). Five, a study outside the nursing literature provided the research method model for this study. The studies reviewed in this section are focused on the communication between nurses or nurses-to-physicians. Chu (2008) research dissertation dealt with the older adults and self-efficacy. Kratscheid (2008) conducted her research on nursing students, but she did not isolate whether SBAR helped to improve communication when her students were using the tool. This study addressed the need for research on the effectiveness using an established communication tool, SBAR, to promote knowledge transfer on LVN students.

For this current study, during the LVN students’ clinical practicum, the students were given a lecture and opportunities to give shift reports to staff nurses as part of an authenticated experience. This didactic instruction along with clinical application prepared LVN students for the reality of clinical practice; the benefits for combined SBAR instruction and didactic learning gave the LVN students opportunities to acquire knowledge and reduce their anxiety while increasing confidence when giving shift report.
CHAPTER III

METHODODOLOGY

The purpose of this study was to measure the effectiveness of a standardized communication tool: SBAR (Situation, Background, Assessment, and Recommendation) when License Vocational Nursing (LVN) students were communicating during shift reporting. Knowledge retention quizzes and self-reported anxiety and confidence scales were administered to measure effectiveness. SBAR Knowledge retention measured through the use of a 10-item quiz before and after training implementing a communication lecture to the LVN students. In addition, the students self-reported anxiety and confidence in communication before and after completion of the SBAR training were assessed to learn whether the SBAR tool was useful in reducing anxiety and increasing confidence in reporting to nurses.

The study consisted of two groups of clinical students who were enrolled in a LVN school in Northern California and who were in their first medical-surgical clinical practicum rotation at a skilled-nursing or long-term-care facility. The groups were assigned randomly to either the treatment group (the group that received a SBAR lecture) or the traditional group (the group that received the traditional lecture on communication). This study utilized a crossover design, a research design where the participants of the traditional group received both treatments, to observe participants over a 6-week clinical practicum rotation.

At baseline, both the treatment and the traditional groups received an SBAR-Knowledge Acquisition Quiz (SBARKAQ); this quiz was given to establish baseline knowledge of SBAR and communication (see Appendix A). A pretest and posttest
knowledge retention 10-item quiz regarding the SBAR tool was used to measure effectiveness of the SBAR training knowledge retention.

The self-reported anxiety and confidence scale (SRACS) was administered at baseline; the SRACS was given to the students to assess the students’ perception of their communication with nurses before the SBAR and during shift reporting over a series of observations (see Appendix B).

At Week 2, the groups were randomized to receive either the traditional lecture or the SBAR lecture. Following the lecture, the Shift Reporting Assessment Tool (SRAT) was used to measure the required shift-reporting information (see Appendix C). At Week 3, the SBARKAQ, SRACS, and SRAT were administered to observe for the effectiveness of the respective communication lectures. At Week 4, both groups received the SBAR lecture as part of the requirement of a cross-over design to measure differences in the treatment. At Week 6, the SBARKAQ, SRACS, and SRAT were administered again to measure changes in the treatment and traditional group after receiving the SBAR lecture. An open-ended short-answer questionnaire regarding the usefulness of SBAR and whether the students would continue to use SBAR in the future was given.

This chapter contains the research questions, a description of the study design, its sampling and data-collection procedures, and the human subjects procedures that were carried out. The reliability, validity, scoring, and administration procedures for the tools also are explained.

Research Design

This study used a two-group, pretest-posttest quasi-experimental design with a crossover time series of observations. Two groups of LVN students were compared
during their Medical-Surgical clinical practicum rotation. LVN students are required to complete 140 hours or 14 shifts of hands-on care to patients at the assigned long-term-care residential facility that is affiliated with the school. During the clinical rotation, the students performed duties of an LVN to apply theory taught in the classroom in their clinical practice. Students provided care to patients, as well as reporting shift updates to the staff nurses at the end of the shift.

Two intact clinical groups were used from an affiliated skilled nursing facility. The independent variable, a communication lecture treatment, is comprised of two levels: experimental (SBAR treatment lecture) and comparison (traditional communication lecture). One group of 10 clinical students (the traditional group) was given a traditional lecture on communication and shift reporting to nurses. The other group of 10 clinical students (the treatment group) was given the SBAR communication tool lecture. It was not possible to have random assignment of LVN students to the treatment and traditional group because the students already had self-registered to a preferred time and clinical slot prior to the start of this study. The traditional and treatment groups were assigned randomly by drawing two slips (the morning and afternoon group) out of a hat to represent the traditional group and the treatment group.

This study measured three variables: scores of the SBAR Knowledge Acquisition Quiz (SBARKAQ), the Self-Reported Anxiety and Confidence Scales (SRACS), and the use of Shift Report Assessment Tool (SRAT); the reliability and validity of the tools are presented in the Instrumentation section. Students in both groups were given the SBARKAQ, a 10-item quiz, at the beginning of the Medical-Surgical clinical practicum rotation to assess for baseline knowledge of SBAR and communication; students were re-
administered the same instrument at the conclusion of the clinical rotation. Knowledge retention was measured by gauging the change in test scores on the SBARKAQ from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6.

The Self-Reported Anxiety and Confidence Scales (SRACS) is a 15-item self-reporting 5-point rating Likert scale adapted from Lewis, Bell, and Asghar (2008). There are three subscales measuring communication anxiety, confidence, and use of SBAR. The SRACS was given immediately after the SBARKAQ was administered at Pretest for baseline values, Week 3, and Week 6 to measure changes in perceived anxiety, confidence toward communication, and use of SBAR tool.

The Shift Report Assessment Tool (SRAT) is a performance observation tool that was used during time series observation to assess for usage of the SBAR tool and to monitor the SBAR content for shift reporting (see Appendix C). The researcher used the SRAT checklist to observe shift-report interactions between the student and the charge nurse for both groups. The SRAT was used at Week 2, 3, 4, and 6 to observe for usage of the SBAR tool and report of SBAR content.

General Characteristics of the Study Sample

The study sample comprised of 20 Medical-Surgical level prelicensure LVN students doing their practicum rotation in a long-term-care facility. It is common for LVN students to be placed in a long-term-care facility for their Medical-Surgical practicum rotation because the patients in the long-term-care settings have chronic medical and postsurgical conditions that are application of what the students have been taught in the classroom for basic nursing care of a patient. The students can provide patients with bathing, feeding, physical assessment, and medication needs. The students have had a
previous semester of foundation theory lecture courses in Anatomy and Physiology, Nutrition, and Medication Administration in the classrooms; the Medical-Surgical-level clinical practicum was chosen for the study sample because this was first opportunity that students would have hands-on clinical experience and an opportunity to communicate with the staff nurse when they provide a report at the end of the shift.

Although participation in the research study was voluntary, all students were required to attend the clinical practicum because the clinical practicum is required for LVN license certification. The students were required to attend every clinical session and to provide care to the patient, but they could choose to participate or not participate in the current research study.

The LVN students were recruited from a private state-certified LVN accreditation program in Northern California. The school has four campuses in Northern and Central California: San Mateo, Concord, Fresno, and Modesto. The overall enrollment in this 12-month LVN program at the San Mateo campus was around 150 students. Thirty-five percent of the students received some sort of financial aid from the state or federal government in the form of loans or grants.

The sample was comprised of 20 LVN students who were enrolled in their first medical-surgical clinical practicum rotation in the long-term-care setting. Demographic characteristics of the study are provided in Table 1.

Of the 20 participants, 19 participants provided their age. The age range was between ages 19 to 50, the mean age 26.1 years; the median age was 24 years.
Table 1

Demographic Characteristics of the Study by the Group Assigned

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Traditional Lecture ( (n = 10) )</th>
<th>Treatment Lecture ( (n = 10) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>( f )</td>
<td>( % )</td>
</tr>
<tr>
<td>Male</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Did not disclose</td>
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<td>10</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 years old or under</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19 to 25 years old</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>26 to 30 years old</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>31 to 40 years old</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>41 years old or more</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Did not disclose</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Asian American</td>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>European American</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hispanic American</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Did not disclose</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Highest Level of Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-School Graduate</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>Associate Degree Graduate</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Did not disclose</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Prior Healthcare experience?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>Currently Employed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>If working, communicates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with physicians?</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>with nurses?</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

There were 15 female students (80%) and 4 male students (20%). The gender variation in the two groups is similar. The demographic data revealed the following ethnic breakdown: 16 Asian American (80%), one African American student (5%), one European American (5%), and one Hispanic American (5%). The majority of students are
Asian American; this demographic is similar to the overall demographic of the entire school. Seventeen of the 19 students reported having completed high school; two had Associate degrees. Three students have current or prior healthcare experience as an Emergency Medical Technician (EMT), home health aide, and medical assistant. There were four students who were employed at the time of the study. Furthermore, two students reported that they communicate with physicians, whereas two participants reported to nurses.

Study Location

This study took place at a Northern California State approved 81-bed long-term-care setting. The facility is further divided into a specialized memory unit, hospice unit, and respite-care unit. The specialized memory-care units have 51-licensed beds to care for residents with Alzheimer’s disease or memory debilitation. In the same location, there are an additional 15-bed hospice-care unit and another 15-bed respite-care unit. Residents who are admitted to hospice care are diagnosed with a terminal illness with a life expectancy of 6 months. The respite-care unit admits residents whose family and or caregivers are in need of a short-term temporary relief or respite from caring for the ill individual in their homes (Senior Resources, 2010).

The facility accepts Medicare, Medicaid, private long-term-care insurance. There were 4 full-time equivalent (FTE) LVNs employed and 16.8 FTE Certified Nursing Assistants who are employed as part of the nursing staff at the study facility.

The physical layout of the facility is a two-story building with 25 beds on the ground floor and 26 beds on the first floor for the specialized memory-care unit. The residents are assigned to the respective floor based on their medical diagnoses and level
of necessary nursing care. The ground floor is assigned for residents who need more nursing care for grooming, feeding, and bathroom care, whereas the first floor is for residents who can perform the majority of their own activities of daily living with medication supervision and physical-therapy management. Residents who are admitted to hospice-care unit are located on a separate wing on the ground floor. While the residents who are admitted to respite care are assigned to a separate wing on the first floor above the hospice-care unit.

The facility has a medication room located within the nurses’ station for storage of the residents’ health records and medication. The medication room also is where the nurses give shift reports to the next shift; the secluded area is required to comply with the patient Privacy Act (U.S. Department of Health and Human Services, 1996).

A conference room on the ground floor is used for the LVN students to meet with their clinical instructor before and after the clinical rotation for conference, announcements, and distribution of the assignment of the day.

During this clinical rotation, the instructor created and distributed an assignment roster of residents for each student during their preconference meeting. Every student was assigned 8 to 10 residents; sometimes there was overlapping of students to care for a particular resident if the client required wound care or two-person assistance.

Protection of Human Subjects

Approval from the Institutional Review Board for the Protection of Human Subjects (IRBHS) was obtained at University of San Francisco. Research was governed by the ethical principles and standards as set out by the American Psychological Association (2002). Because the LVN school and skilled nursing facility were not
governed by the Institutional Review Board, written permissions was sought from the LVN school, clinical instructors, and the administrator of the nursing facility prior to data collection (see Appendixes D, E, and F).

The LVN students were required to attend clinical conference when the SBAR training, SBARKAQ, and SRACS were administered for both the traditional and treatment group because communication was a requisite topic and a clinical objective requirement. The researcher met with the student at the beginning of their Medical-Surgical clinical practicum rotation at the facility in the conference room to explain the purpose and procedures of the research. Consent for the pretest and follow-up posttest and Informed Consent Form were obtained. Copies of the signed consent and Research Subjects’ Bill of Rights were given to the participants prior to the start of the research study (see Appendix G, H, and I). If the students did not choose to participate, they had the option to sign an acknowledgement form for declining to participate in research (see Appendix J). All information was kept confidential, and responses were kept in a secure location; none of the participants’ personal information can be found on the consent form.

In order to compare pre- and posttest SBARKAQ scores, SRACS, and SRAT for each clinical group, students were asked to supply the first three letters of their mother’s maiden name and the last four digits of their student phone number on the answer sheet. Participation in clinical, listening to the lecture on communication, and reporting shift report to a nurse were necessary clinical course requirement; students were required to attend the lecture session and to complete quizzes as they were part of course work.

Although no foreseeable harm was anticipated to students participating in the study, some students might express anxiety and stress associated with completing the
SRACS and being observed by the researcher during their shift reporting to the charge nurse. Giving shift report to the charge nurse is a standard procedure that LVN students must perform as part of the handoff prior to the end of the shift (Clemow, 2006). Any participants feeling stress and anxiety associated with the research study would be referred to counseling services supplied by the administrator of the school if they had stress or anxiety associated answering the SRACS or when being observed during their shift report to the nurses.

Researcher Qualification

The researcher has been a nursing faculty member teaching in the area of Medical-Surgical nursing for 10 years; teaching content includes fundamental nursing, physical assessment, medication administration, and nursing communication. The researcher is an adjunct faculty at a private university prelicensure Register Nursing (RN) program and has been board certified by the California Board of Vocational Nursing and Psychiatric Technicians (BVNPT) to teach at the participating LVN school since 2004.

Data-Collection Procedures

At baseline, the researcher met with the participants to explain the purpose and voluntary participation in the current research student during the students’ postconference meeting with their clinical instructor in the conference room. The researcher explained that the lecture given on the topic of communication was required with a knowledge quiz on SBAR (SBARKAQ), but the use of the knowledge quiz for the research required consent. Likewise consent was needed for use of Likert scale (SRACS), shift-reporting observations (SRAT), and open-ended survey.
The SBARKAQ and the SRACS were available pencil-and-paper surveys; the students marked their answers directly onto the survey forms. Once the forms were completed, the researcher collected the forms and entered the data with the participant’s unique identifier into an electronic spreadsheet database for data analysis. The subsequent data collections were matched with the student’s previous identifier for data analysis.

The SRAT was an observational oral reporting that occurred at Weeks 2, 3, 4, and 6 with the researcher sitting on one side of each student while the student was giving the shift-report to the LVN or RN who was in charge. The researcher used the SRAT tool to tally the individual student’s reported items. The researcher did not randomly select the patient for the SRAT observation; the SRAT observations were observed and tallied at the convenience of when the student, nurse, and researcher were available because the researcher had to follow all the research participants toward the end-of-shift report.

Data recording devices were not utilized or allowed to capture each participant’s shift reports of their patients because potential breach of the patient confidentiality according to the federal Health Information Portability and Accountability Act (HIPAA) 2003 Privacy Rule. The HIPAA Privacy Rule forbids taping and removing of any patient health data if the researcher is not involved with direct care with patients (The Joint Commission, 2008; Wilson, 2006).

At Week 2, the researcher randomly assigned the intact groups to either the treatment or traditional lecture. There were two clinical groups at the same clinical site, one in the morning with a clinical rotation from 7am to 3pm, and the second group from 3pm to 11pm. Shift reporting was observed when the LVN students gave shift report to the RN or LVN nursing staff at the end of shift in the medication room that is located
away from the patient’s care for privacy; the purpose of the SRAT rating at Week 2 was to establish a baseline for shift reporting. The lectures at Week 2 were presented in the conference room during the students’ postconference session.

At Week 3, the shift-reporting observations using the SRAT took place in the medication room when the students gave their shift reports to facility staff, and the SBARKAQ and SRACS were administered in the conference room at the end of the students’ shift.

At Week 4, the SRAT was completed during shift report in the medication room, and the SBAR lecture was presented to both groups at the end of the shift during postconference. At Week 6, the SRAT observations occurred in the medication room; the SBARKAQ, SRACS, SRAT, and an open-ended survey were administered at the end of the shift (Table 2).

In the Spring 2010 semester during April, 10 students from the morning clinical group and 10 from the afternoon clinical group with 100% response rate consented to participate in the current study. Participating clinical students were approached at Weeks 2, 3, 4 and 6 to collect data necessary for the study. Obtaining the clinical instructor support for the investigative process ensured retention of participants.

Instrumentation

There were four instruments used in this study: the SBAR Knowledge Acquisition Quiz (SBRAKAQ), Self-Reported Anxiety and Confidence Scale (SRACS), the Shift Report Assessment Tool (SRAT), and an open-ended survey of the usefulness and evaluation of the SBAR shift-report format. Development and pilot testing procedures for each instrument are presented in this section.
Table 2

*Design of Study, Variables, Instruments, and Data-Collection Intervals*

<table>
<thead>
<tr>
<th>Group</th>
<th>Baseline</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 6</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>SBARKAQ</td>
<td>(SBAR lecture)</td>
<td>SBARKAQ</td>
<td>(SBAR lecture)</td>
<td>SBARKAQ</td>
<td>SRACS</td>
</tr>
<tr>
<td></td>
<td>SRACS</td>
<td>SRAT</td>
<td>SRACS</td>
<td>SRAT</td>
<td>SRAT</td>
<td>Open-ended</td>
</tr>
<tr>
<td></td>
<td>SRAT</td>
<td>SRACS</td>
<td>SRAT</td>
<td>SRAT</td>
<td>SRAT</td>
<td>survey</td>
</tr>
<tr>
<td>Traditional</td>
<td>SBARKAQ</td>
<td>(Traditional</td>
<td>SBARKAQ</td>
<td>(SBAR lecture)</td>
<td>SBARKAQ</td>
<td>SRACS</td>
</tr>
<tr>
<td></td>
<td>SRACS</td>
<td>lecture)</td>
<td>SRAT</td>
<td>SRACS</td>
<td>SRAT</td>
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</tr>
<tr>
<td></td>
<td>SRAT</td>
<td>SRACS</td>
<td>SRAT</td>
<td>SRAT</td>
<td>SRAT</td>
<td>Open-ended</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>survey</td>
</tr>
</tbody>
</table>

SBAR = Situation, Background, Assessment, and Recommendation
SBARKAQ = SBAR Knowledge Acquisition Quiz
SRACS = Self-Reported Anxiety and Confidence Scale
SRAT = Shift reporting Assessment Tool

*SBARKAQ*

In order to develop the evaluation tools, research on SBAR knowledge and content were reviewed and themes were identified. The results of the literature review were used to create 10 items for the SBARKAQ. The SBARKAQ quiz included questions about the purpose, origin, and examples of what type of information should be included in the different categories of the SBAR tool (Amato-Vealey, Barba, & Vealey, 2008). The quiz has 10 multiple-choice items with four options for each question.

*Reliability and Validity*

Content validity was established through a series of steps. First, a review of the literature was performed looking at the content of most frequently explained definition for SBAR communication. Second, a pretest and a posttest were administered to 66 students.
Content validity was conducted for SBARKAQ with a validity panel; a validity panel form was distributed to nursing faculty who were familiar with SBAR. The purposes of the validity panel form were to consult with nurses who have content expertise and to provide feedback for the SBARKAQ tool. The validity form included feedback regarding whether the items (a) were related to the study, (b) were stated clearly, and (c) were needed or changed. There were four nursing faculty who reviewed the SBARKAQ; they identified questions that were ambiguous or confusing to be revised or deleted. Based on their recommendations, the term SBAR was written out in addition to the acronym; there were two answer options that were revised.

The SBARKAQ had a Cronbach’s coefficient alpha of .54, which meant that some of the quiz items were too easy and that students were able to obtain the correct answer both before and after the lecture. A pretest administration to 66 participants resulted with quizzes that were included in the pilot data analysis of the tool; some students did not choose to participate in answering the quiz, whereas other students omitted to answer the second side of the quiz. The total point possible on the quiz was 10, students scores ranged from 4 to 10 on the pretest with \( M = 7.18 \) and \( SD = 1.56 \).

Revisions to the quiz were made to include questions with more challenging answer options. A comparable group of students (\( n = 18 \)) in a lecture class was tested for pretest data, and the Cronbach’s coefficient alpha was .62. The pretest score ranged from 5 to 10 (\( M = 7.67; SD= 1.49 \)). The researcher realized some of the questions needed to be reworded so that students were not able to guess the answer correctly for the 10 questions. Another comparable group of students (\( n = 10 \)) in a first semester clinical class was tested; Cronbach’s coefficient alpha was .75 with this revision.
SRACS

The Self-Reported Anxiety and Confidence Scales (SRACS) was adapted from Lewis et al. (2008); the researchers administered a 10-item self-reported scale to assess the perceptions of physical therapy students about communicating with patients and measured the subscales of anxiety and confidence. The 10 items were evaluated with a Likert scale ranging from 5 (Always) to 1 (Never) with a possible score range from 10 to 50.

Reliability and Validity

For the SRACS in the current study, the researcher modified the instrument to address anxiety and confidence associated with communication with nurses and shift reporting. An additional five questions were added to address perceptions about SBAR reporting.

Two Psychology and Counseling faculty provided content validity for the SRACS scale for assessing anxiety and confidence; no deletions or suggestions were made to the tool. An evaluation form for the expert panel included questions to provide comment as to whether the items in the SRACS tool questions are worded clearly and appropriately for rating of anxiety, confidence, and use of the SBAR during shift reporting. The evaluation also inquired whether the negative worded questions were confusing or required clarification. After a 2-week turnaround time, the panel provided feedback with agreement of the tool for assessing anxiety, confidence, and use of SBAR. The panel did not recommend changes to the instrument.

The SRACS originally had 15 items with a 5-point Likert score of 1 (Strongly Disagree) to 5 (Strongly Agree); one item was deleted after the pilot study as none of the
students in the pilot answered lower than 3 on the Likert scale for that particular item. The pretest SRACS contained questions pertaining to demographics; the students indicated their gender, age, highest level of education, and amount clinical experience outside of nursing school in response to these demographic questions.

Quantitative data from pilot study for the SRACS scale were analyzed, and the Cronbach’s coefficient alpha was .69 with the 15 items. Frequency and trend to look at individual items revealed that all students answer 3 to 5 on the Likert scale for item number 7 and, therefore, did not provide the variability needed for the item. Once the item was deleted, the Cronbach’s coefficient alpha was .80, so item 7 was deleted leaving 14 items for the SRACS.

The SRACS is further divided into three subscales: Anxiety, Confidence, and Use of SBAR. The Anxiety subscale consists of items 4, 6, 9, 13, and 14; the Confidence subscale consists of items 1, 2, 5, 7, and 8; and the Use of SBAR consists of items 10, 11, and 12. Item 3 assesses the self-report level of preparedness for shift reporting and does not belong to any of the subscales.

To prevent response set bias, the tendency for respondents to agree with a series of positively worded items, the SRACS had a mixture of positively worded and negatively worded items (DeVellis, 2003). Items 3, 4, 6, 9, 10, 11, 12, and 13 were negatively worded and interspersed with positively worded items.

SRAT

The Shift Report Assessment Tool (SRAT) is a researcher-developed performance-based assessment instrument was used to observe the content criteria that the students reported during a shift report. The SRAT is the SBAR reporting sheet that
was given to the students during the lecture (Appendix C). The researcher assigned one point to the items that were heard during the shift report from the students that corresponded to the designated category for Situation, Background, Assessment, and Recommendation. There are 30 items in the SRAT scale; each item is allotted one point for a total of 30 points. The SRAT scores were compared for the two groups to assess for score differences in the traditional and the treatment groups.

Reliability and Validity

To establish reliability and validity, the researcher created a medical surgical shift-report text that would be similar with a shift report for a real hospitalized patient. The shift report was recorded digitally and distributed to four medical surgical nursing instructors who have received shift reports using an SBAR reporting form. The evaluation tool required the nursing instructors to record the information heard on the digital shift reporting onto the SRAT tool sheet.

A comparison of the four nurse-experts yielded 95% accuracy for marking the correct item in the category Recommendation; the other three categories of Situation, Background, and Assessment were recorded with 100% accuracy. A review of the results indicated that one nurse-expert put the Recommendation portion of SBAR under Assessment.

Pilot Study

The SBARKAQ and SRACS instruments were pilot tested with a group of LVN students (n =66) at a San Francisco Bay Area private LVN school during July 2009. Following Institutional Review Board for the Protection of Human Subjects approval, permission to access the prospective participants was obtained from the LVN school and
the lecture instructor. The instructor allowed the study to be conducted during the first hour of the Medical-Surgical lecture class. The purpose and background of the pilot study was explained to the students by the researcher. Copies of the informed consent form were given to the prospective participants on July 30, 2009.

On July 30, 2009, the research participants took the pretest SBARKAQ and immediately completed a 15-item SRACS. The researcher then gave a lecture on SBAR communication, purpose, and usage and distributed a template for shift reporting. A posttest SBARKAQ and SRACS were administered after the lecture to measure knowledge retention and changes in anxiety and confidence regarding shift reporting to nurses.

Open-ended Survey

The pilot study did not have any open-ended questions that were asked of the students to inquire whether they found the SBAR lecture helpful and what suggestions for change would they could give. After the pilot study, an open-ended questionnaire was developed. The 5 open-ended questions were as follows: 1) What additional information should be included or deleted in SBAR-the communication tool? 2) What information was most helpful to support using SBAR for shift reporting? 3) What additional information would you like included in the lecture? 4) During shift reporting, what is most helpful to you when you used SBAR? 5) During shift reporting, what is least helpful to you when you used SBAR?

Treatment

The traditional communication lecture is a verbal lecture based on the existing curriculum objectives of speaking clearing, reporting by body systems, and prioritizing
the information based on the level of acuity of the patient. Different forms of reporting such as reporting by exception, narrative or story format, and body system approaches were addressed (see Appendix M for PowerPoint® slides). The traditional lecture included the content of what is needed for a shift report, but the lecture did not give the acronym and definition of SBAR. The treatment communication lecture included PowerPoint® slides of SBAR explanation, an example of how SBAR could be used in medical or nonmedical situation, a handout to prompt reporting in SBAR format, and an opportunity to practice SBAR reporting (see Appendix N).

Research Questions Restated

The research questions for this study are as follows:

1. To what extent does SBAR training promote knowledge retention in LVN students receiving the treatment and in LVN students receiving the traditional lecture?

For the treatment group, comparisons were made on the SBARKAQ between Pretest and Week 3, Week 3 and Week 6, and Pretest and Week 6. For the traditional group, the same comparisons were made.

2. To what extent does SBAR training promote knowledge retention in LVN students who received the treatment communication lectures compared with students who received the traditional communication lecture?

3. To what extent does SBAR training promote the use of the SBAR tool to reduce anxiety and promote confidence and use of the tool in LVN students receiving the treatment and in LVN students receiving the traditional lecture?
4. To what extent does Self-reported Anxiety and Confidence (SRACS) in LVN students who received the treatment communication lectures compared with students who received the traditional communication lecture?

5. To what extent do LVN students who received the SBAR lecture utilize the SBAR tool for shift reporting compared with students who received traditional communication lecture when observed with a Shift Reporting Assessment Tool (SRAT)?

6. To what extent does SBAR training promote the LVN students perceived level of preparedness for shift reporting in the two groups?

7. To what extent do the LVN students differ in their open-ended survey of the usefulness and evaluation of the SBAR Shift report format?

Data Analysis

To address the research questions 1 and 3, a dependent-samples \( t \) test was used. The difference between Pretest and Week 3 SBARKAQ and SRACS scores were obtained and compared for the two groups separately using the .05 level of significance. Comparisons also were made for Week 3 to Week 6 and for Pretest to Week 6. Research questions 2 and 4 were addressed using an independent-samples \( t \) test; the first comparison addressed the improvement in SBAR knowledge retention in LVN students with SBAR lecture compared with those who only had traditional lecture. The second comparison addressed how the two groups differed in their SRACS reporting from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6.

To address question 5, Fisher’s exact test of proportions was used to investigate the difference in percentage use of the SBAR tool. The comparison was made at Week 3, Week 4, and Week 6. In addition to observing whether the students used the SBAR tool
or not, the number of inventory items reported were tallied at Week 2, Week 3, Week 4, and Week 6. Traditional and treatment groups were compared using the independent-samples $t$ test. For question 6, chi-square test was used to compare level of preparedness for treatment and traditional groups at Pretest, Week 3, and Week 6. To address question 7, coding of themes and frequency of responses were compared between the two groups. For each of the 5 open-ended questions, responses were reviewed and keyword or phrases responses were identified. A tally sheet was used to log the frequency of the keyword and phrases responses for each question. For reliability of coding, the feedback response data were sent to a nursing instructor who had experiences with qualitative research data collection; the nursing instructor was asked to review the data and to code for keywords and phrases. The nursing instructor’s compiled coding results were then compared with the researcher’s coding for 100% accuracy to address reliability and validity of the qualitative data.
CHAPTER IV

RESULTS

The purpose of this research was to investigate the effectiveness of using Situation, Background, Assessment, and Recommendation (SBAR) as a communication tool to help Licensed Vocational Nursing (LVN) students improve their shift-report communication to nurses and to investigate whether using SBAR communication would promote confidence and decrease anxiety associated with shift reporting. There were four instruments that were utilized in this study. The first instrument was the SBAR Knowledge Acquisition Quiz (SBARKAQ), a 10-item quiz, that was administered as a pretest prior to the participants receiving the randomly assigned traditional communication lecture or the treatment lecture on SBAR; the SBARKAQ also was administered Week 3 and Week 6 to measure for knowledge retention. The second instrument was the Self-Reported Anxiety and Confidence Scale (SRACS), a 14-item Likert scale tool to assess self-reported perception of anxiety, confidence, and use of SBAR for shift reporting. Each item is rated on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The possible score ranges from 14 to 70, the scale was further grouped into three subscales with Anxiety, Confidence, and Use of SBAR.

The third instrument was the Shift Reporting Assessment Tool (SRAT), a 30-item tool that was constructed based on the frequently reported items in a shift report when using the SBAR standardized shift reporting format. There were two parts to the SRAT with the first question asked if the SBAR form was used for shift reporting; the second part of the SRAT recorded the frequency of the students’ reporting of the shift-reporting
content. An open-ended questionnaire with five questions was used to provide feedback on the SBAR lecture and changes to the SBAR tool, which was the fourth instrument.

The previous chapter described the study design and methodology. Furthermore, it illustrated the method used in this study for selecting the sample and the brief description of the analysis that was used to link the methodology to the research questions for the study. The purpose of this chapter is to present the summarized results and findings of this study. The results are presented in two sections; the first section present the results as they pertain to the seven study questions as they are outlined in the first chapter of this dissertation, and the second section contains the overall summary.

All of the students who were approached had agreed to participate in the study. There were 20 participants: 10 from the morning clinical shift and 10 from the afternoon clinical shift. The following sections contain a restatement of the research questions and the data analysis for each of the seven research questions.

Research Question #1

To what extent does SBAR training promote knowledge retention in LVN students receiving the treatment and in LVN students receiving the traditional lecture? For the treatment group, comparisons were made on the SBARKAQ between Pretest and Week 3, Week 3 and Week 6, and Pretest and Week 6. For the traditional group, the same comparisons were made.

For the treatment group, the change in means on the SBARKAQ from Pretest to Week 3 is 3.00 (see Table 3). The traditional group’s, who did not have the SBAR lecture, average change during the same time is 0.70. There is improvement for the treatment group between Week 3 and Week 6 after the additional lecture on SBAR of
0.80, but the traditional students’ improvement is 1.70 after receiving the lecture at Week 4. From Pretest to Week 6, the overall mean change for the treatment group is 3.80 and 2.40 for the traditional group.

Table 3

Means and Standard Deviations for SBAR Knowledge Acquisition Quiz for Pretest, Week 3, and Week 6

<table>
<thead>
<tr>
<th>Test Date</th>
<th>Traditional (n=10)</th>
<th>Treatment (n=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Pretest</td>
<td>6.80</td>
<td>1.69</td>
</tr>
<tr>
<td>Week 3</td>
<td>7.50</td>
<td>1.01</td>
</tr>
<tr>
<td>Week 6</td>
<td>9.20</td>
<td>0.92</td>
</tr>
</tbody>
</table>

A dependent-samples *t* test was performed to assess if SBARKAQ scores changed after the students received the SBAR lecture in treatment from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6. The SBAR lecture was given to the students in the traditional group at Week 4. Changes in their scores were assessed from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6 (Table 4).

Table 4

Mean Differences, Standard Deviations, and *t*-Test Results for Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6 SBAR Knowledge Acquisition Quiz by Traditional and Treatment Groups

<table>
<thead>
<tr>
<th>Test Date</th>
<th>Traditional (n =10)</th>
<th>Treatment (n =10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M diff</td>
<td>SD</td>
</tr>
<tr>
<td>Pretest to Week 3</td>
<td>0.70</td>
<td>1.25</td>
</tr>
<tr>
<td>Week 3 to Week 6</td>
<td>1.70</td>
<td>0.82</td>
</tr>
<tr>
<td>Pretest to Week 6</td>
<td>2.40</td>
<td>1.17</td>
</tr>
</tbody>
</table>

*Statistically significant when the overall error rate is controlled at the .05 level.
The dependent-samples \( t \) test from Pretest to Week 3 for the treatment group was statistically significant; the students in the treatment group had not only a statistically significant increase in their SBARKAQ scores but also a practically important difference (effect size is large) after receiving the SBAR lecture. The difference between Weeks 3 and 6 for the treatment group was not statistically different; however, the change from Pretest to Week 6 was statistically and practical significant (with a large effect size). Additionally, the traditional group had a statistically significant increase in the SBARKAQ scores after receiving the SBAR lecture at Week 4 with a large effect size. The same result occurred when scores from Pretest to Week 6 were compared for the traditional group.

**Research Question #2**

To what extent does SBAR training promote knowledge retention in LVN students who received the treatment communication lectures compared with students who received the traditional communication lecture? In particular, how do the two groups differ in their SBAR knowledge from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6? Note that the comparison between Week 3 and Week 6 indicates the effect of the traditional group receiving the treatment.

The mean changes across the measurement periods for both groups of students are presented in Table 5. The treatment group’s change from Pretest to Week 3 is statistically significantly greater than for the students who received the traditional lecture with a very large effect size. That difference is no longer statistically significant after the students in the traditional lecture group receive the SBAR lecture. In fact, the traditional group’s mean change is greater than that for the treatment group. When the two groups are
Table 5

Mean Differences, Standard Deviations, and t-Test Results for Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6 SBAR Knowledge Acquisition Quiz

<table>
<thead>
<tr>
<th>Test Date</th>
<th>Traditional ((n = 10))</th>
<th>Treatment ((n = 10))</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(M) diff</td>
<td>(SD)</td>
<td>(M) diff</td>
</tr>
<tr>
<td>Pretest to Week 3</td>
<td>0.70</td>
<td>1.25</td>
<td>3.00</td>
</tr>
<tr>
<td>Week 3 to Week 6</td>
<td>1.70</td>
<td>0.82</td>
<td>0.80</td>
</tr>
<tr>
<td>Pretest to Week 6</td>
<td>2.40</td>
<td>1.17</td>
<td>3.80</td>
</tr>
</tbody>
</table>

* Statistically significant when the overall error rate is controlled at the .05 level.

compared from Pretest to Week 6, the treatment group’s advantage in having the second SBAR lecture results in statistically significant greater change over the traditional group who received only one SBAR lecture. The effect size is small.

Research Question #3

To what extent does SBAR training promote the use of the SBAR tool to reduce anxiety and promote confidence and use of the tool in LVN students receiving the treatment and in LVN students receiving the traditional lecture? For the treatment group, comparisons were made on the SRACS between Pretest and Week 3, Week 3 and Week 6, and Pretest and Week 6. For the traditional group, the same comparisons were made.

The traditional group had little or change from Pretest to Week 3 on any of the three scales, whereas the treatment group, on average, increased their reported level of anxiety, increase confidence, and decrease use of tool (Table 6). The anxiety continued to increase between Week 3 and Week 6 for both groups. Confidence does not change that much for the same time period for both groups, whereas the use of tool increased slightly for both groups.
Table 6

Means and Standard Deviations for Self-Reported Anxiety, Confidence, Use of SBAR, and Total Scale (SRACS) at Pretest, Week 3, and Week 6 by Traditional and Treatment Groups

<table>
<thead>
<tr>
<th>Scale</th>
<th>Traditional (n =10)</th>
<th>Treatment (n =10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Pretest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>17.30</td>
<td>4.00</td>
</tr>
<tr>
<td>Confidence</td>
<td>16.10</td>
<td>3.28</td>
</tr>
<tr>
<td>Use of SBAR</td>
<td>8.90</td>
<td>1.10</td>
</tr>
<tr>
<td>Total</td>
<td>45.10</td>
<td>7.77</td>
</tr>
<tr>
<td>Week 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>16.50</td>
<td>2.80</td>
</tr>
<tr>
<td>Confidence</td>
<td>16.20</td>
<td>3.16</td>
</tr>
<tr>
<td>Use of SBAR</td>
<td>8.90</td>
<td>1.10</td>
</tr>
<tr>
<td>Total</td>
<td>45.10</td>
<td>7.62</td>
</tr>
<tr>
<td>Week 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>18.80</td>
<td>3.46</td>
</tr>
<tr>
<td>Confidence</td>
<td>16.80</td>
<td>2.30</td>
</tr>
<tr>
<td>Use of SBAR</td>
<td>9.00</td>
<td>1.41</td>
</tr>
<tr>
<td>Total</td>
<td>44.60</td>
<td>5.95</td>
</tr>
</tbody>
</table>

Results of the dependent-samples \( t \) tests are reported in Table 7. There were no statistically significant changes for the three time periods for both treatment and traditional groups on the Confidence and Use of Tool scales on the SRACS. For the time period Week 3 to Week 6, there is a statistically significant change for the treatment group on the Anxiety scale. There were no statistically significant changes for the traditional group on the Anxiety scale.

Research Question #4

To what extent does Self-reported Anxiety and Confidence (SRACS) in LVN students who received the treatment communication lectures compared with students who received the traditional communication lecture? In particular, how do the two groups
Table 7

*Mean Differences, Standard Deviations for Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6 Self-Reported Anxiety, Confidence, and Use of SBAR Scale (SRACS)*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Traditional (n = 10)</th>
<th>Treatment (n = 10)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M diff</td>
<td>SD</td>
<td>t</td>
<td>df</td>
<td>M diff</td>
<td>SD</td>
<td>t</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest to Week 3</td>
<td>-0.80</td>
<td>2.53</td>
<td>1.00</td>
<td>9</td>
<td>-1.30</td>
<td>2.11</td>
<td>-1.95</td>
</tr>
<tr>
<td>Week 3 to Week 6</td>
<td>2.30</td>
<td>2.16</td>
<td>3.36</td>
<td>9</td>
<td>4.10</td>
<td>1.89</td>
<td>4.98*</td>
</tr>
<tr>
<td>Pretest to Week 6</td>
<td>1.50</td>
<td>1.35</td>
<td>3.50</td>
<td>9</td>
<td>2.80</td>
<td>2.70</td>
<td>3.28</td>
</tr>
<tr>
<td>Confidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest to Week 3</td>
<td>0.10</td>
<td>0.57</td>
<td>0.56</td>
<td>9</td>
<td>0.50</td>
<td>0.71</td>
<td>2.24</td>
</tr>
<tr>
<td>Week 3 to Week 6</td>
<td>0.60</td>
<td>1.35</td>
<td>1.41</td>
<td>9</td>
<td>-0.10</td>
<td>2.51</td>
<td>-0.13</td>
</tr>
<tr>
<td>Pretest to Week 6</td>
<td>0.70</td>
<td>1.49</td>
<td>1.48</td>
<td>9</td>
<td>0.40</td>
<td>2.72</td>
<td>0.47</td>
</tr>
<tr>
<td>Use of SBAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest to Week 3</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>9</td>
<td>-0.40</td>
<td>0.70</td>
<td>-1.81</td>
</tr>
<tr>
<td>Week 3 to Week 6</td>
<td>0.10</td>
<td>0.99</td>
<td>0.32</td>
<td>9</td>
<td>0.80</td>
<td>1.40</td>
<td>1.81</td>
</tr>
<tr>
<td>Pretest to Week 6</td>
<td>0.10</td>
<td>0.99</td>
<td>0.32</td>
<td>9</td>
<td>0.40</td>
<td>1.71</td>
<td>0.74</td>
</tr>
</tbody>
</table>

* Statistically significant when the overall error rate is controlled at the .05 level.

differ in their SRACS reporting from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6? Note that the comparison between Week 3 and Week 6 indicates the effect of the traditional group receiving the treatment.

The SRACS Likert scale tool was used to assess how students perceived their anxiety, confidence, and need to use a tool for shift reporting. The SRACS subscales of Anxiety, Confidence, and Use of Tool were used for comparison of changes from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6 for the traditional and treatment groups (see Table 8). When the overall error-rate was controlled at .05, there were no
statistically significant differences between the treatment and traditional groups on any of the scales for any of the times.

Table 8

<table>
<thead>
<tr>
<th>Scale</th>
<th>Traditional (n = 10)</th>
<th>Treatment (n = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M diff</td>
<td>SD</td>
</tr>
<tr>
<td>Pretest to Week 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-0.80</td>
<td>2.53</td>
</tr>
<tr>
<td>Confidence</td>
<td>0.10</td>
<td>0.57</td>
</tr>
<tr>
<td>Use of SBAR</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Week 3 to Week 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>2.30</td>
<td>2.16</td>
</tr>
<tr>
<td>Confidence</td>
<td>0.60</td>
<td>1.35</td>
</tr>
<tr>
<td>Use of SBAR</td>
<td>0.10</td>
<td>0.99</td>
</tr>
<tr>
<td>Pretest to Week 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>1.50</td>
<td>1.35</td>
</tr>
<tr>
<td>Confidence</td>
<td>0.70</td>
<td>1.49</td>
</tr>
<tr>
<td>Use of SBAR</td>
<td>0.10</td>
<td>0.99</td>
</tr>
</tbody>
</table>

Research Question # 5

To what extent do LVN students who received the SBAR lecture utilize the SBAR tool for shift reporting compared with students who received traditional communication lecture when observed with a Shift Reporting Assessment Tool (SRAT)?

Observations were made at Weeks 2, 3, 4, and 6. At Week 2, none of the participants would have used SBAR because the lecture was given to the treatment group at the postconference session. Week 2 provided baseline data for the inventory scores that was used for comparison (Table 9).

At Week 3, all but one student in the treatment group used the SBAR in shift reporting, whereas none of the traditional students used the tool, yielding a statistically
significant difference when a Fisher exact test was used. After the traditional students received the SBAR lecture in Week 4, 70% of these students used the tools and 80% of the treatment group used the tool, which resulted in no statistically significant difference between the groups in the use of the SBAR tool. The same result occurred at Week 6 with 80% of both groups of students using the SBAR tool.

Table 9

<table>
<thead>
<tr>
<th>Test Date</th>
<th>Traditional (n = 10)</th>
<th>Treatment (n = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use SBAR to Shift report?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Week 3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Week 4</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Week 6</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

In addition to observing whether the students used the SBAR tool or not, the number of inventory items reported were tallied at Week 2, Week 3, Week 4, and Week 6 (Table 10). The independent-samples $t$ test was used to compare the traditional and treatment groups for the four observations. At Week 2, the two groups were using, on average, 11 items for the traditional and 12 items for the treatment out of 30 on the inventory. After the treatment group received the SBAR lecture, the average increased to 24 items, whereas the traditional group averaged 16 items. This difference was statistically significant. After the traditional group received the SBAR lecture, there was no statistically significant difference between the two groups in the average number of items reported on in the inventory at Week 4 and Week 6.

The independent-samples $t$ test for Week 2, Week 4, and Week 6 was not statistically significant; the students in the treatment group had the largest change in use
of items on the SRAT at Week 3 after receiving the lecture when the SRAT scores were compared with a large effect size of 0.43.

Table 10

Means, Standard Deviations, and t-Test Results for Week 2, Week 3, Week 4, and Week 6
Traditional and Treatment Groups

<table>
<thead>
<tr>
<th>Test Date</th>
<th>Traditional (n = 10)</th>
<th>Treatment (n = 10)</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Week 2</td>
<td>11.80</td>
<td>6.37</td>
<td>10.80</td>
</tr>
<tr>
<td>Week 3</td>
<td>16.10</td>
<td>5.43</td>
<td>24.00</td>
</tr>
<tr>
<td>Week 4</td>
<td>20.80</td>
<td>8.31</td>
<td>23.40</td>
</tr>
<tr>
<td>Week 6</td>
<td>22.80</td>
<td>5.05</td>
<td>19.90</td>
</tr>
</tbody>
</table>

* Statistically significant when the overall error rate is controlled at the .05 level.

Research Question #6

To what extent does SBAR training promote the LVN students perceived level of preparedness for shift reporting in the two groups?

In the SRACS Likert scale instrument, item number 3 asked the participant to rate how prepared they feel they are informed about shift reporting. A frequency analysis and cross-tabulation, with combining the values of Strongly disagree (1) and Somewhat disagree (2) as one value. Neither disagree or agree (3) was assigned a value of its own. Somewhat agree (4) and Strongly agree (5) were combined as one value, so that there were three values to analyze for Pretest, Week 3, and Week 6. The results were not statistically significant when traditional- and treatment-group data were compared using Fisher’s exact test (see Table 11).

The level of preparedness for shift reporting indicated that both groups were similar in the level of preparedness as seen by the lack of changes from Week 3 to Week
6. The students' indicated that their level of preparedness is similar for both groups, with the majority of students indicating that they were not prepared.

Table 11

*Preparedness for Shift Reporting Rating for the Traditional and Treatment Groups at Pretest, Week 3, and Week 6*

<table>
<thead>
<tr>
<th>Test Date</th>
<th>Traditional (n = 10)</th>
<th>Treatment (n = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rating 1</td>
<td>Rating 2</td>
</tr>
<tr>
<td>Pretest</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Week 3</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Week 6</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Research Question #7

To what extent do the LVN students differ in their open-ended survey of the usefulness and evaluation of the SBAR shift report format?

An open-ended, qualitative questionnaire was given to the participants to provide feedback about the usefulness of the SBAR tool. Table 12 presents the themes that emerged and the frequency that comments made by students supported the themes. For some themes both groups had responses.

The participants were asked five questions for their feedback: 1) What additional information should be included or deleted in SBAR-the communication tool? 2) What information was most helpful to support using SBAR for shift reporting? 3) What additional information would you like included in the lecture? 4) During shift reporting, what is most helpful to you when you used SBAR? 5) During shift reporting, what is least helpful when you used SBAR?
Table 12

*Frequency of Identified Themes for Students Who Received the Traditional Lecture and the Treatment Lecture*

<table>
<thead>
<tr>
<th>Themes</th>
<th>Traditional</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liking the tool</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Informative</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No other information</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Enjoyed the lecture</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Gets redundant when reporting the same patient week after week</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Question 2:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The SBAR handouts</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>When calling a physician</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Can be used in other settings</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>The flow and format</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Question 3:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More practice with using the form</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Give samples of other shift reporting forms</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td><strong>Question 4:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organized</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Know what to report</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I feel confident</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>I prefer my own reporting sheet</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>Question 5:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time consuming</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Some items are not relevant to my patient</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>SBAR is more suited for RNs and not LVNs</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Too many fields</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

In the first open-ended question, the theme that emerged the most was that no additional information was needed. There were equal number of participants from both the traditional and the treatment group who found the lecture to be “very informative.”
One student responded that the tool was “very redundant when reporting on the same patient week after week.”

For the second open-ended question, the theme that was most frequent was that the SBAR tool and handout sheets were helpful. When the researcher gave the lecture, SBAR tool materials were distributed to the students. They also indicated that the format was helpful and that they would use it when calling a physician.

For the third question, the students wanted to have more practice with using the form and wanted to see other shift-reporting sample forms. Most students did not report that they needed additional information about SBAR. For the fourth question, the students indicated that using SBAR was organized to help them with reporting. Two students in the traditional group noted they “felt confident” when using the SBAR form.

For the last question, the students commented on SBAR and the lecture. The feedback given addressed using SBAR, some students reported that it was “too time consuming,” “too many fields” for reporting during shift report, and “SBAR is more suited for RNs and not LVNs.”

Summary

The data gathered over the 6 weeks for the two intact groups randomly assigned to a traditional lecture and to an SBAR lecture showed that the SBARKAQ scores changed from Pretest to Week 3 for the treatment group and changes from after the SBAR lecture was given to both groups at Week 4. From Pretest to Week 3, there was a statistically significant increase in SBARKAQ scores for the Treatment group; the Traditional group also had a statistically significant increase in SBARKAQ scores from Pretest to Week 6 after receiving the SBAR lecture.
In addition to knowledge retention, the two groups had a Self-Report Anxiety and Confidence Scale (SRACS) administered at Pretest, Week 3, and Week 6 to determine if the SBAR lecture and use of an SBAR Tool would influence the level of anxiety, confidence, and use of SBAR. There was no statistical significance with the SRACS scores in either the traditional lecture group or the treatment group within and between the two groups at the different time intervals. The subscales of the SRACS for Anxiety, Confidence, and Use of SBAR had one statistically significant $t$ test of 4.98 for the treatment group from Week 3 to Week 6 on the Anxiety subscale; the rest of the subscales for both the treatment and traditional groups were not statistically significant for the changes within and between two lecture groups over the time intervals with the SBAR lecture intervention.

At Week 3, Week 4, and Week 6, shift-reporting observation with the Shift Reporting Assessment Tool (SRAT) collected data on whether the two groups were using the SBAR tool and the number of content areas included based on a total of 30 points on the SRAT. The data indicated that students who used the SBAR tool for reporting had higher SRAT scores. Overall, the traditional lecture students had lower scores than the treatment lecture in terms of the SBARKAQ, SRACS, and frequency Use of the SBAR tool when observed using the SRAT.

Last, qualitative data obtained from the open-ended survey identified that the student enjoyed the lecture and found the lecture informative. Some students believed that the tool is more appropriate for RNs instead of LVNs and not relevant to their patients. Some students indicated that the tool was redundant and time consuming,
whereas other students reported it was helpful and that they would use in their shift reporting.

Chapter 5 contains the discussion of the results, limitation of the study, implication to practice, and suggestions for future research based upon the results from this chapter.
CHAPTER V
SUMMARY, LIMITATIONS, DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

The purpose of this research was to investigate the effectiveness of using Situation, Background, Assessment, and Background (SBAR) as a communication tool to help Licensed Vocational Nursing (LVN) students improve their shift-report communication to nurses and to investigate whether using SBAR communication would increase confidence and decrease anxiety associated with shift reporting. As with the Results chapter, the discussion will be according to the study questions, which were presented in the introductory chapter. Once the results are discussed, several options for applying these findings to the practice of education, suggestions for future research, the limitations of the study, and overall conclusions are provided.

Summary of Results

The sample of participants in the study was Licensure Vocational Nursing students enrolled in a private school in Northern California. Twenty students were enrolled in two sections with 10 students each that were assigned randomly to receive a traditional communication lecture or to receive the treatment SBAR lecture. Both groups were administered the SBAR Knowledge Acquisition Quiz (SBARKAQ) to assess for knowledge retention. In addition, the students were given a Self-Reported Anxiety and Confidence Scale (SRACS) at Pretest, Week 3, and Week 6 to measure changes with their self-reported rating of Anxiety, Confidence, and Use of SBAR.

At Weeks 2, 3, 4, and 6, the students also were observed for their shift reporting at the end of the shift; a Shift-Reporting Assessment Tool (SRAT) contained the frequency of reporting pertinent patient data in order to compare students’ use of the SBAR tool.
There were seven research questions; the following contains a summary of the results of the research questions that were presented in the previous chapter.

To address the first research question, the dependent-samples t-test results indicated that there were statistically significance differences between testing times for the two groups on the SBARKAQ. After receiving the lecture, the changes in SBARKAQ for the traditional group mean increased 1.70 from Week 3 to Week 6; the treatment group had a mean increase of 3.00 from Pretest to Week 3. The changes in SBARKAQ after the second SBAR lecture for the treatment group and the first SBAR lecture for the traditional group were statistically significant for both groups.

The second research question compared the changes in SBARKAQ scores between the two groups at Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6. There were statistically significant differences between the two groups at Pretest to Week 3 and Pretest to Week 6 with the treatment group having the larger mean difference. The effect size was medium from Pretest to Week 3 and small from Pretest to Week 6.

The third research question investigated the extent of the differences for reporting of the Self-Reported Anxiety and Confidence (SRACS) and its subscales: Anxiety, Confidence, and Use of SBAR from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6 for the traditional and treatment group, separately. The overall means of each of the two groups and the subscales did not indicate a statistically significant change before or after the SBAR lecture on SRACS subscales of Confidence and Use of SBAR. There were no statistically significant differences for the traditional group for the subscale Anxiety. There was a statistically significant increase in Anxiety for the treatment group from Week 3 to Week 6.
The fourth research question examined the differences in SRACS between the groups at Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6. There were no statistically significant differences between the traditional and treatment groups on any of the scales.

Research question 5 was a two-part question. The first part was to investigate the number of students who would use SBAR for shift reporting; the second part compared the two groups for the reported items during a shift report. The researcher observed the students for shift reporting at Weeks 2, 3, 4, and 6. As the lecture had not been given at Week 2, there was 0% usage. There were 70% usage of SBAR for shift reporting at Week 4 and 80% at Week 6 for the traditional group after receiving the SBAR lecture. The treatment group had 90% usage right after the first SBAR lecture; the usage dropped to 80% after receiving the second SBAR lecture at Week 4.

For the second part of the research question 5, there were statistically significant changes in the number of items reported at Week 3 between the traditional students who received the traditional lecture and the treatment students who received the SBAR lecture. None of the other comparisons (Week 2, Week 4, and Week 6) were statistically significant.

For research question 6, the SRACS had a specific question, item number 3, that asked the student to rate how well-prepared they felt they were in giving a shift report. Because the sample size is small, the assumptions for the chi-square test were not satisfied based on the 5-point scale. The responses were combined to the Likert scale so that 1 (Strongly disagree) and 2 (Somewhat disagree) were grouped together and 4 (Somewhat agree) and 5 (Strongly agree) were combined together. The totals were
examined in both the traditional group and the treatment group; no statistical significance was noted when analyzing item 3 during Pretest, Week 3, and Week 6 for the two groups.

The last research question provided open-ended input from the students regarding their feedback for the lecture and the SBAR tool. The participants were asked five questions for their feedback: 1) What additional information should be included or deleted in SBAR-the communication tool? 2) What information was most helpful to support using SBAR for shift reporting? 3) What additional information would you like included in the lecture? 4) During shift reporting, what is most helpful to you when you used SBAR? 5) During shift reporting, what is least helpful to you when you used SBAR? Overall, the students found the SBAR tool to be informative and useful. They did indicate that it was redundant to be reporting the same information week after week at their clinical setting. Some students reported more confident with using the tool; other students indicated that the tool had too many fields and was better suited for another setting or for RNs.

Limitations

Several limitations to the proposed studies have been identified. First, the students were not assigned randomly although the intact groups were assigned randomly to the treatment or traditional communication. Groups were self-registered based on the students’ preference and available clinical slot; therefore, there might have been differences between the two groups other than those that were tested at Pretest. The findings may not generalize to other LVN student populations who would be at different hospitals or different clinical sites.
Second, due to time constraints, nursing staff interactions and how the students perceived the receptivity from the staff were not measured. There could be have been differences in how the staff received the students as learners or as a hindrance to the staff workload that could impact anxiety and confidence when the students were giving a shift report.

Third, the utilization of SBAR based on SRAT observation score sheet may have biased the results due to the observer effect because the students were aware that they were being observed during the shift report for research participation. It is unclear if having different qualified observers would yield the same use of SBAR. This current study did not take in account that perception and feedback from the nurse point of view because the nurse is the one who is receiving the shift report. This study did address the uniformity of having one observer rather different nurse observers during shift reporting.

Fourth, the SRAT observations were made at a convenient time instead of randomly selecting the patient on which the LVN student was making the shift report to observe. An alternative and comprehensive approach to the SRAT observations would have been to include all the shift reports that each student gave for his or her caseload of residents when the SRAT data observations occurred.

Fifth, although the SRACS provides measurements of how the students rated their own perceived anxiety, confidence, and use of SBAR to communicate shift reporting, the instrument is not an objective measurement of the above constructs. Objective measurements of anxiety and confidence in communication would involve physiological monitoring and invasive blood tests.
Sixth, the length of the study was 6 weeks due to the timing of the clinical practicum rotation. The students in this study had a 9-hour clinical practicum rotation twice a week for 6 weeks to complete their 108 hours of required Medical-Surgical clinical practicum. Some LVN schools have their Medical-Surgical clinical practicum once a week; thus the length of the clinical can be different at another school.

Last, there is limitation in the generalizability of the results to other groups. The sample size for this study (n = 20) is small. Even though, the data collected included repeated measures over several weeks, it is unclear if the results found with this group can be generalized to the population or whether the results found in the study are unique to this group.

Discussion

This next section provides a discussion of the results organized by grouping the research questions to address the effectiveness of the three tools that were developed for this study: the SBARKAQ, the SRACS, and the SRAT. In addition, the level of preparedness and open-ended feedback of the SBAR lecture and tool are presented in this section.

Research Questions 1 and 2

Research questions 1 and 2 are presented together for SBARKAQ effectiveness and extent of changes between the two groups and within each group during the time period from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6.

The development of SBARKAQ was to measure changes in the level of knowledge retention for students who were assigned to the traditional communication or treatment group. In chapter 2 the literature review, previous researchers already have
identified the lack of standardized tool that exists to help not only nurses but also nursing students to be comfortable and be thorough in their shift reporting (Ascano-Martin, 2008; Currie, 2002; Kerr, 2002). The standardized communication tool that is most frequently used during physician and nurse communication is SBAR (Leonard, Graham & Bonacum, 2004). This study addressed the use of a standardized tool for LVN students to give their shift reporting. One method of measuring knowledge of a subject matter is to assess for knowledge retention. This study is based on the theoretical framework of Bandura’s (1986) social theory of learning in that learning efficacy increased with knowledge of the content and practice. This study was modeled after Chu (2008) who worked with older adults and measured the effects of computer knowledge and usage and their self-efficacy.

The results from this study indicated that there were statistically significant changes in scores for the traditional and treatment groups. The participants in both groups had learned and retained information pertinent to SBAR. The SBARKAQ results from the traditional group and treatment at Pretest indicated that the two groups were similar and did not have prior knowledge on the subject. For the treatment group, the increase in SBARKAQ mean at Week 3 after SBAR lecture and similar mean at Week 6 after the second SBAR lecture indicated retention of knowledge about SBAR.

For the traditional group, mean change from Pretest to Week 3 indicated that the traditional communication lecture did not provide specific details about SBAR and hence the traditional students change was not statistically significant. After receiving the SBAR lecture as part of the cross-over design for the traditional group, the students in traditional group did have an increase in their scores; this statistically significant change in mean
difference for the traditional group indicates that the students retained knowledge about SBAR. The SBARKAQ did assess knowledge retention.

It is important to point out that at Week 3, there were 2 individuals in the traditional who had received 100% on their SBARKAQ even prior to receiving the SBAR lecture. A detail analysis of some of the contributing factors such as age, prior education, experience in the medical field, and communication with nurses or physicians were examined to investigate why these students had scored perfectly on the SBARKAQ before receiving the SBAR lecture. On examination of the descriptive data, one participant indicated prior medical experience; the other individual did not respond to prior medical experience question. The SBARKAQ was developed by the researcher; even though the Cronbach’s coefficient alpha was .75 with the revised version; it is unknown as to why the two individuals in traditional group received perfect scores even prior to the SBAR lecture. There is no indication or way to capture whether these two students have heard the SBAR information before.

Research Questions 3 and 4

For research questions 3 and 4, the SRACS tool was developed to measure the students’ perceived anxiety and confidence associated with communication. The SRACS was adopted and revised based on a scale developed by Lewis, Bell, and Agshar (2007) to assess physical-therapy students’ communication with patients. The SRACS has three subscales: Anxiety, Confidence, and Use of SBAR. At Pretest, both groups rating of the SRACS were similar, indicating that the morning and afternoon shift groups were not that different in their rating of their perceived anxiety, confidence, and use of SBAR. Both groups rating of confidence and use of SBAR for reporting were not statistically
significant during the intervals from Pretest to Week 3, Week 3 to Week 6, and Pretest to Week 6. For the traditional group, there were no statistically significant differences for Anxiety ratings. There was a statistically significant increase in Anxiety for Week 3 to Week 6 for the treatment group. The other time periods did not result in statistically significant differences for the treatment group on Anxiety subscale. These results can be interpreted that the SBAR lecture did not have a direct effect either positively or negative to their overall level confidence or use of SBAR.

For the treatment group, the Anxiety subscale between Week 3 and Week 6 indicated a statistically significant independent-samples t-test of 4.98. The increased changes in the subscale of Anxiety for the treatment group was a surprising and unexpected results; it did not support the expected increase in self-efficacy based on Bandura’s Self-Efficacy of Social Learning (Bandura, 1986; Chu 2008). It is unclear if the students believed that they were comfortable with shift reporting prior to the study as indicated by the Pretest SRACS; during the study, however, the students were less confident with the nursing staff, the ability to report, or the liability and responsibility that is associated with shift reporting. One of the possible explanations for the results could be the duration of the study. The study took place over a 6-week time interval; it is possible that the students were adjusting to use of SBAR and new content material on communication with SBAR. A follow up or longer observation over a several months would provide more data for changes with SRACS.

Another reason could be related to stress and adaptation to change. In the field of education, according to Hall and Hord (2001), whenever teachers are confronted with changes with a new curriculum or a new teaching practice, the stress and adoption of the
new practice would generate stress and anxiety. Hall and Hord outlined the 7 Stages of Concern called that Concerns-Based Adoption Model that the teacher would experience with a new innovation: 1) Awareness- The teacher would have little concerns with the change, 2) Informational- The teacher is showing some interest in the innovation, 3) Personal- The teacher wants to know how the changes will affect the outcome, 4) Management- The teacher is willing to learn about the innovation, 5) Consequence- The teacher is interested to know the impact on students, 6) Collaboration- The teacher is willing with work with other teachers who are supporting the innovation, and 7) Refocusing- The teacher accepts the innovation and is interested in alternative ways to improve the innovation.

When applying the principles of the Concerns-Based Adoption Model to the treatment-group LVN students who were adjusting and adopting the changes to shift-reporting with a new tool, the increase in anxiety would be predictable. It is possible that the treatment-group students were feeling more anxious about using the SBAR because it was new and they were not familiar with all the categories and thus reported increased anxiety on the SRACS. The researcher noted that at Week 3, some of the students who were assigned to the treatment group talked about how they believed the nursing staff did not appreciate the students and thought that the students were interfering with their work. It is unclear what event had occurred between some students and the nursing staff; the students did talk about their experiences during post conferences with their clinical instructor after the researcher had gathered the data. The SRACS scale was unable to capture what the qualitative changes or the reason for positive or negative changes of their anxiety, confidence, and use of SBAR.
The lack of existing research in the literature with regard to SBAR communication and anxiety and confidence does not allow for comparison or support for the SRACS. Given the data collected in this study and although the changes were not statically significant, the data indicated further research needs to be carried out on this topic and additional questions added to the SRACS. The addition of items should improve the reliability of the instrument.

The SRACS tool was developed with a Likert scale rating, so it did not incorporate open-ended questions for the participants to answer why they rated the scale the way they did. The benefit of using a Likert scale is that it is convenient to administer, but Likert scales do not provide the qualitative short answers to understand what the students were experiencing when their self-reported anxiety changed (DeVellis, 2003).

Although most results were not statistically significant except for the increase in Anxiety in the treatment group between Week 3 and Week 6, there were some data that were unexpectedly lower. For example, the subscale Use of SBAR had a mean difference of -0.40 from Pretest to Week 3, Confidence mean difference of = -0.10 from Week 3 to Week 6, Anxiety scale mean difference of = 1.10 from Pretest to Week 3, and mean difference of = 2.80 from Pretest to Week 6. The changes that resulted could have been the phenomena that Hall and Hord (2001) indicated with teachers when they are confronted with adopting a new intervention.

Research Question 5

Research question 5 provided information on how many students had used the SBAR reporting tool after receiving the lecture. The treatment group had eight participants who used the SBAR tool for reporting at Week 3. After the SBAR lecture at
Week 4, the traditional group had 7 students using the tool; the number of students using the SBAR tool in the traditional group increased by one at Week 6.

For the treatment group at Week 4 and Week 6, there was one less student using the SBAR tool than at Week 3. In addition to observing whether the students used the SBAR tool or not, the number of items reported were tallied at Week 2, Week 3, Week 4, and Week 6. Overall the students who used SBAR for reporting were recorded as using more items on the SRAT tool. There could have been a bias to use the SBAR form because of the presence of the researcher. It would be beneficial to learn whether the students would use SBAR if the observations were made by another individual.

One of the limitations of the study that was indicated in the previous section is that the SRAT tool observations were based on convenient observations rather than random observations or observations of every patient for the student’s shift reporting. Because there were 4 weeks of SRAT observations at Weeks 2, 3, 4, and 6 and there were 10 students per week who were shift reporting on 8 to 10 residents, there could have been 640 and to 1,000 shift reports to tally and observe. Because taping recording of the shift-report is a violation of the Privacy Rule, the researcher could hired a research assistant to assist with observations during shift reporting to support or negate the usefulness of SBAR for shift reporting with LVN students in the long-term-care setting.

The benefits of the SRAT and observations at the students’ clinical site provided new data and supported conducting research in an authentic setting rather than a simulated classroom setting. Ascano-Martin (2008) and Krautschheid (2008) both studied nursing students and their use of SBAR for reporting; these researcher required their students to use SBAR so there was 100% adherence to using SBAR, whereas the current
study observed whether students would to use the tool without being prompted as part of their normal clinical practice of end-of-shift reporting. The rate of utilization of the SBAR tool by Week 6 for both the traditional lecture and treatment lecture group was 80%, respectively; however, it is unclear whether the students used the form because the researcher was present for observations.

Research Question 6

Research question 6 addressed whether the LVN students felt prepared for shift reporting. In terms of the level of preparedness, the students’ reported levels did not change after the SBAR lecture. Because of the small sample sizes, the results of the Likert scale were grouped so that Likert scale 1 and 2 were one category, 3 was the second category, and 4 and 5 were grouped for the third category. The results did not indicate any statistically significant difference in preparedness of the two groups of student. Only two students in both groups Somewhat agreed or Strongly agreed that they were prepared with information about shift reporting; perhaps these two students have had prior experience or felt that being able to give a shift report at the end of each clinical had provided them with adequate preparedness.

Students in this study were enrolled in their first medical-surgical clinical practicum; they did not have any prior clinical or experiences with shift reporting. In the Background and Need section of chapter 1, the need for this study was that LVN students did not have practice and education on the topic of communication, let alone shift reporting, a subtopic of the types of communication. The results to this research question further confirmed the need to include shift reporting as part of their communication lectures.
Research Question 7

The last research question provided a qualitative survey to obtain feedback from the participants. The comments provided by the students focused on the feasibility of using the standardized SBAR for LVN students in long-term-care facilities. The participants had their medical surgical rotation at a long-term-care facility; the clients in the facility can be admitted for an average for 6 months. Because the students were assigned the same patients weekly, the information on the SBAR form would be repetitive when reporting to another shift. The students indicated that the lecture was informative and useful, but the format for SBAR reporting was time consuming and would be suitable for a new admission rather than for patients who are cared for in the facility for weeks. The literature in chapter 2 did not address the feasibility of the form; all the studies supported the use of SBAR (Haig, Sutton, & Whittington, 2006; Leonard et al., 2004), so the qualitative feedback from the participants is valuable to suggest changes and modification to the form for LVN students who work in long-term-care.

The literature and the support for using SBAR occurred in hospitals with acute-care patients (Ascano-Martin, 2008; Haig et al., 2006; Leonard, 2006); none of the studies have indicated or mentioned modification to SBAR for a different setting. The SBAR communication tool is useful and will help to relay pertinent data from one shift to another; the results provide support for additional research with LVN students to learn if they would find the form useful in the acute-care setting in a subsequent semester.

Furthermore, the students found that the SBAR form was long and tedious and did not believe that it was suited in the long-term-care setting. The researcher observed that the student were at the facility twice a week for 6 weeks, so that they knew the patients as
well as the nurse. The students did not believe it was necessary to report every single item according to the SBAR form because it would have been time consuming and the receiving nurse would not want to hear all that information. The results of the open-ended questionnaire indicated that the SBAR form is useful for a new admission to the long-term unit or when the receiving nurse is not familiar with the patient. Suggestions to revise the SBAR form to an abbreviated form for long-term care needs to be developed and researched in future studies so that SBAR can be used by LVN students.

Implications for Practice

The purpose of the study was to investigate the effectiveness of using SBAR communication for shift reporting by LVN students; the results in this research study supported the use of SBAR for shift reporting. It is important to introduce the SBAR tool early during the students’ education than to wait until they are employed as currently is the practice.

In chapter one, the background and need section indicated that communication is a required topic in the nursing curriculum, but it does not required using the SBAR format specifically even though SBAR has been adopted widely as a standardized communication tool in the hospital since its introduction by Michael Leonard, M.D. The result from this study supported that the LVN students were able to acquire and retain knowledge of the SBAR that was not covered in the traditional lecture; therefore, teaching SBAR to LVN students is useful and applicable to their nursing care and practice. The students would not have to wait until they were graduated and hired to use SBAR for the very first time if they had already been taught or had practiced with the format while in school.
The SBAR tool should be given to LVN students at their first clinical rotation to help them understand why the items and categories in the SBAR tools are important and which items would be most applicable to the setting that they are assigned, whether it is long-term or acute care, so that the students will understand the importance and rationale behind using the tool.

The responses from the participants indicate that they were interested in the SBAR lecture and found it helpful; the participants also wanted more practice with shift reporting. The implication to introduce the SBAR lecture throughout the nursing curriculum lecture and clinical courses is imperative to promote effective communication at shift reporting. In fact, the recent trend of shift report in the hospital has moved from a secluded nursing-report-area to nurses reporting at the patient’s bedside (Griffin, 2010). Griffin identified that the benefits of bedside reporting will enhance the level of professional communication when nurses report in front of the patient rather than with each other; also, the patient can be included to participate and respond to what the nurses are sharing with each other. Overall, the inclusion of SBAR at the bedside will improve communication and enhance safety in the practice of nursing care.

Furthermore, the current study enforced the application and implementation of evidence-based practice that is crucial to nursing research and support for changes. Evidence-based practice is defined as the research and research studies done to carry out investigations to provide evidence supporting or rejecting the use of specific interventions (Pipe, Wellik, Buchda, Hansen, & Martyn, 2005). The use of SBAR for shift reporting that was carried out in this study supported the need for using a standardized to improve communication.
The study also supported the need for structure and standardized communication to be taught during the nursing program instead of waiting until the LVNs are employed as a current practice of communication compliance required in the hospital (The Joint Commission, 2010). The LVN students can promote patient safety and reduce medical error during their clinical practicum with the use of SBAR as the students had indicated in their feedback from the open-ended research question.

Furthermore, this study supported learning and applying knowledge in an authentic environment. Previous studies by Ascano-Martin (2008) and Krautscheid (2008) investigated nursing students using SBAR in a postconference or simulated setting, respectively. This study investigates using SBAR for shift reporting during their clinical; the setting is real as the students did give shift reports to nurses. The authentic setting provides real responses from nurses and actual patient situations that will help students become more comfortable in communication early in their nursing practicum. In summary, SBAR should be introduced and practiced while the students are receiving their education and training.

Suggestions for Future Research

There are several avenues for future research. The majority of past research has implementing SBAR without asking whether SBAR had any changes in how the students perceive their overall shift report (Ascano-Martin, 2008; Currie, 2002; Krautscheid, 2008, Pothier, Montiero, Mooktiar & Shaw, 2005).

For this study, the development of SRACS attempted to address the students’ perception of anxiety and confidence and overall need to use SBAR as a tool to assist with shift reporting. The setting for this research took place in a long-term-care facility
where the first-semester Medical-Surgical students did their clinical practicum; future research could apply the use of SBAR to a different setting in the acute hospital, such as Intensive Care Unit, Labor and Delivery unit, Pediatric unit, or Medical-Surgical unit.

The reason for the comparison of use of SBAR in different settings is that patients in the long-term-care setting are more stable and have fewer changes to their health condition than patients in an acute-care setting during a clinical practicum day. The use of SBAR to shift report might provide different results than what was found for this study.

The SRACS tool can be improved to have open-ended questions to allow the students to explain why there were changes in their report of anxiety and confidence. With recent advances in technology and the use of computerized survey, data analysis can be done immediately at the point when the student is inputting the data for the survey from week to week. If the computer program can detect a change in the student’s survey, an automatic drop down box for qualitative data can be prompted to ask the participant for more detail and explanation for the answer choice. The current study was unable to capture why there was a change in the treatment group reporting on the Anxiety subscale from Week 3 to Week 6, perhaps the aid of a computerized survey will help address the missing qualitative data and rationale for changes in reporting of the SRACS.

Because LVNs are assigned to outpatient clinics and physician offices, a replication of the study to investigate communication between physician and LVN students is needed. The current study investigated LVNs students shift reporting to staff nurses and did not address reporting to a physician. The status and authority of a physician can affect the level of perceived anxiety and confidence that is different than LVN students reporting to a nurse, who is someone of equal status.
Another recommended research that is a long-term study and follow-up of the same group of students. A longitudinal study following the students from their first semester to their last semester (the total duration of 18 months) would provide additional data on long-term effect of SBAR and students’ perception toward shift reporting. The additional data would support whether the students would continue to use SBAR in the future and whether their anxiety and confidence would change if they continue or not continue to use SBAR for shift reporting.

In chapter 2, Kerr (2002) conducted a qualitative study to observe the social interaction that occurs at different phases of the shift report. For example, Kerr mentioned that the prehandover phase usually involved greetings and talking about nonpatient-related issues prior the second phase of the actual patient reporting. The current study did not account for the social interaction that occurred between the staff LVN or RN member and the student because the SBAR tool eliminates the need for preshift talking. SBAR provides categories to report pertinent patient information for the next shift. In the future study, it is beneficial to compare if the social interaction that Kerr identified or whether the content focus standardized tool SBAR is more effective for both the student and the nursing staff.

Additional research in the area of culture and ethnic background of the individual giving and receiving the shift report is necessary. The descriptive data collected in this study indicated that the majority of the students were female and Asian American. In then nursing profession, the ethnic background of the nursing student and gender of the student have been identified as barriers for successful social interaction between nursing students and nurses (Wong, Seago, Keane, & Grumback, 2008). Research is need to
inquire if the social and cultural background of the student would enhance or hinder his or her communication if SBAR is utilized. The current study did not collect any descriptive information about the nurse who was receiving the shift report. Future studies to investigate if the gender and ethnicity nursing student and the nurse receiving the report would have differences in how the student perceived their level of anxiety and confidence associated with shift reporting. For example, would an Asian male nursing student report SRACS differences if reporting to an Asian male nurse, an Asian female nurse, a male European American nurse or a female European American nurse, and so on?

The current study did not account for the prior shift-report experiences that the students may have had and their impact on SBARKAQ knowledge retention and SRACS perceived reporting of anxiety, confidence, and use of SBAR. In the future, prior medical experiences should be included as a variable to investigate if there are differences in student performance with and without prior medical experiences.

This study can be replicated with the inclusion of responses from the preceptor nurse to investigate whether the nurse receiving the shift reporting would prefer the SBAR format over a free format of what information they believe should be included in the shift reporting and whether they find SBAR useful for beginning students.

Conducting a study with a larger sample size would address generalizability. The current study had a sample size of 10 students in each group with repeated measures at Pretest, Week 3, and Week 6. Generalizability to the population of LVN students would be flawed unless a larger sample size of a minimum of 30 students per group would be
investigated. Other locations, in addition to Northern California, should be considered to address potential bias associated with geographic region.

The current study lasted 6 weeks to measure long-term feasibility and usefulness of the SBAR tool, it would have been beneficial to follow the students into their next clinical rotation to learn if the students would continue to use SBAR to measure long-term feasibility and usefulness of SBAR.

A revision to items assessing the self-reported level of preparedness association with shift reporting is needed. Perhaps rephrasing the question to ask if the student thought that the SBAR lecture had helped them feel more prepared in giving a shift report would attempt to provide a direct correlation to level of preparedness and SBAR. A follow up to this question in an open-ended format would have been helpful to elicit what course or lecture would be helpful for students to be more prepared to provide shift-report and why they were prepared or not prepared.

Last, the open-ended survey provided feedback for modification to the SBAR tool for settings such as long-term-care where the LVN students knew the patient very well and did not indicate the need to be repetitious with reporting on a daily basis. A modification to the existing SBAR template form for an abbreviated version for long-term-care clients is needed, after the revision; a study should be conducted to investigate the usefulness of the abbreviated SBAR communication tool use with LVN students in long-term-care facilities. Future studies should have specific questions qualitative questions to investigate if the students feel that there is a difference in reporting in a long-term-care setting or an acute-care setting.
Conclusions

Communication is the key to provide accurate care and to eliminate costly and unnecessary harm when healthcare providers are taking care of patients. SBAR is one of many tools that are available in the healthcare industry to help streamline the way that healthcare providers communicate with one another so that the message and content of what needs to be shared is conveyed and to reduce other interference. SBAR is still useful and should be incorporate in the educational curriculum as a method shift reporting to help students improve their communication with other providers. The LVN students setting workplace is usually in long-term-care, and, therefore, the suggestion to alter the forms for their use with existing patients is worth investigating. The original form should be used with new admission to report intake data that is necessary for shift reporting.

LVNs are an integral part of the workforce and their communication in long-term-care facilities is crucial to the well being of the patient to promote quality and safety for patient care. LVNs are in high demand for the healthcare workforce because they can be trained within 12 to 18 months and can be hired in long-term-care setting to care for the increasing elderly population. The importance of safe patient practices with clear and effective communication during LVN student training is vital to reduce medical errors and to prevent loss of lives due to sentinel events. The data presented in this research study support the need for SBAR communication to be introduced to LVN students during their clinical education in the form of a lecture and actual practice during shift reporting.
REFERENCES


APPENDIXES
Appendix A

SBAR Knowledge Acquisition Quiz (SBARKAQ)
Thank you for participating in the SBAR study, your participation is voluntary and will not affect your grades. Please use the first three letters of your mother’s maiden name and the last four digits of your telephone numbers as your personal identifier.

For example, if your mother’s maiden is Jones and the last four digits of your telephone number are 1234. The Identification (ID) would be “Jon1234”.

ID: ___ ___ ___ (First 3 letters of your mother’s maiden name)
     ___ ___ ___ ___ (The last 4 digit of your telephone number)

SBAR Knowledge Acquisition Quiz (SBARKAQ)

Instructions: For each question please select the best answer. Choose only one answer for each question.

1. Situation, Background, Assessment, Recommendation (SBAR) is:
   a. used to communicate my plan of care to my patient.
   b. used to communicate my patient’s findings and conditions to another healthcare giver.
   c. used to communicate my patient’s physical assessment to a nurse.
   d. used to communicate my patient’s concerns to his or her physician.

2. According to The Joint Commission, 70% of sentinel events (an unexpected occurrence involving death or serious physical or psychological injury) that occurred in the hospital are related to:
   a. shortage of healthcare staff.
   b. accidental falls and injuries to patients.
   c. medication errors.
   d. communication breakdown.

3. SBAR originated from the airline industry to promote better communication between the pilot of the airplane and the air traffic controller.
   a. True
   b. False

4. SBAR is used at the change shift report and when giving reporting over the phone.
   a. True
   b. False

Continue on the other side ➔
5. “This is Alma, LVN Student. Mrs. S is a 69-year-old female in Room 6A who was admitted yesterday with Dementia. Full Code, No known drug allergies.” This statement is an example of:

a. Situation  
b. Background  
c. Assessment  
d. Recommendation

6. “I think the patient is not getting adequate pain relief with Tylenol and will need something stronger.” This statement is an example of:

a. Situation  
b. Background  
c. Assessment  
d. Recommendation

7. Lab value, IV fluid and rate would be:

a. Situation  
b. Background  
c. Assessment  
d. Recommendation

8. SBAR is a one-way communication system. The receiver is not allowed to ask questions or seek clarification.

a. True  
b. False

9. “Mrs. S had a stroke and coronary artery bypass surgery in February 2009. She is also a diabetic for 20 years.” This statement is an example of:

a. Situation  
b. Background  
c. Assessment  
d. Recommendation

10. Which one of the following barriers has been found the most common cause for ineffective communication in the hospital?

a. different styles of reporting: narrative versus matter-of-fact  
b. cultural and ethnicity differences  
c. rank or position  
d. gender differences

The End
Appendix B

Self-Report Anxiety and Confidence Scale (SRACS)
SRACS Questionnaire

We are interested in knowing how you perceive or feel about collecting patient data and giving a shift report to a nurse. Please answer the following questions and indicate whether you agree or disagree with each statement by circling the appropriate number on the scale.

Directions:

Please respond by circling the number that best represents your viewpoint:

<table>
<thead>
<tr>
<th>(1) Strongly Disagree</th>
<th>(2) Disagree</th>
<th>(3) Neither agree nor disagree</th>
<th>(4) Agree</th>
<th>(5) Strongly Agree</th>
</tr>
</thead>
</table>

1. I am confident that I know what to include in a shift report. 1 2 3 4 5
2. I will feel confident in giving a shift report to a nurse. 1 2 3 4 5
3. I am not quite sure of if I have received enough training and practice to give a thorough shift report to a nurse. 1 2 3 4 5
4. I worry about having to report to a nurse. 1 2 3 4 5
5. I am confident that I can give a shift report without using a standardized reporting tool. 1 2 3 4 5
6. Having to provide a shift report to a nurse is a frightening thought. 1 2 3 4 5
7. I believe that giving a shift report to a nurse will be a positive experience. 1 2 3 4 5
8. I am confident that when I make a shift report to a nurse, the nurse receiving the report will be able to capture pertinent data about the patient’s condition and status. 1 2 3 4 5
9. The thought of collecting patient data using a standardized reporting tool for shift report makes me anxious. 1 2 3 4 5

Continue on next page
Please respond by circling the number that best represents your viewpoint:

<table>
<thead>
<tr>
<th>(1) Strongly Disagree</th>
<th>(2) Disagree</th>
<th>(3) Neither agree nor disagree</th>
<th>(4) Agree</th>
<th>(5) Strongly Agree</th>
</tr>
</thead>
</table>

10. I worry that I will omit reporting the problem or what is happening with my patient if I do not use a standardized tool report the situation.

1  2  3  4  5

11. I am confident that I will always report background history and treatment about my patient without having to use a tool every time when I give a shift report.

1  2  3  4  5

12. I am confident that my physical assessment data reporting to the nurse will be complete even without having to use a standardized tool to prompt me on what to report.

1  2  3  4  5

13. I am nervous about having to give a suggestion or give recommendation about the plan of care for my patient during the shift report.

1  2  3  4  5

14. I believe that using a standardized tool to give a shift report will decrease my anxiety when reporting to a nurse.

1  2  3  4  5

The End. Thank you!
Appendix C

Shift-Report Assessment Tool (SRAT)
Did the student use the SBAR tool to give shift report? | Yes? | No? | If no, what reporting method is the student using?
---|---|---|---

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<tr>
<th>1. Situation:</th>
<th>Observed</th>
<th>Not Observed</th>
<th>Comments</th>
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<tbody>
<tr>
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<td></td>
<td></td>
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<tr>
<td>Identify Patient name</td>
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<tr>
<td>Patient age</td>
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<td>Patient location</td>
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<td>Patient diagnosis</td>
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<td>Code Status</td>
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<tr>
<td>Allergies</td>
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<td>Physicians</td>
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<thead>
<tr>
<th>2. Background:</th>
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<td>Patient’s Medical history:</td>
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<tr>
<td>Interventions/ Responses:</td>
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<th>3. Assessment:</th>
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<tr>
<td>Skin</td>
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<tr>
<td>Musculoskeletal</td>
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<tr>
<td>Vital Signs</td>
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<td>Pain</td>
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<td>Last pain med given</td>
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<tr>
<td>Family/Psychosocial</td>
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<tr>
<td>Safety checks: MAR, MD orders, Falls, Restraints, Braden, environmental</td>
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</table>

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<thead>
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<th>4. Recommendations:</th>
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<tbody>
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<td>Goals/Plans</td>
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Observer Additional comments:
Appendix D

Letter of Permission From the Chief Academic Officer
Dear Dr. Revzina:

This letter confirms that you have been provided with a brief description of my dissertation research concerning the use of a standardized communication tool: Situation, Background, Assessment, and Recommendation (SBAR) to improve Licensed Vocational Nursing (LVN) students’ communication. Your signature below indicates that you agree to identify an instructor and pool of nursing students whom I may contact for participation in this study. The nursing students will receive from me an informed consent form, and the pre- and post lecture Self-Reported Anxiety and Confidence Scale (SRACS), the SBAR Knowledge Acquisition Quiz (SBARKAQ), a communication lecture, and shift reporting observations with a Shift Report Assessment Tool (SRAT). All LVN clinical students at the assigned facility will attend the communication lectures, quizzes, and self-reported scales because communication is a clinical course objective requirement. The students may choose to have their data excluded from this research study if they wish.

I will make every effort to ensure that my data collection will have minimal inconveniences to the instructor and nursing students. The participation of the instructor and nursing students will be entirely voluntary and results will be kept confidential and anonymous.

After my research project has been competed in Spring 2010, I will be glad to send you a summary of my research findings and conclusions. Please feel free to contact me if you have any further questions about this project.

Sincerely,

Anna Kwong, RN, MSN
Doctoral Candidate
School of Education
University of San Francisco

Signature___________________________    Date_________________
Appendix E

Letter of Permission From the Medical Surgical Clinical Instructor
Dear Professor ______________:

This letter confirms that you have been provided with a brief description of my dissertation research concerning the use of a standardized communication tool: Situation, Background, Assessment, and Recommendation (SBAR) to improve Licensed Vocational Nursing (LVN) students’ communication. Your signature below indicates that you agree to allow me access to students enrolled in your clinical class whom I may contact for participation in this study. The nursing students will receive an informed consent form, and the pre and post lecture Self-Report Anxiety and Confidence Scale (SRACS), a SBAR Knowledge Acquisition Quiz (SBARKAQ), a communication lecture. In addition to that, I will be observing shift reporting with the Shift Reporting Assessment Tool (SRAT). Nursing students who agree to participate will complete the scales and quiz and return it to me upon completion.

All LVN clinical students at the assigned facility will attend the communication lectures, quizzes, and self-reported scales because communication is a clinical course objective requirement. The students may choose to have their data excluded from this research study if they wish.

I will make every effort to ensure that my data collection causes minimal inconveniences to the your time in the clinical setting and to the nursing students. Your participation and the participation of your nursing students will be entirely voluntary and results will be kept confidential and anonymous.

After my research project has been completed in Spring 2010, I will be glad to send you a summary of my research findings and conclusions. Please feel free to contact me if you have any further questions about this project.

Sincerely,

Anna Kwong, RN, MSN
Doctoral Candidate
School of Education
University of San Francisco
Appendix F

Letter of Permission From the Administrator of the Assisted Living Facility
November 16, 2009

Ms. Juliana Kaitting
Administrator
Mission Villa Alzheimer’s Residences
Daly City, CA 94014

Dear Ms. Kaitting:

This letter confirms that you have been provided with a brief description of my dissertation research concerning the use of a standardized communication tool: Situation, Background, Assessment, and Recommendation (SBAR) to improve Licensed Vocational Nursing (LVN) students’ communication. I plan to give a lecture on SBAR communication to the LVN students who are enrolled at [redacted] who are in the Medical-Surgical clinical rotation at your facility. Your signature below indicates that you agree to allow me to enter and have access to your facility as a researcher to administer my study to the LVN students who are doing their clinical in the morning and in the afternoon.

I will be administering a survey and a quiz to the students at the beginning of the clinical rotation; then they will receive a lecture on communication. The surveys and lecture will be done during their conference time. I will also be observing how the nursing students will be reporting to the nursing staff. The observation will take approximately 5 minutes per students. My role as an observer is to observe how the students are reporting the data they have collected during their clinical with my Shift Report Assessment Tool (SRAT), which is a checklist of what information the student will report.

During shift report, I will be listening next to the student when they give a shift report to your staff. My role as a researcher is strictly observation of the student’s shift report communication. Patient data reported by the student will not be collected or logged on my SRAT tool, rather the category and type of information given. For example, did the student state the patient’s name, code status and room number? Observed, not observed. The nursing students will receive from me a cover letter, informed consent form, and the pre and post lecture Self-Reported Anxiety and Confidence Scale (SRACS), the SBAR Knowledge Acquisition Quiz (SBARKAQ), a communication lecture, and shift reporting observations with a Shift Report Assessment Tool (SRAT). LVN students who agree to participate will complete the scales and return it to me upon completion.

Please be reassured that your clients or staff members are not being observed for my study. It is the students and their methods of communication during shift reporting that is the focus of my study.
I will make every effort to ensure that my data collection will have minimal inconvenience to your staff.
After my research project has been completed in Spring 2010, I will be glad to send you a summary of my research findings and conclusions. Please feel free to contact me if you have any further questions about this project.

Sincerely,

Anna Kwong, RN, MSN  
Doctoral Candidate  
School of Education  
University of San Francisco

Signature____________________________________ Date_________________
Appendix G

Cover Letter to Students for Pretest
Cover Letter to Students for Pretest

Dear Nursing Students:

I am conducting a study on Licensed Vocational Nursing (LVN) students’ feelings about communication. This research will count toward completion of my doctoral studies in the School of Education at the University of San Francisco. I am asking for your participation in this study because you are learning about communication in this Medical Surgical semester. Your participation in this study will help nursing instructors identify methods and ways to teach shift reporting communication to nursing students.

During your clinical rotation, you are learning how to communicate with patients and staff. My research study focuses on your communication with the nursing staff. The test you will receive is to assess your prior knowledge about communication. The communication lecture is a required participation and part of your clinical time; however, participation with the survey and observation are voluntary.

The study involves participation in completion of a questionnaire, a test prior to the lecture. After the lecture, I will observe your communication with the staff during your clinical. Your decision to participate or not participate will in no way affect your status at [campus name] or the grade in this course. It will take approximately 30 minutes to complete the questionnaires. The lecture time will be 30 minutes on a separate day. If you do not want to participate in the observation, fill out the attached form.

Participation in this study is voluntary. If you choose to participate, please fill out the questionnaires and supply the first three letters of your mother’s maiden name and the last four digits of your phone number on the questionnaire. When you have completed the forms please return it to the envelope I have provided. Return of the forms to the envelope signifies that you consent to participation in this study. If you choose not to participate, you have a reading about nursing communication that you should read.

If you have additional questions about the study, you may call me at [phone number] or e-mail me at [email address]. Approval for this study has been obtained from the University of San Francisco Institutional Review Boards. If you would like to contact the Institution Review Board for the Protection of Human Subjects (IRBPHS) which is concerned with the protection of volunteers in research projects, you may reach the IRBPHS by calling (415) 422-6091, by electronic mail at IRBPHS@usfca.edu, or by writing to USF IRBPHS, Department of Counseling Psychology, Education Building, 2130 Fulton Street, San Francisco, CA 94117-1080.

Thank you for your interest in and contribution to my research.

Sincerely,

Anna Kwong, RN, MSN
Appendix H

Cover Letter to Students for Posttest
Cover Letter to Students for Posttest

Dear Nursing Students:

I am conducting a study on Licensed Vocational Nursing (LVN) students’ feelings about communication. This research will count toward completion of my doctoral studies in the School of Education at the University of San Francisco. I am asking for your participation in this study because you are learning about communication in this Medical Surgical semester. Your participation in this study will help nursing instructors identify methods and ways to teach shift reporting communication to nursing students.

During your clinical rotation, you are learning how to communicate with patients and staff. My research study focuses on your communication with the nursing staff. The test you will receive is to assess your knowledge about communication. The communication lecture is a required participation and part of your clinical time; however, participation with the survey and observation are voluntary.

The study involves participation in completion of a test after a lecture on communication and observation of your communication with the staff during your clinical. Your decision to participate or not participate will in no way affect your status at [redacted] or the grade in this course. It will take approximately 30 minutes to complete the questionnaires. The lecture time will be 30 minutes on a separate day. If you do not want to participate in the observation, fill out the attached form.

Participation in this study is voluntary. If you choose to participate, please fill out the questionnaires and supply the first three letters of your mother’s maiden name and the last four digits of your phone number on the questionnaire. When you have completed the forms please return it to the envelope I have provided. Return of the forms to the envelope signifies that you consent to participation in this study. If you choose not to participate, you have a reading about nursing communication that you should read.

If you have additional questions about the study, you may call me at [redacted] or e-mail me at [redacted]. Approval for this study has been obtained from the University of San Francisco Institutional Review Boards. If you would like to contact the Institution Review Board for the Protection of Human Subjects (IRBPHS), which is concerned with the protection of volunteers in research projects. You may reach the IRBPHS by calling (415) 422-6091, by electronic mail at IRBPHS@usfca.edu, or by writing to USF IRBPHS, Department of Counseling Psychology, Education Building, 2130 Fulton Street, San Francisco, CA 94117-1080.

Thank you for your interest in and contribution to my research.

Sincerely,

Anna Kwong, RN, MSN
Appendix I

Informed Consent Form
Purpose and Background

Ms. Anna Yan Yan Kwong, a graduate student in the School of Education at the University of San Francisco, is doing a study on Licensed Vocational Nursing (LVN) students’ feelings about communication. The researcher is interested in helping nursing instructors identify methods and ways to teach shift reporting communication to nursing students.

I am being asked to participate because I am over 18 years of age and am enrolled in a LVN program.

Procedures

If I agree to be a participant in this study, the following will happen:

1. I will participate in a randomly assigned clinical group to receive either the traditional lecture or the new method of communication. The researcher will determine which group will be assigned by using a method (such as flipping a coin) that gives me the clinical group an equal chance of participating in either one of the communication lecture.

   a. If I am assigned the treatment lecture, I will receive a test about communication, followed by the new method communication lecture.

   b. If I am assigned the traditional lecture, I will receive a test about communication, followed by the traditional lecture. Three weeks later, I will receive a lecture on the new method of communication.

2. I will complete posttests, and survey about communication.

3. The researcher will observe my end-of-shift reporting to the staff at my clinical for 3 times over 6 weeks. The observations will occur at Weeks 2, 3, 4, and Week 6.

Risks and/or Discomforts

1. My individual responses and performance on the tests, surveys, and observations will remain as confidential as possible and will not affect my course standing. No individual identities will be used in any reports or publications result from the study. Study information will be coded and kept in locked files at all times. Only study personnel will have access to the files.

2. It is common for students to feel anxiety when giving shift reports to nurses, so students may express feelings of anxiety when completing the tests, and surveys, and when being observed for shift reporting. Referral to the counseling department form the school administrator will be available if the students express anxiety. Students are able to decline participation at any time.
Benefits

There will be no direct benefit to me from participating in this study. A potential benefit of this study to me is a possible increase in confidence when using a new method to communicate shift reports. I may also gain a better understanding of the role of research.

Cost/Financial Considerations

There will be no financial costs to me as a result of taking part in this study.

Payment/Reimbursement

I will receive no reimbursement for participation in this study.

Questions

I have been given the opportunity to talk with Ms. Kwong about this study and have my questions answered. If I have further questions about the study, I may call her at [redacted] or I may email her at [redacted].

If I have any questions or comments about participation in this study, I should first talk with the researcher. If for some reason I do not wish to do this, I may contact the IRBPHS, which is concerned with the protection of volunteers in research projects. I may reach the IRBPHS office by calling (415) 422-6901 and leaving a voicemail message, by e-mailing IRBPHS@usfca.edu, or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

Consent

I have been given a copy of the “Research Subject’s Bill of Rights” and I have been given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. I am free to decline to be in this study, or to withdraw from it at any point. My decision as to whether or not to participate in the study will have no influence on my present and future status as a student.

Student’s Signature     Date of Signature

Signature of Person Obtaining Consent     Date of Signature
RESEARCH SUBJECTS’ BILL OF RIGHTS

The rights below are the rights of every person who is asked to be in a research study. As a research subject, I have the following rights:

1. To be told what the study is trying to find out;

2. To be told what will happen to me and whether any of the procedures, drugs, or devices are different from what would be used in standard practice.

3. To be told about the frequent and/or important risks, side effects, or discomforts of the things that will happen to me for research purposes;

4. To be told if I can expect any benefit from participating, and, if so, what the benefits might be;

5. To be told of the other choices I have and how they may be better or worse than being in the study;

6. To be allowed to ask any questions concerning the study both before agreeing to be involved and during the course of the study;

7. To be told what sort of medical or psychological treatment is available if any complications arise;

8. To refuse to participate at all or to change my mind about participation after the study is started; if I were to make such a decision, it will not affect my right to receive the care of privileges I would receive if I were not in the study;

9. To receive a copy of the signed and dated consent form; and

10. To be free of pressure when considering whether I wish to agree to be in the study.

If I have other questions, I should ask the researcher or the research assistant. In addition, I may contact the IRBPHS, which is concerned with the protection of volunteers in research projects. I may reach the IRBPHS office by calling (415) 422-6901 and leaving a voicemail message, by e-mailing IRBPHS@usfca.edu, or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.
Appendix J

Acknowledgement Form For Students

Who Decline to Participate in Research
Acknowledgement form for students who decline to participate in research

I have been informed by Ms. Anna Yan Yan Kwong about her research to study how Licensed Vocation Nursing (LVN) students feel about communication.

I am required to attend the communication lecture because that is clinical required content; however, I decline to participate in the research portion that is associated with taking tests, answering surveys, or being observed by Ms. Kwong when I am reporting to the staff at my clinical facility.

Student’s Signature                                Date of Signature

Signature of Person Obtaining Consent              Date of Signature
Appendix K

Follow-Up SBAR Shift-Reporting Evaluation
Follow up SBAR Shift-Reporting Evaluation

Please answer the five questions below to provide your feedback and suggestions regarding SBAR communication tool, the SBAR lecture, and the use of SBAR during shift reporting. Thank you.

1. The four categories of the SBAR Communication tool are: Situation, Background, Assessment, and Recommendation. Do you have any suggestions to change or improve the SBAR tool? What other categories or items should be included or deleted?

2. When you were given the SBAR lecture in the conference room, what information was most helpful to support using SBAR for shift reporting?

3. When you were given the SBAR lecture in the conference room, what other information would you like to have included during the lecture session? What other information about SBAR or shift reporting would you like to know more about?

4. During your clinicals when you were giving your shift report, what is most helpful to you when you used SBAR?

5. During your clinicals when you were giving your shift report, what is least helpful to you when you used SBAR?
Appendix L

Traditional Lecture PowerPoint® Slides
Communications

Prepared by
Anna Kwong

Communication

- The sending and receiving of a message.

Aspects of Communication (i)

- Sender - the one who is giving the message to another person.
- Message - the oral or written information or content.
- Pathway - how the message is sent.

Aspects of Communication (ii)

- Receiver - internal and external factors.
- Feedback - the receiver’s response to the sender.
- Interferences - physical, emotional, environmental, cultural.

Methods of Communication

- Verbal - Speaking, Listening, Writing, Reading.

Influences on Communication

- Age
- Education
- Emotions
- Culture
- Language
- Attention
- Surroundings
Active Listening

- The process of hearing spoken words and noting nonverbal behavior.
- Active listening takes energy and concentration.

Communication Techniques

- Clarifying/validating.
- Asking open questions.
- Using indirect statements.
- Reflecting.
- Paraphrasing.
- Summarizing.
- Focusing.
- Silence.

Style

Three types of style:
- Passive - apologetic, weak, makes little eye contact, nervous.
- Aggressive - angry, demanding, shows no concern for anyone else’s feelings, interrupting.
- Assertive - honest, direct, firm, makes eye contact, confident, respectful of others.

Cultural Values

- A nurse should be familiar with the cultural values of the people in the nurse’s region of employment.
- A nurse needs to be aware of those times when her values differ from the values of her colleagues.

Determinant Factors in Communication

A nurse’s communication is affected by:
- Past Experience
- State of Health
- Home Situation
- Workload
- Staff Relations
- Self-Awareness

Communication within the Health Care Team

- Providing care is a team effort.
- To ensure efficiency and effectiveness, effective communication is necessary.
- This communication may be oral or written.
The Nurse’s Ways of Communication

- Oral
- Written
- Self-Reflection

Oral Communication
Nurses communicate within many different relationships, each with their own rules.
- Nurse-Nurse
- Nurse-Nursing Assistant
- Nurse-Student Nurse
- Nurse-Physician
- Nurse-Other Health Professionals
- Group Communication (i.e. client-care conferences)

Written Communication
Nurses’ communications are often written:
- On charts
- Requisitions for x-rays and other tests and services
- Electronic communications, via computer

Self-Reflection
Nurses often engage in internal dialogue:
- Positive self-talk: Saying positive thoughts aloud; thinking, saying and hearing positive statements about yourself
- Negative self-talk: Self-destructive. Your self-image is lowered by your own criticism.

Communicating Shift Report
- Be prepare: Think about what you want say. Reporting by exception or by system.
- Be clear & concise: Using terms that is understood by the healthcare team. Emphasize on what needs to be followed up or pending.
- Provide time for questions: To be sure the the other person understood, ask if they have any questions or clarification needed.
Appendix M

SBAR (Treatment) PowerPoint® Lecture
SBAR

Effective Communication for Patient Safety

SITUATION

- State: your name and unit
- I am calling about: (Patient Name & Room Number)
- The problem: The reason I am calling

BACKGROUND

- State the admission diagnosis and date of admission
- State the pertinent medical history
- A Brief Synopsis of the treatment to date

ASSESSMENT

- Pertinent objective & subjective information
  - Most recent vitals
  - Mental status
  - Respiratory rate and quality
  - B/P, pulse rate & quality
  - Pain
  - Neuro changes
  - Skin color
  - Rhythm changes

S - B - A - R

- Situation – the problem
- Background – brief, related, to the point
- Assessment - what you found, what you think
- Recommendation – what you want
RECOMMENDATION

• State what you would like to see done:
  - Transfer the patient?
  - Change treatment?
  - Come to see the patient at this time?
  - Talk to the family and patient about...
  - Ask for a consulting physician/provider to see the patient?

• Other suggestions
  – CXR
  – ABG
  – CBC
  – EKG
  – Other?

• If a change in treatment is ordered, ask: “How often?”

• Ask: “If the patient does not improve, when would you want to be called again?”

RECOMMENDATION

What is SBAR?

• A Mental communication model
• A standardized tool to organize and collect patient data for reporting

Who should use SBAR?

• You (LVN students)
• Nurses (LVNs, RNs, NP)
• Physicians
• Healthcare providers (EMT, Respiratory, etc.)

When to use SBAR?

• Change of shift reporting
• Hand off transfer from department to another
• When calling a physician with updates and changes in patient’s treatment plan

Where to use SBAR

• At the nurse’s station during shift report
• Over the phone
• Oral/verbal communication
• Written communication
• Documentation
Why use SBAR?

- Helps to focus on the problem, not the person
- Be more objective.
- Prevent missing information
- Helps with organization of thought
- Prevent barriers that can occur with authority, different rank, gender, and language.

How did SBAR get started?

- From 1995 – 2005 JCAHO reviewed over 2537 sentinel events in General Hospitals and Emergency Departments
- Communication issues identified as being the root cause and the major contributor in these events
- In 2005 nearly 70% of sentinel events, the root cause was communication.

Why does communication break down?

- Different communication styles
- High level of activity
- Frequent interruptions
- No standardization in organizing essential information
- Loss of information

Physician-RN Communication

- Differences in:
  - Training and practice
  - Style of communication
  - Past experience
  - Level of empowerment
  - Tone of voice and level of respect

Communication Handoffs

SBAR is an effective tool for all types of communication handoffs
Who Uses SBAR?
- Nuclear Submarines
- Southwest Airlines
- Kaiser Permanente
- Iowa Health System

Goals for SBAR Communication for LVN students
- Implement SBAR during LVN clinical practicum
- Goals:
  - Clear, concise and thorough communication of pertinent clinical information
  - Improved patient safety and clinical outcomes in the clinical setting

LVN SBAR Communication Plan
- Implementing SBAR for patient handoffs
  - Handoffs include verbal communication
  - Face-to-face interaction
  - Opportunity to ask and answer questions
  - Documentation

Example
- Situation:
  - Dr. Jones, I’m calling about Mr. Smith who is short of breath.
- Background:
  - He is a patient with chronic lung disease and has had increased SOB over the past 4 hours. He is now acutely worse. His oxygen saturation has been 95% on 3L, no until this evening.

Example
- Assessment:
  - He has expiratory wheezes in all lung fields, his oxygen saturation is 85% on oxygen 3L, no and he is very restless
- Recommendation:
  - I think he needs to be transferred to ICU

Review of SBAR tools
- Tools: SBAR incorporated into:
  - Shift to shift report
  - Transfer forms
  - Computer documentation screens
  - Telephone conversation guide