COLLABORATIVE LEARNING USING NURSING STUDENT DYADS IN THE
CLINICAL SETTING: EXPERIENCES AND PERCEPTIONS
OF STUDENTS AND PATIENTS

by

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ABSTRACT

A forecasted nursing shortage is expected to impact the United States health care system within the next decade. This will result from a spike in the number of older adults who will require nursing care and a concurrent decrease in the number of qualified nursing faculty to train the future workforce. Nursing institutions must be prepared to increase enrollments provide education to the future nurses if nursing enrollment increases in response to the projected needs. With an anticipated rise in nursing students despite the dwindling number of qualified nursing instructors, new approaches to clinical instruction will be required.

Despite recommendations for nursing education reform, there remains a discrepancy between nursing instruction in the classroom and student learning that takes place in the clinical setting. Innovative models of clinical instruction must be developed to bridge this gap between theory and practice. The Active Engagement Model (AEM) is an innovative model of clinical instruction that aims to provide an environment for clinical instructors that facilitates the incorporation of the curriculum into clinical instruction. An integral component of the AEM is the formal pairing of student nurses to work collaboratively on one patient assignment.

The specific aim of this research was to explore student and patient experiences and perspectives of collaborative learning when student peer dyads are used in clinical teaching. Interpretive descriptive design was used as a framework to explore the
perspectives of students and patients. Data collected from 11 students and 9 patients provided insight to the merit of student learning pairs and its place in clinical nursing education.

The interviews conducted revealed that both students and patients perceived that student learning pairs promoted collaborative learning which resulted in students feeling supported and more confident and able to complete tasks more efficiently as a result of division of labor. Students also perceived more direct clinical oversight from the instructor. Findings provided insight to the issues associated with the roles of the student, patient and clinical instructor that can be used to inform the use of formal student pairing in the clinical setting.

Innovative models of clinical instruction may be able to promote congruency between what students learn in the classroom and clinical practice. The use of student nurse dyads engaged in collaborative learning in the clinical setting requires further study to determine its role in clinical instruction.
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CHAPTER 1

INTRODUCTION

Recent and forecasted changes in the United States health care system present new challenges for nursing and clinical nursing education. Two concerns are apparent: the inadequacy of our current clinical models for preparing the future nursing workforce (Benner, Sutphen, Leonard & Day, 2010; Tanner, 2006) and the predicted trends in the health care system that will make it even more challenging for nurse educators to facilitate expected student outcomes while using the current models of instruction (Forbes & Hickey, 2009).

Leaders in the field assert that the restructuring of clinical education is overdue and have made recommendations for the implementation of new clinical models centered on learning outcomes. These outcomes focus on competencies such as the development of clinical judgment, ethical behavior, technical proficiency, and professional practice. Furthermore, there is urgency for research focusing on innovative pedagogies so that learning is tailored to the students and context rather than the current generic approach to instruction.

The need to restructure clinical education is supported by the research of Benner et al. (2010). They identified incongruence in the reality of current nursing practice and the education provided for that practice. Through surveys, direct observation and
examination of pedagogical approaches in US nursing programs, Benner et al. found that students struggle to integrate theory into practice due to the fragmentation of classroom didactic methods and clinical educational approaches. It is difficult for clinical instructors to integrate the classroom theory into clinical instruction when student nurses are assigned to work with one nurse throughout the day and have minimal contact with the instructor.

Despite changes in the United States health care system over the past few decades, the pedagogical approach to clinical education has remained relatively static (Forbes & Hickey, 2008; Tanner, 2006). Many of the changes made toward education reform were centered on shifting content rather than transforming nursing education paradigms (NLN, 2003). A position statement from the National League for Nursing (NLN) in 2003 addressed the inadequacy of these reform methods and recommended that instead, nurse educators focus on innovative instructional methods by which to deliver the curriculum rather than on the curriculum itself. With the prospect of further transformation within our current health care system, nurse educators should meet those changing needs by implementing innovative pedagogies and new models of instruction (Forbes & Hickey, 2008; Tanner, 2006).

Specific Aim

The purpose of this pilot study was to explore student as well as patient experiences and perspectives of collaborative learning when student peer dyads are used in clinical teaching. The formal implementation of collaborative learning dyads in clinical instruction departs from traditional methods of clinical teaching and may be integrated
into new models of nursing education. Exploring the student perspective may be valuable to understand the merit and meaning of peer learning in clinical instruction. Since learning has a social component (Bandura, 1998) student behavior, conduct and performance may be influenced as a result of collaborative learning approaches. Eisenkopf (2009) observed that during the learning process peers induced higher motivation in the completion of assigned tasks. Patients directly observe peer dynamics and may provide valuable insight about the effects of the learning dyad. Therefore, it is logical to include the examination of patient perceptions when working with student nurse dyads. The aim of this pilot study was to reveal the impressions of students and patients of collaborative peer dyads in the clinical setting. The focus of this study is to address the question, “What are the perceptions, meaning and value of using nursing student dyads engaged in collaborative learning in the clinical setting for students and patients?”
The American Association of Colleges of Nursing (AACN) established the Essentials for Baccalaureate Education for Professional Nursing as a curriculum guide for nursing schools in 1998 and recently revised them (ACCN, 2008). This document outlines core elements for professional practice for inclusion in baccalaureate nursing education. However, efforts at curriculum reform have focused on shifts in content rather than pedagogical shifts in education. This resulted in a crowded curriculum and a theory-practice gap that remains unchanged.

More issues underscore the need for exemplary training of baccalaureate nurses with the predicted nursing shortage being central to these issues. By 2020 the demand for registered nurses will exceed supply by over one million (Health Resources and Services Administration, 2004). The aging of the population contributes significantly to this problem since older adults constitute the majority of hospitalized patients. With an expected spike in elderly hospitalized patients related to the aging baby boom generation, by the year 2030, 20% of the US population will be over the age of 65 and nearly 10% of the population will be over the age of 80 (U.S. Department of Health and Human Services, 1998). Simultaneously, a trend is occurring with the aging workforce of RNs. A
substantial increase in anticipated retirements will reduce the available nursing workforce (U.S. Department of Health and Human Services, 2010).

In response, nursing institutions may increase their enrollment to meet the forecasted health care needs. Although there exists a surplus of qualified applicants (Aiken, 2007) two factors impede this course of action. First the rate at which clinical faculty are retiring exceeds the rate at which they are being replenished (Larson, 2006; Allan & Aldebron, 2008). In 2007 30,709 qualified applicants to baccalaureate programs were denied admission (Allan & Alderbron, 2008). According to a survey conducted by the AACN in 2007, insufficient numbers of qualified faculty was cited as the primary reason qualified candidates were denied admission to schools of nursing (Allan & Alderbron, 2008). Second, as more nursing institutions increase their enrollment, they compete with other schools for acute care clinical sites (Tanner, 2002). Saturating acute care settings with student nurses will result in nurses feeling overtaxed leading to difficulties in meeting students’ educational needs (Tanner, 2006).

The faculty shortage coupled with the scarcity of clinical placements may impact the quality of clinical nursing education (Tanner, 2002) and subsequently the quality of patient care (Allen, 2008). If admissions are increased to meet the projected health care system needs despite the scarcity of clinical placements and dwindling faculty numbers, clinical nursing education must be creatively transformed in order to meet the Baccalaureate Essentials.

The necessity for reform of nursing education to meet the educational needs of the future nursing workforce in a progressively changing health care environment is being strongly voiced (Porter-O’Grady, 2001). The driving force of this concern is the notion
that current pedagogical practices no longer meet the needs of students and will continue to fall short as the health care environment transforms (Forbes & Hickey, 2009; Tanner, 2006). According to Benner et al. (2010), current nursing education does not suffice to prepare student nurses. The use of student dyads engaged in collaborative learning is a component of an innovative model of clinical instruction that has been implemented at the University of Utah, College of Nursing. The use of collaborative peer dyads also influences the workload of the clinical instructor and the number of clinical placements required for student nurses.

**Active Engagement Model**

Innovative models that are structured with the purposeful connection and relation of theory to the students’ clinical experiences are in line with the call to transform nursing education. The Active Engagement Model (AEM) is an alternative model of clinical instruction developed and utilized by clinical faculty at the University of Utah, College of Nursing. Clinical faculty use this model with the intent of transforming the delivery of nursing education to bridge the theory practice gap while continuing to meet the Baccalaureate Essentials. By using this model clinical instructors intend to establish congruency between classroom instruction and clinical experiences (Baraki, 2010).

The AEM is designed with weekly clinical course objectives that parallel classroom didactic objectives. The focus of the objectives is to integrate the nursing process into practice, emphasize critical thinking and incorporate patient safety initiatives and professional standards. These objectives act as a guide for the clinical instructors and therefore promote consistency in student learning across clinical groups. The model is
structured so that frequent clinical group debriefings take place throughout the day in order to address patient care issues, prioritize patients’ needs, enhance clinical judgment processes and promote interprofessional communication. These frequent meetings provide opportunities for the instructor to guide and support students in integrating the weekly clinical objectives into nursing practice.

In order for this model to be effective, instructors must have time to conduct the frequent debriefings and be in proximity to their clinical group. Student must also be in proximity during a shift in order to participate in group debriefings. Using current models of clinical instruction, this is rarely what occurs because students may be assigned to different staff on various nursing units throughout the facility. This makes it difficult for clinical instructors to coordinate group debriefings. For example, eight students comprise one clinical group with one clinical instructor who is responsible to facilitate and instruct. In most traditional models of clinical teaching, students are assigned to one staff nurse to care for a portion of that nurse’s patient assignment. The clinical instructor supervises each student working with the nurse and hopes that circumstances of the day will coincide with didactic previously covered. However, placement of eight students on a single unit may not be feasible due to decreased census, high patient acuity, and the possibility of overwhelming staff with teaching and supervision responsibilities in addition to their patient care duties (Tanner, 2006). As a result, students are usually dispersed over several units (perhaps on several floors) with one clinical instructor hurrying to various locations to provide guidance and instruction to each student. In situations where students are scattered rather than condensed in one area, clinical instructors are unable to provide direct instruction and may assume the role of
coordination of clinical experiences with the assigned staff nurse rather than the role of
educator.

In contrast, the AEM is designed so that all students can be placed on one unit
allowing the clinical instructors to provide guidance and support while not overtaxing the
staff. One of the core components of the AEM is the pairing of students to work
collaboratively with one patient. Each week students are assigned to a dyad to work
together for two consecutive days. On each day one student leads the assessment while
the other acts as a resource. Together they collaboratively proceed through the nursing
process. The following day, the roles are reversed. Assigning a pair of students to work
together with one patient reduces the need in half for identifying staff nurses and
appropriate patients willing to work with students. Having the students collectively in a
single clinical area, the instructors are able to increase contact time with each student.
The use of student dyads in providing patient care is integral in the success of this model
of clinical instruction so that direct faculty oversight and frequent clinical debriefings can
occur.

It is our obligation as nurses to examine these innovative educational strategies
that enable clinical educators to bridge theory and practice. This pilot study examined one
aspect of the AEM that is integral to its functioning: collaborative dyad peer learning.

Peer Learning

A literature review of peer learning during clinical placements was performed.
Studies across disciplines were included as the concepts under review remained largely
the same. Research varied in the characteristics between peers such as amount of
education and the role which the peers assumed: teacher, mentor, evaluator or supporter. Peer learning strategies used in the clinical setting varied from two students with one mentor, senior students paired with novice students to act as a mentor, and the pairing of same level students. The results of the research on peer learning, which will be discussed in detail below, revealed generally positive outcomes with most researchers recognizing its potential value in clinical education.

Themes identified from this review included an increased sense of control, decreased level of anxiety (Yates, Cunningham, Moyle, & Wolling, 1997; Bos, 1998) and a positive influence on skills required for professional practice. Roberts (2008) examined the significance of peers in the clinical area and found that students learn from each other and consider each other more approachable, have more time to teach and provide better explanations. When two students were paired with one instructor in the clinical setting, students perceived that peer interaction enhanced quality of learning (Currens and Blithell, 2003) and considered that they increased in competence in areas such as patient assessment, communication and professional behavior (Declute and Ladyshewsky, 1993). Duchscher and Boychuk (2001) and Iwasiw and Goldenberg (1992) examined peers of the same level of education acting as instructors for groups of three or more in a structured environment. Both found positive results for the learners including perceptions of growth in diligence and precision when approaching their own nursing practice as well as an increased sense of collegiality, self-confidence and professional responsibility (Duchscher & Boychuk, 2001). Findings also reflected that students benefit when both roles, teacher and learner, are assumed at some point in their education (Iwasiw & Goldenberg, 1992).
In studies where more senior students acted as resources and mentors for more novice students peer learning was found to be mutually beneficial in increasing self esteem and developing nurturing relationships (Christiansen & Bell, 2010; Goldsmith, Stewart, & Ferguson, 2006). Novice students related that the pairing promoted self confidence (Aston & Molassiotis, 2003), decreased feelings of social isolation, and helped them deal more effectively with challenges (Christiansen & Bell, 2010). Seniors also perceived benefit from the pairing and felt that it positively influenced their teaching skills (Aston & Molassiotis, 2003), contributed to their mentoring skills and prepared them for mentorship in their professional careers (Christiansen & Bell, 2010; Aston & Molassiotis, 2003).

In a literature review conducted in 2007, Secomb identified a paucity of research in the area of peer learning in the clinical environment. There is a dearth of literature found on formalized pairing of students in clinical placements so this area in particular is in need of further study. Secomb (2007) concludes that further investigation is warranted to provide a more comprehensive understanding of the implications of using peers in clinical education to determine if peer collaboration is a worthwhile method to incorporate into models of clinical instruction.

**Patient Perceptions**

The studies on the influence of peers in learning have traditionally focused on student observations and perceptions and are largely void of data on the patient experience. Therefore, a literature review was conducted for the purpose of identifying general patient perceptions of the student nurse in clinical settings.
Although there has been little research conducted on patient relationships and perceptions of student nurses, four related studies were identified. A comparative descriptive study by Suikkala, Lieno-Kipli and Katajisto (2008) examined both student and patient perspectives of the student-patient relationship. It was reported by patients that students met their physical and emotional needs and provided the best care within their capabilities; however, the approach of the student was often viewed as authoritative. Students generally provided what they perceived was in the best interest of the patient but often failed to obtain patient input. Similarly, Suikkala and Leino-Kilpi (2005) found that patients infrequently took the opportunity to direct their care adopting a more passive role in the patient-student nurse relationship. Although some patients were willing to participate in physical assessments by a student, patients seldom contributed to student learning. Moreover, patients found it difficult to provide negative feedback or lacked the professional background for making such assessment. Stockhausen (2009) found that patients were aware of the impact that the trust and confidence they projected on students had on student development. Patients valued their role in the training process and were willing to participate. Patients also felt that student–patient relationships had positive consequences in state of health, self-care, presence and willingness to assist, and more rapid recovery due to increased compliance (Suikkala and Leino-Kilpi, 2005). Suikkala et al. (2009) conducted a descriptive study that identified factors that promoted student-patient relationships in such a way that patients feel they have contributed positively to the student learning process. The results indicated that a student’s personality, conduct and behavior play an important role in the way they interact with patients.
Summary

Pedagogical shifts in nursing education are necessary for nursing schools to meet the AACN’s Baccalaureate Essentials mandate (NLN, 2003) and bridge the discrepancy between classroom theory and the learning that takes place in the clinical area (Benner, 2010). An imminent spike in the proportion of older adults heightens the urgency to increase enrollment in order to supply the future nursing workforce. Consequently, nursing schools are advised to increase enrollment despite a faculty shortage and limited acute care clinical placements. Clinical instructors at the University of Utah, College of Nursing have implemented the AEM, an innovative method of clinical instruction so that educational methods align with recommendations from the National League for Nursing (NLN) and AACN. The use of student nurse dyads engaged in collaborative learning is a core element of the AEM.

Previous studies on patient perceptions of nursing students indicate positive patient experiences and attitudes toward student nurses. There are currently no reports in the literature with regard to patients’ perspectives on peer learning activities such as the collaborative learning dyad. Due to a paucity of knowledge in this area of nursing education, the use of student nurse learning dyads for the care of one patient and the study of patient perceptions of student nurses within these dyads deserves further attention.

Definitions

There are variations in the methods used to incorporate the use of student peers in clinical education as well as many terms to describe these educational methods. These
include peer teaching, peer coaching, peer mentoring, peer learning, peer tutoring, and collaborative learning. A peer is defined as one who is of equal standing with another (Merriam Webster, 2010). In much of the literature peer studies have involved peer relationships that imply inequality in status such as senior students mentoring junior students or a situation where the student takes on a delineated role as a mentor, tutor, or instructor, or evaluator. The peer dyads in the AEM embody the true sense of a peer relationship as both are at an identical point in nursing education and are equally responsible for the care of the patient and associated outcomes. Even though on each day one student leads the assessment, both are expected to interact with the patient and complete the steps of the nursing process together.

For the purpose of this study the term collaborative leaning will be used to describe the relationship of the student dyad. Collaborative learning with student pairs used in the AEM reflects the equality and a true absence of power or status between students and describes the interactions between the pair. Collaborative learning has five defining characteristics: positive interdependence or a reliance on one another to achieve a common goal, individual accountability, face to face promotive interaction such as providing feedback and challenging each other’s conclusions and reasoning while teaching and encouraging one another, the use of collaborative skills to build trust, communication, and decision making skills, and group processing where the team periodically assess their interventions and make modifications and needed in order to reach a common goal (Johnson, Johnson & Smith, 1991).
CHAPTER 3

METHODS

Design

The interpretive descriptive method of qualitative inquiry as described by Thorne (2008) was used to investigate the research question. Interpretive description is a smaller scale qualitative investigation of a clinical phenomenon that uses inductive analytic approaches such as informed questioning and reflective critical examination in order to gain an understanding of clinical phenomena. Such investigation reveals characteristics, structure and patterns of the phenomena that generate an interpretive description useful to inform clinical practice. (Thorne, Kirkham, & O'Flynn-Magee, 2004). When using interpretive description methods, the researcher can explore meanings and explanations that may yield application implications. These meanings are a product of perceptions of the subject and interpretation of the investigator. Interpretive design allows a priori theory to be changed by encouraging a dialectic between theory and data thereby avoiding theoretical imposition or the acceptance of an atheroretical description (Thorne, Kirkham, & O'Flynn-Magee, 2004).
Setting

This study was conducted on a 25 bed inpatient surgical oncology unit at the Huntsman Cancer Hospital where first semester baccalaureate nursing students were assigned in pairs to provide care for one or two patients. Individual student interviews were conducted in either the inpatient unit or at the College of Nursing of the University of Utah in rooms that ensured privacy. Patient interviews were conducted privately in a patient’s own room on the unit.

Recruitment of Participants

Student participants were recruited from an undergraduate baccalaureate class of first semester nursing students at the University of Utah, College of Nursing. An information session disclosing the purpose of the study and sampling methods was provided to students following IRB exemption. A copy of the cover letter was distributed to reassure students that participation would not influence their grade or treatment during the semester. Students were formally invited to participate in the study three weeks prior to the completion of the semester.

Patients were invited to participate in the study within 1 hour following completion of student care. Patients were provided with an opportunity to ask questions during which time the researcher solicited the patient for questions and concerns related to the study and any implications regarding participation.
Sampling

Convenience sampling was used for both student and patient participants. During the Fall Semester 2010 two clinical groups comprised of eight students received clinical instruction under the Active Engagement Model in which collaborative learning is utilized. Inclusion criteria included the ability to speak English, participation in paired learning using the AEM, and willingness to participate in a 10- to 20- minute interview. Of the 16 students, those who agreed to participate in the study and meet inclusion criteria comprised the student sample. For research using an interpretive descriptive approach, using samples with a minimum of five participants is recommended (Thorne 2008).

Eligibility requirements for patient participants included admission to the inpatient oncology unit, English speaking, willingness to be assigned to a student nurse dyad and health status that permitted participation in a 10- to 20- minute interview. Patients were given the option to either receive traditional care from the RN without student involvement or to work with student nurses pairs under the supervision of the clinical instructor and the assigned RN. Patients were invited to participate in interviews after the student dyad completed care. All patient interviews took place within two hours after student care had been provided.

Ethical Considerations

Both students and patients are considered vulnerable populations. Careful attention was paid to ensure that all participants were afforded proper protection. Prior to study implementation, exemption was obtained from the Institutional Review Board
(IRB) of the University of Utah. Students were provided with a cover letter that described the purpose of the study, the potential risks and benefits and voluntary nature of participation. Documents also emphasized that confidentiality would be ensured and there would be no penalty for students who choose not to participate. Additional measures were taken to reassure students that decision to participate or the content disclosed during interviews would not influence final course grades. Data collection was conducted by an individual not associated with undergraduate nursing education at the University of Utah, College of Nursing in order to avoid conflicts of interest, or preclude undue coercion thus enhancing the validity and reliability of results. Although data collection took place prior to the submission of final course grades by the clinical instructor to the course leader, data were kept secured from faculty members until all final grades were submitted.

All eligible patients were provided with informed consent documents that described the purpose of the research, outlined potential risks and benefits, stressed that participation in the research was voluntary, that there would be no penalties for nonparticipation, and that confidentiality would be maintained. An opportunity was provided for patients to ask questions regarding the aforementioned items regarding consent and patients were reassured that decision to participate would not influence the quality of care they received.
Securing Research Data

Measures were taken to ensure confidentiality of all participants. All data obtained from study participants were de-identified using assigned numbers rather than students’ or patients’ names and personal identifiers. If student or patient identity could be revealed from collected data, information was excluded from interview transcripts. Interviews did not include collection of patient’s private health information.

All paper documents related to this study were secured in a locked file, in the locked office of an investigator of the research team. All electronic data including transcripts and digital recordings of interviews were kept on a password-protected computer, in password-protected files. Five years following the completion of the study, all identifiable data will be destroyed. All investigators and members of the research team signed confidentiality agreements, completed facility Health Insurance Portability and Accountability Act training, and Collaborative Institutional Training Initiative required research training.

Data Collection Procedures

Individual semi structured interviews were conducted with each student and each patient and were 10-20 minutes in length. All interview data were audio recorded and transcribed verbatim for analysis once all interviews were completed. The interview questions (Appendix) were constructed for the purpose of acquiring information regarding the students’ and patients’ experiences along with perceptions of collaborative learning within student dyads. Probes were used to follow up open ended questions in order to elicit further detail on relevant topics.
Qualitative Data Analysis

Following completion of all interviews, audio recordings of interview data were transcribed verbatim. Transcriptions were checked against the recordings for accuracy. Individual student transcripts were analyzed separately by three team members. One team member was a graduate nursing student and two were PhD students enrolled at the University of Utah, College of Nursing. Qualitative data analysis methods were reviewed by an Associate Professor of Nursing who has conducted extensive work in qualitative research. Two team members separately analyzed individual patient transcripts. Transcribed data were reviewed several times and examined to obtain a global view of the data before coding. Data were manually coded using two methods described by Saldana (2001): initial coding followed by an open coding approach.

Each transcript was divided into meaning units using each interview question. These meaning units were examined to capture the respondent’s experiences and perceptions. A color coding method was used to label major themes emerging from each meaning unit. Each researcher individually conducted an in-depth analysis of each individual recorded interview transcript as well as across each student and patient in order to identify common themes. After each distinct meaning unit was coded separately by the team members and content analyzed inductively for salient themes, the three team members converged and categorized the themes. Following initial coding, open coding methods were used to reorganize and reconfigure data to collapse them into a smaller more select list of broad categories and themes. Data were examined, compared, conceptualized and categorized so that broad categories were merged, subcategories were created and the emergence of new themes was identified.
CHAPTER 4

RESULTS

Sample Characteristics

Of the student participants ($n=11$), two had no previous clinical experience working as a nurse's aide or caregiver, three had less than 1 year, and six had 1-3 years experience. Age range was 20-33 years with an average age of 24.2 years. Age range for the patient sample ($n=9$) was 46-87 years with an average of 64.4 years. All patients who agreed to participate were admitted for a surgical procedure or complications related to a surgical procedure that was performed to treat malignancy. Each patient had returned from surgery at least 24 hours prior and was in stable condition.

Findings

Findings reflect rich student and patient response data and shared meanings about collaborative learning in student nurse dyads. The perceptions of both groups of participants were categorized as collaborative learning, positive experiences, negative experiences, and roles. Student positive experiences were divided into subthemes of support: decreased anxiety and increased confidence and efficiency completing tasks. Positive patient experiences were divided into sub themes of efficiency completing tasks and quality of care. From the student data emerged an additional theme of
appropriateness of timing of the utilization of paired student learning in the clinical setting for baccalaureate nursing students.

**Collaborative Learning**

The impact of the dyad on student learning was apparent to both participant groups. The learning that occurred was described by participants as a collaborative process that included the defining characteristics of collaborative learning: positive interdependence, individual accountability, face to face promotive interaction, use of collaborative skills to build trust and communication, and group processing.

All students perceived that when in their learning pairs, cognitive processing became a cooperative effort as they shared information and experiences to fill in gaps in knowledge. Subsequently, decision making became a collaborative process as they combined their knowledge and experiences and cross checked each other when making patient care decisions. One student stated, “You'll key in to certain things and the other person will key into other things so when they bring those other things that you forgot it kind of cements everything.”

Several patients also recognized the face to face promotive interactions between the students as they combined their knowledge to fill in the gaps and cross checked each other before performing tasks. Behaviors of group processing were also identified where the pair periodically assessed their interventions and made necessary modifications in order to reach their common goal.
Positive Outcomes

Themes that emerged from the interview data were categorized as “positive” when participants perceived that they promoted the ability of the student pairs to provide patient care or enhanced the quality of care for the patient.

Support

In the AEM the students are of equal status and their roles dictate equal responsibility in patient care. More than half the students described a sense of support from their counterparts when working in pairs. One student commented:

The first day I was really nervous and even though I had been working with patients for a long time I was still really nervous. It was a new experience and you're a nursing student now it was just good to have someone there, right with you, going through the same thing.

A peer in the same situation sharing identical responsibilities and expectations provides students with a sense of not being alone and supported by an equal who understands their common situation and mutual goals.

Decreased Anxiety and Increased Confidence

The support perceived by students is linked to decreased anxiety and building confidence. Decreased anxiety in the student pairs was related to the presence of someone of equal status as a support and resource. Some patients also sensed that as a result of their equal status, the learning pair promoted confidence and decreased anxiety levels. One student remarked:

So I kind of liked working in pairs. It kind of helped me not be so scared and helped build my confidence. It's easier to ask a student for help.
sometimes than an instructor just because they are on the same level as you.

Students’ increased confidence was also based on the availability of the peer to consult with one another during cognitive processing. Peers acted to combine knowledge and fill in gaps of information whether it was during recalling information during active problem solving, as a reminder to complete tasks, or to verify choices. One student remarked:

I felt more confident probably, going in and talking to the patient and doing the skills when you had someone else there to verify everything it's nice to have to ’cause you kind of pick up and remember different things so it's nice to have someone else there who will remember something that you might have forgotten.

One student also perceived that when students worked in pairs, the nursing staff felt more confident in their abilities. The student alluded that this was related to students being engaged in face to face interaction. This enabled students to cross check each other’s conclusions and reasoning and engage in group processing where the team periodically assessed their interventions and made modifications needed in order to reach a common goal. The student reported that nurses felt more confident in their combined ability to provide patient care.

Increased Efficiency with Tasks

Division of labor was a recurring concept linked to positive perceptions from both participant groups. The majority of students identified that together they were able to complete tasks efficiently as a result of a second check and division of labor recognizing that this was a factor with patient satisfaction. Patients generally found that tasks were completed with increased efficiency as result of the division of labor and perceived this as a positive outcome of their experience.
It’s very convenient because they both help each other, they help me, like lifting me up, it takes 2 to lift me up, to move me around and that makes it that I don’t hurt so bad. Also one leaving gets something that they need, and the other one stays with me, so I thought of that was a convenience…. When they gave me a wipe, a bath, and shampoo, we were able to do it better because one was giving me the shampoo and the other one was scrubbing my feet and, massaging with a cream. I felt very pampered, very pampered and it was a very good experience.

The majority of students also identified that together they were able to complete tasks efficiently as a result of division of labor and recognized that this was a factor in patient satisfaction.

Quality of Care

When asked to describe the quality of care they received from the student learning pairs, all patients provided positive feedback. One patient elaborated on his reason for positively rating the student care provided:

I feel like I could ask them to do anything and they would do it. They were right there and so I would rate it as excellent…. I wasn’t afraid to ask them for things. I didn’t feel like I was bothering them. And, sometimes when the nurses come in and [you I feel like] am I being too overbearing.

Many patients perceived that the student pairs were thorough, attentive, caring and approachable. These characteristics contributed to their overall impression of the quality of the care provided by the students.
Negative Outcomes

Negative outcomes were divided into two sub themes: overwhelming the patient and negotiation of tasks. The sub theme of overwhelming the patient emerged from both participant groups.

Overwhelming the Patient

Although patients identified that the pairs allowed increased efficiency in completing tasks, there were also negative consequences perceived by both participant groups. Two patients felt that the presence of two eager students was overwhelming in a condition of compromised health. For example one patient stated,

Well, they kept, they wanted to offer me a bath, they wanted to offer to do anything that had to be done and they just really wanted to help, and when you’re feeling kind of, well I had the hiccups, and I kind of liked to just not have to do much.

Division of labor also played a negative role because some tasks were duplicated or took more time to accommodate the learning of each student. Another patient commented, “The time it consumed to do the same service, like the stats and the blood draws and all that is a little longer, a little more time consuming.” Some students also sensed the potential of the pairing to overwhelm the patients and that at times the patient assignment or task did not warrant a pair.

Negotiation of Tasks

Because the student pairs were only assigned one patient, tasks such as administration of medications and completing treatments and procedures needed to be shared and students were left to negotiate according to turn or need for the learning
experience. The majority of students perceived that task sharing resulted in missed opportunities for learning.

I felt like, for instance one of our patients needed their Foley removed and you have to choose who's going to do it because you both can't do it. So that was kind of hard because it was like you knew you would really get the full experience of getting to try everything. You had to decide who was going to get to do it (…) I like to do things. I would rather get the opportunity to do everything for that patient rather than sit and watch somebody else do it.

Students were also acutely aware that while they were gaining a learning experience, their counterpart was not. However, two students remarked that they were able to learn from observing their partner perform skills while others reported that although they observed the skill the learning was much different when they were able to perform the skills themselves.

Roles

Roles emerged as a theme that included sub themes pertaining to students assuming a role in a presumably equal relationship, patient’s perceptions of their role in student learning and clinical instructor’s ability to fulfill her role in clinical instruction.

Student Role in Learning Pair

When examining the conflict students experienced when negotiating tasks, it was apparent that some students recognized themselves taking a passive role of observer versus doer. Missed opportunities emerged as a problem when one individual assumed a dominant role.
Since you're probably doing half of everything, you kind of miss out on some of the learning because you're not doing everything first hand. If there's a more dominant personality in the pair then that person tends to do more of the talking and take more of the initiative than the other person. But if you tend to let the other person take control then I think it could detract from your personal learning because you don't do it first hand and so you don't realize that you are not learning. Sometimes I'll be watching something and I'll think like, "Oh yeah, I'm getting this" and then when you go to do it on your own it's totally different.

Similarly, some students expressed concern that those taking a passive role may become reliant on their counterpart with regard to decision making.

I think that when I was with a pair, like with a partner, it almost made it harder for me to use my own brain to figure it out because I would rely on them more. Like when I walked into the room with them it was like, “Ok, what do you think we should do? Ok, what do you want to do?” But when I went in by myself, I was like, "Ok, I'm going to look at the patient. I'm going to listen to them for myself. I'm going to do the entire assessment myself.” So, I'm going to know what's going on with this patient.

However, dominant and passive roles should not be confused with a student engaged in peer teaching. This was a common occurrence when students with previous health care experience were engaged in face to face promotive interaction with a less experienced counterpart.

Patient Role in Student Learning

Interview data revealed that some patients were cognizant of the student role and acknowledged a contribution to student learning. Patients recognized the impact of their participation, accepted students in their learning roles and provided encouragement. One patient remarked, “I knew they were very eager to help me, and I tried to make them feel comfortable. I tried to make them feel easy. I did try to make them feel at ease in the role that they were playing and what they were doing.”
One patient described a sense of responsibility and mentoring in the patient role.

It was exhilarating, to be someone that could help develop a career....Almost like a mentor. They asked questions and I gave responses, and I made my responses as an intelligent and verbose as possible, and as detailed as possible, because I understand that these guys as students need to know the right questions to ask, and how to ask the questions.

However, the majority of patients, although willing to participate in student learning, assumed a more passive role and described themselves as a learning apparatus or subject for examination.

Clinical Instructor Role in Student Learning

The responsibility of clinical instructors to facilitate learning cannot be fulfilled unless the instructor has adequate time to effectively interact with students. Students generally felt that they received adequate support from their clinical instructor.

I think we received more support because of being in a pair so that [the instructor] had less people to run around with. There [were] four groups to kind of follow around and work with rather than eight separate people to keep track of.

Students perceived more instructor support with the use of the paired learning in the AEM since the students were concentrated on one unit and patient assignments were combined and therefore reduced by half.

Timing of Implementation of Learning Pairs in the Nursing Curriculum

Students generally agreed that the use of learning pairs was appropriate and beneficial for novices in early semesters, but perceived that its use would not be warranted in subsequent semesters once they gained more experience and confidence. "I think that it's a good thing when we have such limited experience. When I progress in
nursing school it will be nicer to be on my own and fly solo and work with my own knowledge.” Because the students worked their patient assignment in pairs, the clinical instructor focused her attention on four groups rather than eight individuals. The availability of the clinical instructor to provide instruction and support to the novice student was also identified as a reason to utilize this model of clinical instruction in first semester.
Both positive and negative aspects of the use of student learning dyads in the clinical setting were identified that may provide guidance for future use of paired learning. Students may adopt different roles within the dyad that impact the dynamic between the pair and the learning that takes place. How patients view their role when working with the learning pair and how patients view their contributions to the learning process also emerged from the data. The findings indicate that there is merit in the AEM that utilizes student dyads. The participants felt that collaborative learning takes place, students feel supported and more confident, and patients feel quality care is provided. Negative outcomes were also identified that provide clinical instructors the opportunity to ameliorate the issues with preemptive interventions.

Findings from this study suggest that learning pairs in the clinical area resulted in decreased student anxiety, which echoes previous research (Yates, Cunningham, Moyle, & Wolling, 1997; Bos, 1998) and increased confidence as found by Aston & Molassiotis (2003). The findings from this study suggest that this was a result of an increased sense of support from another individual who was of equal status with shared responsibility and expectations. Aspects of collaborative learning also contributed to the novice’s increased sense of confidence. Because the findings from this study suggest that learning is more
likely to occur when learners feel less anxious or more confident, the study of learning dyads using peer equals deserves further attention.

Although collaborative learning provides a sense of equality through shared goals and responsibilities, some students assume more passive or dominant roles thereby influencing the quality and quantity of learning opportunities for themselves and the other student. Whether or not these roles emerged as a result of innate student traits or previous patient care experience is unknown, but should be explored for the purpose of providing guidelines for the assignment of student pairs and the orientation of students to the paired learning experience. The results of this study can be used to inform clinical instructors who utilize learning pairs of the factors influencing challenges encountered in pair dynamics so that the collaborative process is maximized and learning is optimized.

As a result of a division of labor, student pairs were able to complete tasks with increased efficiency. However, this was at the cost of missed opportunities for learning since students were required to negotiate who would carry out specific tasks. This was particularly evident when students felt that pairs were not warranted in lower patient acuity encounters. Further study is needed to determine if perceptions change with increased patient acuity or with increased number of assigned patients. Interesting student perspectives may also emerge from a comparative study of student exposure to learning opportunities among student nurses assigned to collaborative learning dyads versus the traditional model where one student is paired with one nurse with full patient assignment.

Patients’ perception of their relationship with student nurses is congruent with the findings of Stockhausen (2009) that suggests that patients are aware of their influence on the students’ learning and comfort. Similarly, these results parallel, in part, Suikkala and
Lieno-Kilpi’s findings (2005), in that it is suggested that patients recognize the role of the student and are willing to participate in student training, but generally take a more passive role. The findings also suggest that some patients perceive themselves as active mentors in student learning. Because the student pairs overtly collaborated about the patient’s care at the bedside, a comparative study might yield interesting results to determine whether or not the collaborative pair dynamic was influential in patient perceptions of their role in student learning. Further investigation may generate suggestions to assist clinical instructors to teach student behaviors that provide patients a greater sense of involvement in their care.

Although some patients felt overwhelmed by the eagerness and attention paid by the student pairs, the majority of patients were generally satisfied with the care they received and identified students as attentive, caring, and thorough which influenced their perception of quality of care. Literature is sparse on patients’ perception of student care. Therefore, it would be reasonable to examine patient perceptions of care provided by a single novice compared to a novice pair engaged in collaborative learning in order to determine if patient perceptions are attributable to factors surrounding nursing students in general or to the dynamic of the pair.

One of the negative themes that emerged from the data was patients feeling overwhelmed with the attention of two students particularly in situations when patient acuity did not warrant a pair. A low patient acuity is typically associated with a scarcity of learning opportunities for students to complete procedures or task. This contributed to the second negative theme of task negotiation that resulted in missed opportunities for learning. The knowledge gained from this pilot study can be used to inform application of
clinical instruction models using student pairs so that measures are taken to avoid overwhelming patients. The information gained can also be used to meet student learning needs by providing optimal situations for learning or by creating additional opportunities to practice skills.

One objective of the AEM is to establish congruency between theory provided in the classroom and clinical instruction. Findings from this study imply that clinical instructors utilizing student pairs are able to provide more support to the students, focusing their time and attention on the pair rather than having responsibility for twice the number of patients. This permits the clinical instructor time to hold frequent debriefings so that theory provided in the classroom is integrated into the clinical experience. Further study is warranted to determine if this model of clinical instruction can be effectively implemented if student pairs work with two to three patients.

An unexpected theme emerging from the interviews was the timing of the implementation of learning dyads. Although students felt that the dyad was appropriate and beneficial for first semester nursing students, the majority felt that more independence would be beneficial in subsequent semesters and recommended the traditional model of working with the nurse and his or her patient assignment. Although the dyad offers closer and more frequent contact with the clinical instructor, it appeared that students were eager for more independence after the first semester of clinical education. Additional research in this area is needed to make conclusions regarding appropriate timing of implementation of this model.
Limitations

While this study contributes new findings to the literature about the understudied subject of the formal use of collaborative learning using student nurse dyads, there are some limitations to be considered in the interpretation of these results. As a result of sampling methods the findings are limited in generalizability as they are based on a single cohort of nursing students who shared the same inpatient unit and clinical instructor and patients on a single specialized surgical unit. It is possible that characteristics of the clinical instructor or unit culture influenced perceptions of the student experiences. The patient sample provided limited variety and opportunity for experiences perhaps magnifying students’ perception of decreased opportunities to practice skills. Furthermore, in some situations there is uncertainty whether the patients’ perceptions of the quality of care provided and attentiveness of the student dyad was a result of the pairing or of the nature of eager students who possess time to focus care on a single patient in contrast to other experiences with staff working independently with four to five patients.

Conclusions

Despite the limitations of this pilot study, the interviews provided information to inform the use of collaborative learning in clinical instruction. The results indicate that there are several benefits when peers are engaged in collaborative learning in the clinical setting leading to positive student learning experiences and patient satisfaction. Negative consequences that were revealed can be anticipated so that action is taken to ameliorate the variables that negatively affect patient satisfaction and student learning. Because of
the paucity of research on this approach to clinical instruction the use of collaborative learning dyads deserve further trial and investigation. With the anticipated decrease in the nursing workforce combined with a simultaneous spike in hospitalized elderly patients, nursing school enrollment is expected to increase. This will occur despite a scarcity of clinical placements and a decrease in educators as a result of aging faculty. Models of clinical instruction that accommodate higher ratios of students to clinical instructors without compromising student learning or patient care deserve further study.
APPENDIX

INTERVIEW GUIDES
Interview Guide for Students

1. Tell me about your experience of working in a pair with another student during your clinical rotation.

2. What did you like/dislike about being assigned in pairs during your clinical rotation?

3. What was good/not good about being assigned in pairs during your clinical rotation?

4. Tell me about how your learning was impacted positively/negatively in being assigned in pairs during your clinical rotation.

5. Tell me about the support you received/did not receive during your clinical rotation as a result of being placed a pair.
Interview Guide for Patients

1. Tell me about your experience of having two students provide care for you.

2. What did you like/dislike about having two students provide care for you?

3. What was good/not good about having two students provide care for you?

4. How would you describe the quality of care you received from the two students?

5. In what ways was your care different/the same in having two students care for you, in relation to those times when students were not involved in your care?

6. Tell me about your experience of being involved in the learning process of two students.
REFERENCES


