NURSING FACULTY AND UNDERGRADUATE NURSING STUDENT INTERACTIONS IN THE CLINICAL SETTING

By

Anjanette M. Raber

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CHAPTER I

INTRODUCTION

Clinical education is an integral part of nursing education (Ard & Valiga, 2009; Gaberson & Oermann, 2010; National Council of State Boards of Nursing, 2005). Students regard their clinical experiences as the cornerstone of their nursing education (Benner et al., 2010; Luhanga, Billay, Grundy, Myrick, & Yonge, 2010); however, students, faculty, health systems, and nurses agree that nursing education has been challenged to keep up with the rapidly developing field of nursing practice and new nurses are unprepared for the complexities of the current practice environment (Benner et al., 2010; Berkow, Virkstis, Stewart, & Conway, 2008; Hickey, 2009; Ironside & McNelis, 2010; Tanner, 2010;.) Although national efforts to reform nursing education have been encouraging (Moscato et al., 2007; Tanner et al., 2008;), there remains a paucity of research in clinical education (Benner et al., 2010; Ironside & McNelis, 2009.)

Clinical experiences are used to support students' learning and clinical reasoning, and they are intended to bridge the theory-practice gap (Benner et al., 2010) by allowing students to be immersed in situated clinical practice (National Council of State Boards of Nursing, 2005; Tanner, 2002). However, as Benner and associates (2010) found-in many nursing programs across the United States, the theory-practice gap remains.

The theory practice-gap is the silo-ing of theory and practice. When these two are compartmentalized, students are challenged to make essential linkages between

learning in the classroom and learning and clinical reasoning in the clinical setting. This jeopardizes the student's ability to learn to constantly integrate knowledge, skilled know-how, and ethical comportment—all essential for today's practicing nurse (Benner et al., 2010; Sullivan & Rosin, 2008). A critical factor in students' ability to make these essential linkages is the nursing faculty. Faculty are charged with supporting students' learning and development of clinical reasoning, and they are essential to guiding and supporting students.

Although faculty are a pivotal part of nursing education and thus clinical education, research has identified that few faculty are prepared for these roles (Cangelosi, Crocker, & Sorrell , 2009; Oermann, 1998 Scanlan, 2001). As a result, faculty commonly rely on their experience as students, teaching in the way in which they were taught (Cangelosi et al.,2009). Furthermore, little is known about faculty practices and the challenges they face when teaching in the clinical setting.

A recent study on clinical nursing education (Ironside and McNelis, 2010), is one of the few studies in which faculty describe their practices and the challenges they face. Faculty reported that the most time consuming instructional activities in the clinical setting included: supervising students' skill performance, assisting students to synthesize clinical information and assessment findings, providing feedback to students on clinical paperwork, and ensuring patient safety- however, these were not met without challenge. Faculty reported challenges and barriers to being able to provide appropriate guidance and supervision to each student, teach students to think on their feet and make clinical judgments, provide meaningful feedback to each student, manage clinical teaching responsibilities with other expectations of the

faculty role —all essential aspects of supporting students and their learning. Although faculty had created strategies to mitigate these challenges, these were described as only somewhat effective, further demonstrating the need for more research about faculty, their practices, and how they support student learning and the development of clinical reasoning.

Benner et al. (2010) provided three paradigm cases exhibiting how expert faculty teach for a sense of salience, for clinical imagination, and for moral imagination. Together these three paradigms provide exemplary faculty practices in the classroom effectively support students' ability to draw the essential linkages and develop and support their capability to constantly integrate knowledge, skilled know-how, and ethical comportment. Although based in the classroom, these expert faculty effectively tied theory discussions with clinical learning experiences thereby using situated learning to diminish the theory-practice gap. One of the paradigm cases, teaching for a sense of salience, was particularly instrumental in providing strategies to support students' learning while reducing the gap.

Teaching for a sense of salience, the paradigm case of Diane Pestolesi, used four strategies to support students' learning and develop their clinical reasoning skills: creating continuity and coherence in learning, using questions, rehearsing for practice, and reflecting on learning (Benner et al., 2010). Although the study provided examples of how to effectively support learning and develop clinical reasoning it did not provide a way to explicitly support students' development of clinical reasoning.

Tanner's (2006) research provides nursing education with the most comprehensive model of clinical judgment, as a description of the processes nurses

use in clinical reasoning. Tanner (2006) identified four iterative processes in clinical reasoning: noticing, interpreting, responding, and reflecting. These processes are influenced by both the background that the nurse brings to the clinical situation including theoretical and practical knowledge, notion of excellent practice, knowledge of the particular patient, and the context of the situation. Although there is much more to the model, the background, context and iterative reasoning processes provide nursing education with a framework to help identify and support the development of students' clinical reasoning and thereby clinical judgment.

Aims of the Study

The purposes of this study were to describe the interactions between clinical faculty and undergraduate nursing students and to describe how clinical faculty teach for the development of clinical reasoning in undergraduate nursing students in the clinical setting.

Significance of the Study

Together, the Ironside and McNelis (2010) study, the Benner et al. (2010) study, and the work of Tanner (2006) provide us with key strategies and examples of how faculty can support students' learning and the development of their clinical reasoning; however, these examples provide us with little description of how faculty implement these strategies as they interact with students. Furthermore, the examples of how faculty support the development of clinical reasoning, an important skill in nursing practice, are also limited. A better understanding of these issues will provide critical information and support the critical efforts to reform clinical nursing education.

CHAPTER II

LITERATURE REVIEW

This chapter reviews the literature concerning the design of clinical education, faculty roles in clinical education, and their practices to support students' learning in clinical setting. The chapter will begin by clarifying ambiguous definitions, describing the search strategy, and then move into the review of literature and conclud with a critique of the literature.

Definition

During the review of literature, it became clear that clinical education has not been clearly defined. According to Ard ,Rogers, & Vinten (2008) the focus of clinical education is to provide students with a situated holistic clinical experience "attending to the intellectual, physical, and passion components of learning what it means to be a nurse and developing one's identity as a nurse (p. 238). Although this definition provides a broad definition of clinical education it does not identify how students accomplish these goals.

In a thoughtful essay, Tanner (2010) elaborated on the purposes of clinical education, identifying five different learning approaches: deepening and extending theoretical knowledge, developing practical skills, developing clinical judgment, developing a sense of identity as a nurse and ethical comportment, and developing an understanding of the culture of healthcare. Together these definitions and approaches, situated in the clinical learning environment, support and enhance students' learning and their development as a nurse, and create a foundation for lifelong learning and therefore comprise the definition of clinical education for this dissertation.

Search Strategy

Two computerized databases, CINHAL and Medline, were used to search for publications on clinical education in nursing. The keywords *nursing*, *education*, and *clinical education* were used. A the default year parameter of 1937 to current day was used, and 1,949 articles were identified. These articles were then filtered by two key factors: English language and research articles, thereby reducing the number to 370 research articles focused on clinical education in nursing. The 370 abstracts were then reviewed for relevancy in the following ways: research articles focused on clinical education in nursing, research relevant to nursing education in the United States of America, faculty-focused, and supporting student learning.

Review of the Literature

Clinical Nursing Education

Research about the design of clinical education is sparse with just a few articles examining the design of clinical education and its effects on nursing education and students**.** Benner et al. (2010) found a significant gap between nursing practice and nursing education. Although clinical education provides powerful learning experiences for students, many nursing education programs fail to integrate classroom and clinical teaching, thus creating the practice-theory gap (Benner et al., 2010.) This is further exemplified in a study by Hallett (1997), who, using phenomenology, conducted 26 interviews of faculty and students to examine how learning through reflection supported student learning. Hallett (1997) found that students who were early in their nursing program could not yet make the links between theory and clinical practice. Additionally, students found it difficult to make use of nursing theories and reported that only after

being in practice for some time were they able to rationally think about their practice. Currently, two efforts to reform clinical nursing may help mitigate these issues.

One major clinical education reform effort is the dedicated education unit (DEU.) The DEU is a partnership between academia and clinical agencies that educates staff on designated units to provide a more focused and directed clinical immersion experience. On DEU's, students work closely with the nursing staff to provide care and faculty provide support to clinical nurses in instruction, but are not typically responsible for direct supervision meetings. Using interviews, focus groups and a survey of students and faculty, Moscato et al. (2007) found a significant difference between students' learning in the DEU compared with students who had a traditional clinical experience. Additionally the DEU experience provided opportunity for students to communicate more effectively with both nurses and faculty, provided more flexibility for faculty, nurses and students alike, and overall students had a better relationship with the staff.

An approach which focuses on changing the nature of the clinical experience was developed by the Oregon Consortium for Nursing Education (OCNE) (Tanner, Gubrud-Howe, and Shores, 2008.) OCNE is an integrative curriculum emphasizing prevalent conditions across populations and settings that bridges the theory-practice gap through the use of intentional learning experiences that are situated in clinical experiences to provide students the opportunity to "feel like a nurse throughout the curriculum (Gubrud & Schoessler, 2009, p. 43.) The OCNE model proposes use of five different kinds of learning experiences, based on the goals of learning and the type of learning involved: Concept-based learning experiences; skill/intervention-based learning experiences; cased based experiences, focused direct care, and integrative experiences. The first three types

are markedly different from traditional clinical education in that the student is not responsible for patient care. They may interact with patients, as in concept-based experiences in which students assess a patient's needs related to a particular concept, but they are not expected to provide care. The focus of their experience is deepening their understanding of particular concepts by seeing many patients who exemplify the concept. Skill/intervention-based experiences provide the student with repetitive practice; rather than total patient care, the student will be provided with the opportunity to practice specific skills, such as immunizations, or obtaining a health history. Faculty purposefully scaffold these intentional learning experiences by increasing complexity based on the level of the student and their abilities to help ensure clinical proficiency by meeting the students where they are in their learning process (Gubrud et al 2009.) Although, some faculty have implemented components of the clinical education model, it has not been fully implemented or evaluated, It holds potential as an alternative to a complete focus on total patient care.

Faculty

The review of research focused on clinical faculty led to two conclusions: clinical faculty often have little preparation for their role and once in the role, and they frequently describe it as complex and stressful. Being a proficient clinician does not translate to being a proficient clinical teacher (Cangelosi et al., (2009). Cangelosi et al. (2009) analyzed 135 reflective papers written by nurses enrolled in a clinical nurse educator academy in order to understand the unique perspectives of preparing for the role of a clinical educator. The study found that clinical teaching is not a natural byproduct of clinical experience and many clinicians have no preparation for their role of teaching. In addition, they often lack mentoring. These findings were introduced in a study by

Scanlan (2001), who conducted a descriptive study interviewing five novice and five expert clinical faculty to better understand what influenced the development of their clinical teaching. Scanlan (2001) found that learning to teach clinical education is a process of trial and error. Study participants reported that when learning to teach, they most commonly emulated their own experiences as a nursing student but as they developed their role as a clinical educator, they also took into account their experiences as a nurse, their experiences with other clinical teachers, and feedback from students and supervisors.

Being clinical faculty is often described as intense and stressful. Oermann (1998) surveyed 226 associate- and baccalaureate-prepared nursing faulty. The self-designed descriptive survey was intended to determine the work-related stressors of clinical faculty and if there was a difference based on marital status and years of teaching experience. Faculty respondents in Oermann's study identified job expectations, feeling physically and emotionally drained, feeling inadequately prepared for the job, job expectations interfering with activities of personal importance, heavy workload, pressure to maintain clinical competency, and a lack of recognition for their work as factors that contributed to their stress. When comparing associate-and baccalaureate-prepared faculty responses, the study found the baccalaureate-prepared faculty who were married reported more stress in coping with job expectations, a heavy workload, and job expectations interfering with activities of personal importance.

Paterson (1997) conducted an ethnographic study of six faculty to explore what takes place in the realm of clinical teaching. In addition to the stress of heavy workloads and job expectations, Paterson found that although clinical faculty are nurses, they are

often alienated from the nursing staff on the unit because they are not part of the permanent structure or culture and instead are seen as a temporary system or a guest. Because they were seen as temporary, the clinical faculty did not feel they had access to the information they needed to effectively help students with patient care and they were required to negotiate the care students were able to provide. However, all of these studies were conducted more than a decade ago. Since their publication, patient acuity in all settings has continued to increase and changes in technology continue to rapidly evolve, resulting in an increased burden on nursing faculty.

Supporting students' learning. Few studies have examined how faculty support students' learning in the clinical setting. Hutchings, Williamson, and Humphreys (2005) conducted a narrative study that interviewed mentors, nurses, and faculty to identify how faculty support student learning in that setting. They found that clinical practice environments are excellent experiences for students and provide the opportunity to build confidence and develop clinical competence. Both confidence and competence are further supported when students have an orientation to the placement, when there is congruence between theory and practice, and when mentors and faculty have attitudes and behaviors that are supportive towards students. However, the clinical practice environments can be challenging to adequately support and supervise students. Hutchings et al. (2005) found that it is challenging for nurses and faculty alike who try to manage the needs of patients and of student learning.

One of the biggest challenges for faculty supporting student learning in the clinical setting is safety. Ensuring patient safety is of the utmost importance in any clinical situation and these efforts further compound the complexity of the faculty role. A study

by Gregory, Guse, Davison, Davis, and Russell (2009) reviewed 154 reported unsafe patient care events to explore patient safety during clinical education. The study found that more than half of the reported unsafe events were directly related to medication administration. The most common medication administration error was the medication was given at the wrong time; however, the review of unsafe events also revealed that nearly 3% of these patients experienced adverse complications. This study demonstrates that it is challenging for faculty to supervise students while ensuring safety.

An earlier descriptive study by Williamson and Webb (2001) interviewed 85 nurses, faculty, and students and found that it is challenging for faculty to supervise students. This created both a role conflict and role overload for faculty when they were trying to balance the clinical demands and educational expectations of having students in the clinical setting.

One ethnographic study provided a more comprehensive view of how faculty support student learning. Twibell, Ryan, and Hermiz (2005) interviewed six clinical faculty to explore their perceptions as they taught critical thinking skills to baccalaureate nursing students in the clinical setting. The study found that students need to seek out information and reflect on their experiences to support their learning; however, faculty support is essential in this process. Faculty need to use questions, provide and review written material, conduct clinical conferences, and use student journals to support student learning in the clinical setting.

Two more recent large-scale studies examined faculty practices in clinical teaching. The most comprehensive study was by Ironside and McNelis (2010), who used insights from a panel of expert nurse faculty to develop a survey and then administered it

to faculty across the United States. The 2,386 respondents were from different types of programs and in different roles, and their answers helped identify how faculty spend their time during the clinical day, the challenges they face to optimize student learning, the strategies they use to address these challenges, and finally how effective these strategies were in overcoming the challenges.

To identify how faculty spent their time during the clinical day, the survey asked respondents to select from a predetermined list and rank the top three instructional activities that consumed most of their time. Respondents identified these top five supervising students' skill performance, assisting students to synthesize clinical information and assessment findings, questioning student to assess their grasp of their assigned patients' clinical status, providing feedback to students on their clinical paperwork, and ensuring safety of assigned patients.

In addition to these identified instructional activities, faculty commonly also set aside time to meet with student before and after the clinical experience. More than 75% of faculty reported they met with students as a group before clinical to review the students' organization and priorities for the clinical experience, to determine the students' level of preparation, and to review the status of the patients the students were assigned to provide care for. Ninety percent of these faculty also reported setting aside time to meet with students as a group at the end of the clinical day. During the post-clinical session, students led discussions about their assigned patients and the care they provided during the clinical day, observed nursing practices, decision-making, interactions with other healthcare professionals, and tasks. Collectively, these activities were used to support

students learning in the clinical setting; however, faculty identified challenges when teaching in this setting.

The top five most significant challenges from a predetermined list of 29 items to optimizing student learning were providing appropriate guidance and supervision to each student, teaching students to "think on their feet" and make clinical judgments, providing meaningful feedback to each student, managing clinical teaching responsibilities with other faculty role expectations, and supervising student skill performance.

Additionally, faculty were asked to identify the strategies they used to help address these challenges and how effective these strategies were. The most common challenge to optimizing students learning in the clinical setting was providing appropriate guidance and supervision to each student. Faculty reported that the finite time available and the competing demands of their role during the clinical day did not allow them to provide students with the kind of guidance and supervision they felt the students needed. However, three strategies helped them provide students with the appropriate guidance and supervision: organizing the guidance and supervision that students require, relying on staff nurses and preceptors, and using students to provide guidance and supervision to other students.

To help ensure student guidance and supervision and to optimize learning, faculty reported they worked diligently to make sure they were prepared by anticipating students' abilities to safely provide care. Faculty used checklists and schedules to plan ahead, and they relied on feedback and effective communication from students, staff, patients, and family members to ensure safe and appropriate care was being provided.

Another strategy used to ensure student guidance and supervision while optimizing learning was reliance on staff nurses and preceptors. Faculty reported that staff nurses and preceptors helped to monitor students; however, the survey findings were unclear whether staff nurses and preceptors simply provided students an opportunity to complete a task or if they intentionally contributed to student learning. Faculty reported that developing relationships with staff nurses and preceptors was an important feature, as faculty and staff need to work together to ensure both student and patient safety.

Finally, faculty used students to provide guidance and supervision to other students. Faculty reported pairing students to provide care to one assigned patient as a strategy to limit the number of patients faculty were responsible for, and faculty had students perform supervisory roles for students who were not as far along in the program. However, when faculty were asked how effective organizing the guidance and supervision that students require, reliance on staff nurses and preceptors, and use of students to provide guidance and supervision to other students were as strategies, they reported these activities as only somewhat effective.

Faculty identified teaching students to "think on their feet" and make clinical judgments as the second most common challenge to optimizing student learning in the clinical setting. Faculty noted that an important part of their role is ensuring patient safety. To meet this goal, they felt they needed to assess the student's knowledge, skills, attitude, and plan of care. Faculty identified three strategies they used during the clinical day to help students think on their feet: questioning, providing simulated experiences or case studies, and engaging students in learning activities outside clinical.

The most common strategy used by faculty to help students think on their feet was questioning. Although various methods of questioning were described, the goal of the questioning was not to teach students thinking and judgment; instead questioning was used a way for faculty to evaluate the students' thinking and judgment. However, some faculty did report using questioning to help students think more deeply about the clinical situation. Faculty also used discussion both with individual students and students as a group to better understand their thinking and judgment. Faculty also provided simulated experiences and case studies, which they reported helped to prepare students for clinical by providing them the opportunity to practice and added complexity in a controlled setting as a way to challenge students and their clinical judgments. Finally, faculty engaged students in learning activities outside clinical to help them think on their feet while in the clinical setting. These activities included case studies, reflections both during the post-clinical conference or through journaling, concept mapping, and clinical paperwork. However, when faculty were asked how effective questioning, simulated experiences or case studies, and learning activities outside clinical were as strategies to help students think on their feet while optimizing students learning in the clinical setting, they reported they were only somewhat effective.

Faculty reported that providing meaningful feedback to each student was the third most common challenge and that providing students meaningful feedback was time-consuming. Several faculty determined that each student would get just 45 minutes of their time in a day. That does not take into account students who require more supervision or time. Faculty described strategies such as daily narrative, one-on-one time with students, and email and discussion boards to help students and faculty reflect on the

clinical experiences throughout the day and self- or peer-evaluation to provide meaningful feedback to students to optimize their learning.

Managing clinical teaching responsibilities with other faculty role expectations was the fourth most common challenge to optimizing student learning in the clinical setting. Faculty were working long hard hours, taking work home, and making personal sacrifices to manage all the responsibilities that came with their role of clinical faculty. They reported they continued to struggle to find a strategy to address these issues beyond the strategies already identified and again, the strategies were only somewhat effective..

Finally, supervising student skill performance as the fifth most common challenge and reported spending more than 50% of their time supervising such performance. However, they used two strategies to help them do this: decreasing the number of skills or the number of students performing each skill and having staff nurses or preceptors supervise student skill performance.

When decreasing the skills or number of students performing each skill, faculty focused on medication administration because it is one of the most time-consuming skills requiring supervision due to the number of medications required by each patient. Therefore, although faculty recognized the limitation for the students and their learning, they commonly limited the number of students administering medications each week.

Faculty also had staff nurses or preceptors supervise student performance. Faculty reported staff nurses and preceptors were an important resource for faculty and students alike. However, as reported earlier about providing appropriate guidance and supervision, faculty had to cultivate, negotiate, and nurture relationships with staff nurses and

preceptors to ensure a positive experience for students and to gain the support that the faculty needed. Again faculty identified these strategies as only somewhat effective.

The study by Ironside and McNelis (2010) demonstrated that the faculty role is complex. The self-identified instructional activities faculty were using in the clinical setting were seen as time- consuming and often fraught with barriers to optimizing student learning. Although faculty had developed strategies to help reduce these barriers, they identified these strategies as only somewhat effective. However, this study provides only a self-report of faculty practices and issues. Using additional study methods such as observations and interviews would provide insight into those tactical practices.

The second large-scale study by Benner et al. (2010) provides us with a current look at faculty practices and how faculty support the development of student learning. Benner et al. visited nine schools of nursing; interviewed 586 students, faculty, and administrators; and conducted observations both in the clinical setting and in the classroom. The focus of their study was to determine what signature pedagogies exist in professional education, to compare and contrast educational methods, to determine how to educate students both for competence and integrity, how to teach for professional judgment, and how to teach complex skills.

The aims of the Benner et al (2010) study were informed by previous Carnegie studies of education for the professions (Sullivan & Rosin, 2008), which revealed that the demands of professional practice require professionals to learn and continuously integrate knowledge, skilled know-how, and ethical comportment. Therefore, based on findings from the Carnegie study and the aims of the Benner et al. study, Benner et al (2010) identified three paradigm cases of teaching practice. The paradigm cases were chosen

based on the ‘faculty participants ability to articulate their practice and reflect on their teaching, their use of innovative approaches, and high student evaluations. The three paradigm cases included teaching for a sense of salience, integrative teaching for clinical imagination, and teaching for moral imagination. All three paradigm cases provide exemplary faculty teaching practices and demonstrate how expert faculty support students’ learning in the classroom by drawing on clinical experiences; however the paradigm case, teaching for a sense of salience, stands out as an exemplar of how clinical experiences can be incorporated into the classroom while facilitating clinical reasoning skills. Therefore, the focus of this discussion will be on the paradigm case teaching for a sense of salience.

Teaching for a sense of salience focuses on the practices of Diane Pestolesi who relies on both student’s clinical experiences and her own to situate and direct the classroom. Pestolesi uses cases, vignettes, and stories to help guide and reinforce students’ clinical experiences in the classroom using four iterative strategies: creating continuity and coherence in learning, using questions, rehearsing for practice, and reflecting on learning.

Pestolesi’s strategy of creating continuity and coherence first builds on what students know. She begins with a single familiar topic; however, she doesn’t oversimplify the topic by separating knowledge and practice into components. Instead, because she recognizes practice and knowledge are dialogical, Pestolesi uses an integrative approach that draws on both their course work and clinical experiences. As the course progresses and the topics become more complex, Pestolesi explicitly integrates new and old ideas helping students build on what they have already experienced and anticipate what they

will experience. Students begin to recognize patterns and understand the salient differences in their clinical experiences.

With questioning, Pestolesi uses questions situated in either a student's clinical experience or one of her own as a diagnostic tool. She employs a step-by-step questioning process to see how students are thinking and to engage their clinical reasoning by guiding their sense of salience. These questions help students grasp the major concerns in a situation and prioritize care. This helps the students identify what is most important.

Pestolesi also models clinical reasoning by thinking out loud about her practice. This provides students the opportunity to see from start to finish what information she thought was salient, what information she needed, how she obtained the information, and how that information informed her care of the patient. Furthermore, Pestolesi doesn't just share the positive experiences. She also reported sharing experiences that challenged her clinical judgment in order to expose the authenticity of the clinical situation and her own practice, and to support students as they develop their own practice.

In addition, Pestolesi uses rehearsing for practice. To effectively develop clinical reasoning, a student must understand the clinical situation deeply, and Pestolesi expects students to prepare for their patients by having a thorough grasp of the patient's history, diagnosis, treatment, and medications. She uses three strategies to help students rehearse for practice: preclinical assignments, what if scenarios and knowledge for practice, and the use of context.

Pestolesi, and many of the other study participants, used preclinical assignments to help students prepare for their clinical experience. Preclinical assignments are thought

to help students prepare by helping them think deeply about possible relevant pathophysiology, signs and symptoms, possible drug interactions or side effects, and to plan their care (Benner et al, 2010). When they arrive for their clinical day, Pestolesi reports her students are mentally prepared creating the opportunity for an open-ended clinical learning opportunity and will support their learning and patient care.

Pestolesi helps students rehearse for practice by using *what if* scenarios. Taking an open-ended clinical situation, Pestolesi draws on the patient's history and the urgent concerns and uses *what if* questions to help students discern what is salient. *What if* questions exposed the student's knowledge and starting point and makes his or her thinking explicit. This allows Pestolesi to assess the student's strengths and weaknesses and provide the necessary support to facilitate the student's learning and hence the development of his or her clinical reasoning.

Finally, Pestolesi uses context to help students rehearse for practice. Preclinical assignments help students rehearse for the upcoming clinical practice; however, students can prepare for what may become a dated clinical experience as a patient's condition often changes overnight. Therefore it is important for faculty to help students identify changes in the patient and how these affect patient care.

Finally, Pestolesi uses reflection to teach for a sense of salience. Providing students the opportunity to reflect on their clinical experiences supports their knowledge and their clinical reasoning. Reflecting on learning was described in two ways: by sharing lessons learned during the post-clinical conference and by using narratives.

Sharing lessons learned during the post-conference provides an opportunity for students to learn from each other's experiences and benefits the whole group. Pestolesi,

and many of the other faculty participants, used intentional questioning to provide students the opportunity to think out loud and reflect on their own process and to identify ways to improve their practice. The intentional questions help support the development of the student's immediate practice, sets up a habit for the lifelong practice needed to become experts, and supports shared responsibility in learning.

Using narratives also helps students reflect on their practice. Pestolesi, and many of the other faculty participants, used journals to help students articulate their practice, identify ethical issues, and chronicle their growth. Although not usually graded, these narratives are a ripe opportunity for faculty to observe the student's learning and provide feedback. In particular, Pestolesi uses this opportunity, situated in their clinical experience, to help students develop a sense of salience, develop their clinical reasoning, and see the bigger clinical picture. Although these strategies are an important part of Pestolesi's practice, they are further supported by her knowledge of the students and of coaching, and her stance on teaching.

Through the use of questioning and rehearsing for practice, Pestolesi gets to know her students both personally and how they reason. This in-depth knowledge of the students helps Pestolesi tailor questions to intentionally support and challenge the students' strengths and weaknesses. Furthermore, knowing the students helps Pestolesi ensure safe and appropriate care is being provided throughout the clinical experience.

Throughout her practice, Pestolesi uses coaching. Although coaching includes questioning, it also includes encouraging students and giving them guidance with attention to emotional factors such as anxiety, which can inhibit learning. The techniques

of coaching used by Pestolesi help to create a supportive learning environment that supports and fosters student success.

Finally, Pestolesi's teaching stance is an important factor in teaching for a sense of salience. Pestolesi has high expectations for her students and expects them to take responsibility for their own learning. She expects her students to be proactive and seek out ways to learn and to be engaged with her and each other in the classroom; however, Pestolesi reports she works hard to do this in a non-threatening way. She realizes her presence can be intimating for students and therefore strives to creating a positive and encouraging environment through the use of knowing the student and coaching.

It is clear from both Ironsides and Benner's studies that development of clinical reasoning/judgment is a common goal of clinical education, although aside from the paradigm cases presented in Benner's study, little is known about how faculty support the development of clinical reasoning. Tanner's (2006) comprehensive review of literature on clinical reasoning in nursing and the resulting clinical judgment model provides a description of the processes of clinical judgment. Tanners (2006) model provides an understanding of clinical judgment and draws on a developed from synthesis of over 200 research articles on clinical judgment and clinical decision-making. Tanner (2006) identified that clinical judgment is a complex process of clinical reasoning where nurses, or students, take into account a number of factors that include but are not limited to current evidence, patterns, and intuition to generate interpretations and make conclusions about the patients' needs. Tanner defined clinical judgment as "an interpretation or conclusion about a patient's needs, concerns, or health problems, and/or the decision to

take action, (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient's response." (Tanner, 2006 p. 204.)

Clinical reasoning is "the process by which nurses and other clinicians make their judgments and includes both the deliberate process of generating alternatives, weighting them against the evidence and choosing the most appropriate, and those patterns that might be characterized as engaged, practice reasoning (Tanner, 2006 p. 205.) Clinical reasoning composed of four key processes: noticing, interpreting, responding, and reflecting (Tanner, 2006.).

Noticing is the initial grasp of the clinical situation and supports how nurses and or students will interpret or respond to the clinical situation (Tanner, 2006.) *Reflection* is composed of two types: reflecting-in-action and reflecting-on-action. Reflecting-in-action is often tactical (Tanner, 2006.) It is based on current assessment data and uses the ability to look to the future, and reflect, with the ability to discern how an intervention or response would unfold in this patient scenario. Reflecting-on-action affords the provider of care the opportunity to reflect on the entire clinical picture with the ability to examine how he or she noticed, interpret and responded to assessment data. This provides the opportunity to connect current actions and outcomes to future actions and outcomes completing the learning cycle (Tanner, 2006.)

Unlike other approaches to clinical decision-making, Tanner points out the importance of the knowledge and experience the nurse brings to the clinical situation (termed "background"), as well as knowledge of the particular patient, and the clinical context, claiming that each of these factors influence what the nurse notices in a clinical situation, and how these data are interpreted. However, thinking like a nurse is

influenced not only by the personal context but the context of the environment in which he or she is providing care, as well as the situation in which the care is occurring. Second, there are a variety of reasoning patterns the nurse will need to use either singly or in combination. These include analysis, intuition, and narration and knowledge of the patient to make sound clinical judgments. Knowing the patient is demonstrated in two key ways and can be used individually or together: knowing the patient's pattern of response and knowing the patient as a person (Tanner, 2006.)

Knowing the patient's pattern of response is constructed as time and expertise in clinical practice evolve (Tanner, Benner, Chesla, & Gordon, 1993.) The five particular aspects of knowing the patient's pattern of responses include responses to therapeutic measures, routines and habits, coping resources, physical capacities and endurance, and body typology and characteristics (Tanner, Benner, Chesla and Gordon, 1993.) Together these aspects comprise patterns of knowing the patient that afford nurses the opportunity to know the patient and his or her responses as a common understanding rather than knowing the patient as an individual.

Knowing the patient as a person often includes knowing both the patient and the family, and that allows the nurse to understand context-specific details, such as likes and dislikes, personal habits, modes of expressions, and family practices (Tanner et al., 1993.) Although knowing the patient's pattern of responses is a more tacit way of knowing than knowing the patient as a person, both contribute to the nurse's ability to recognize and respond to clinical situations.

Finally, ethical comportment is critical in clinical judgment (Benner, Tanner, & Chesla, 2009.) It is imperative that the nurse or student have a fundamental understanding

about what is right, as there is an ethical dilemma in nearly every clinical situation. Without a moral or ethical compass, clinical judgments can be skewed placing both staff and patients at great risk.

Critique of the Reviewed Literature

Research about clinical students and faculty supporting student learning in the clinical setting has primarily used two study methods: narrative studies, which included interviews and analysis of reflective papers (Cangelosi et al.,, 2009; Hutchings et al., 2005; Paton, 2007; Twibell et al., 2005; Williamson & Webb, 2001) and descriptive studies, i.e., surveys (Ironside & McNelis, 2010; Oermann, 1998; Scanlan, 2001; Teel, Smith, & Thomas, 2008). Although the survey data provided important descriptive information about the faculty role, they lacked depth as none of these studies used more than one study method, thereby providing a limited understanding of the faculty role and how faculty supported student learning in the clinical setting. Because both the faculty role and supporting student learning are complex, adding multiple methods of data collection such as a survey, interviews, and observations would have provided an opportunity to develop more insight and depth. Furthermore, both of these topics were discussed in isolation, as no study examined how faculty and students work together, a primary aspect of the faculty role. These studies also provided little insight on faculty practices throughout the clinical day. Only two studies (Ironside & McNelis, 2010; Twibell et al, 2005) identified practices faculty use; however, because data were collected by survey, these studies provided a limited understanding of the practices were used in

the clinical setting. The study by Benner et al. (2010) provided a more in-depth review of faculty practices and used multiple methods of data collection; however, although the faculty practices provided some translation to the clinical setting, they were based on classroom experiences. Finally, the faculty practices described were documented accounts of exemplary faculty. There were no descriptions of the typical faculty approach to interacting with students or supporting the development of their reasoning.

Chapter III

Methodology

This qualitative description study describes the interactions between clinical faculty and undergraduate nursing students in the clinical setting. The aims of the study were: 1) to describe the interactions between clinical faculty and undergraduate nursing students, 2) to describe how clinical faculty teach for the development of clinical reasoning in undergraduate nursing students in the clinical setting. As discussed in Chapter II, no research was found that had studied the interaction between faculty and undergraduate nursing students and there was also a paucity of research about clinical reasoning in the clinical setting. Therefore, qualitative description was the methodology chosen for this study because it can provide a basic description of the interactions and facilitation of clinical reasoning in the clinical setting.

Study Design

When using qualitative description, there are no definitive rules in the methodology (Sandelowski, 2010); instead, investigators choose methods that support the purpose of the study, that meet available resource constraints, and that fit within the parameters of qualitative description (Sandelowski, 2010, 2000.) However, it is imperative that the investigator meet the methodological requirements of qualitative research ensuring that the study methods are congruent with the qualitative paradigm (Patton, 2002; Sandelowski, 2010, 2000).

According to Sandelowski (2000, 2010), the goal of qualitative description is to provide a detailed description or summary of the events being studied ensuring that study findings use “everyday terms of those events” (2000, p. 336) and are “data near” (2010,

p. 78.) Although findings should remain data near, or close to the facts and meanings as provided by participants (Sandelowski, 2000), the qualitative descriptive methodology still allows the investigator to produce findings that are "detailed and nuanced" (Sandelowski, 2010, p. 78) with some interpretation. However, interpretation within qualitative description has a more narrow definition (Sandelowski, 2000, 2010) than other interpretive methodologies.

Qualitative description is an interpretive methodology (Sandelowski, 200, 2010); but it does not necessarily fall within an interpretive philosophy. All qualitative work requires investigators to make some interpretation of the data in order to make sense of the findings and is therefore interpretive (Patton, 2002; Sandelowski, 2010). In qualitative description, the interpretation of data is minimized to ensure that findings represent a naturalistic inquiry or are as close to their natural state as possible (Sandelowski, 2000.) Although some existing qualitative descriptive studies have "narrative or phenomenological hues" (Sandelowski, 2000, p. 337), which lend results to a more interpretive philosophy, the goal of this qualitative descriptive study was to describe data near interactions between faculty and students. Therefore, although there will be some interpretation in this study, as there is in all research using a qualitative approach, the focus of the interpretations is to describe events and interactions in everyday terms that can be directly attributed to the meanings provided by the participants (Sandelowski, 2000.)

Setting

There were two settings for data collection in this study, conducted fall term 2012 and winter term 2013: a school of nursing and a clinical setting. Nearly all the faculty post-observational debriefings and the faculty focus group occurred at the school of nursing, which is located in the northwestern part of the United States on a health and science university campus. The school offers a baccalaureate degree and several graduate degrees in nursing. Approximately 102 faculty teach in this undergraduate nursing program statewide; however, the focus of this study was on one campus. More than half of the faculty are employed full-time and hold a Master's degree; however, several faculty also hold a doctoral degree. All faculty hold an active registered nurse license.

Although the faculty-student observations depended on the faculty teaching assignment, all faculty-student observations occurred in the clinical setting as well as some faculty post-observational debriefings after the clinical experience had concluded. In all, observations occurred in two different hospitals all located in the same town as the campus of the school of nursing. One hospital, a trauma 1 center, is part of an academic health center, and is a teaching hospital, while the other is a large system hospital, which has teaching as a secondary mission. Both hospitals have between 380 and 560 licensed beds.

Sample

For the purpose of this study, both convenience and purposive (Patton, 2002) sampling methods were used to recruit participants and were based on the two samples in this study: faculty and students.

Faculty Participants

Faculty participants were selected using convenience sampling and met the following inclusion criteria: 1) nursing faculty at the chosen school, 2) teaching an undergraduate clinical rotation during fall term 2012, and 3) clinical rotation set within an acute care setting (i.e., hospital). Eleven faculty members were identified as meeting these criteria. One faculty member was teaching at a hospital where additional IRB approval would be needed and would be the only faculty member teaching at that institution. That complication necessitated eliminating that faculty member; therefore, there were ten eligible participants.

All ten eligible participants were approached to participate in the study via email (see Appendix A.) After two email attempts, nine faculty members responded with interest in participating in the study. The investigator met with each of the nine individually and discussed the purpose and aims of the study, expectations, risks, benefits, and protection of human rights. Additionally, faculty were informed that their participation in the study would not affect their employment and could not be used as evidence during their employment review. Informed consent (See Appendix B) was obtained from all nine faculty who comprised the faculty sample. At the time of consent, faculty were also asked to complete a descriptive survey (see Appendix C). During the focus group, faculty were asked to participate in another short descriptive survey to provide more information about their teaching practices.

Finally, faculty participants were from one of two nursing programs within the school of nursing: a three-year undergraduate baccalaureate nursing program or a 15-month accelerated baccalaureate nursing program. Although faculty from both programs

were teaching in the hospital setting, they wre teaching different courses. Faculty from the three-year baccalaureate nursing program were teaching nursing in acute care I, while faculty form the accelerated baccalaureate nursing program were teaching the chronic illness course.

Characteristics of the Faculty Sample

Characteristics of the faculty sample were obtained through a survey (see Appendixes C and D) administered to faculty at the time of consent and another survey administered to faculty, with different questions, during the faculty focus group.

The faculty sample was composed primarily of white (*n*=9, 100%) females (*n*=8, 88.9%) between the ages of 51 and 55 (*n*=3, 33.3%) who had been at the institution for three to five years (*n*=4, 44.4%), were teaching in the accelerated baccalaureate program (*n*=6, 66.6%), worked full-time (*n*=8, 88.9%), and held a Master's degree in nursing (*n*=8, 88.9%) as described in Table 1. Finally, the majority (*n*=7, 77.7%) of faculty reported that they currently practiced as a nurse by responding yes to the survey question "Do you teach nursing exclusively?" The Oregon Nurse Practice Act (2011) recognizes that nurses practice in a variety of settings; therefore, the Oregon State Board of Nursing (OSBN) leaves it up to the individual nurse to define if the activities he or she carries out are indeed the practice of nursing.

Table 1

Characteristics of the Faculty Sample

Characteristic	Number (% of sample) *N*=9
Gender	
Female	8 (88.9%)
Male	1 (11.1%)
Age in years	
36 to 40	1 (11.1%)
41 to 45	1(11.1%)
46 to 50	1 (11.1%)
51 to 55	3 (33.3%)
56 to 60	2 (22.2%)
Declined to answer	1 (11.1%)
Employment	
Part-time	8 (88.9%)
Full-time	1 (11.1%)
Teaching at this school of nursing in years	
1 to 2	2 (22.2%)
3 to 5	4 (44.4%)
6 to 9	2 (22.2%)
More than 10 years	1 (11.1%)
Program/course in which faculty teach	
Innovative undergraduate three-year baccalaureate nursing program (nursing in acute II course)	3 (33.3%)
Accelerated baccalaureate (chronic illness course)	6 (66.6%)
Highest degree in a field other than nursing	
Bachelor's	4 (44.4%)
Master's	-
Doctorate	1 (11.1%)
No degree in a field other than nursing	4 (44.4%)
Highest degree in nursing	
Bachelor's	1 (11.1%)
Master's	8 (88.9%)
Doctorate	-
Currently practicing as a nurse	
Yes	1 (11.1%)
No	7(77.7%)
Declined to answer	1 (11.1%)

Teaching Experience & Current Teaching Practices

Information about faculty teaching experience and current teaching practices was obtained from surveys (appendix C and D) administered at the time of consent and during the faculty focus group.

Faculty reported they have been teaching clinical between three to five years (*n*=4, 44.4%) as described in Table 2. Interestingly, this question, different from the previously reported question which asked faculty how long they had been teaching at this school of nursing, showed more than half of the faculty's (*n*=5, 55.5%) teaching experience was exclusively at this school.

When asked to rank the top three ways they learned how to teach clinical, faculty reported they most commonly learned from personal experience followed by experiences with former teachers, and finally reading articles and/or books, corroborated in the literature (Cangelosi et al., 2009; Scanlan, 2001). Because many of the faculty participants had no formal training in teaching and had only taught at this school of nursing, they were asked how often they talked with others about their clinical teaching practice to better understand how they sought support for their role. The majority (*n*=5, 55.6%) reported talking "often" with others. When asked to identify those they most commonly talked with, faculty respondents identified faculty peers as the most common source of support (*n*=9, 100%), followed by senior faculty members and the program director. When asked to identify what they talked about, the most common response was students. Student topics included great or successful students, breakthroughs, managing students, student concerns or problems, or working with challenging students. Additional

topics of discussion included evaluation, developing reasoning, communication, learning activities, teaching strategies, and site concerns.

When asked about their current teaching practices, all faculty participants identified the hospital as their most common clinical teaching setting with an average of seven to eight students per clinical group. This is in alignment with the OSBN, which states in the Oregon Nurse Practice Act that in a clinical setting the faculty student ratio will be no more than one faculty to eight students (OSBN Nurse Practice Act, 2011). Although faculty reported they did not have more than eight students at a time in a clinical setting, the majority (*n*=5, 55.6%) did report additional responsibility for three to four students who were in their integrative practicum. In no instance was the integrative practicum student in the same clinical unit where the faculty was teaching the observed group of students as described in table 2.

Table 2.

Faculty Teaching Experience & Current Teaching Practice

Characteristic	Number (% of sample) *N*=9
Teaching clinical in years	
3 to 5	4 (44.4%)
6 to 9	2 (22.2%)
10 or more years	3 (33.3%)
Number of integrative practicum students responsible for in addition to clinical group	
3 to 4	3 (33.3%)
5 to 6	2 (22.3%)
Hours spent teaching clinical per week	
Less than 20	5 (55.5%)
21 to 30	2 (22.2%)
31 to 40	1 (11.1%)
41 to 50	-
51 to 60	1 (11.1%)

Student Participants

Once the clinical faculty members were recruited and had consented (see appendix A and E) to participate, faculty were asked to identify and share the names of their nursing students for fall term 2012.

Student participants were selected using a purposive sampling method and they met the following inclusion criteria: 1) a student at the school, 2) their clinical faculty member was a participating in this study, and 3) their clinical rotation was in an acute care setting (i.e., hospital). Based on these criteria, there were 70 possible student participants.

Students were approached by the investigator at a meeting already set up between the faculty and their clinical students in the first two weeks of fall term. At each visit

with the student clinical groups, the investigator described the purpose and aims of the study followed by a discussion of the expectations, risks, benefits, and protection of human rights. Additionally, students were informed that their participation would not affect their grade or standing in the program. Informed consent was obtained from 67 students; however, two clinical groups switched students half-way through the term, and although those students had consented, because of the switch and scheduling constraints, one group of students were never observed. Thus, one group of students was observed twice, each time with a different faculty member. The final sample comprised 59 students.

Student Characteristics

Characteristics of the student sample were obtained through a survey (see Appendixes F) administered to students after the first observation.

The entire student sample, including those not observed, was composed primarily of white (*n*=47, 79.7%) females (*n*=51, 86.4%) between the ages of 26 to 30 (*n*=22, 37.3%) enrolled in their second term of the accelerated baccalaureate nursing program (*n*=47, 79.7%.) Many were not currently employed (*n*=41, 69.5%) and held a bachelors' degree in a field other than nursing as described in table 3. When asked about their healthcare experience, most of the students (*n*=47, 79.7%) reported that their only experience had been as a student in the nursing program. When students were asked to identify how many hours they spent preparing for clinical each week, the majority indicated less than 20 hours per week (*n*=55, 93.2%.). Finally, just over half of the students (*n*=35, 59.3%) indicated they wanted to work in a hospital setting post-graduation.

Table 3

Student Characteristics

Characteristic	Number (% of sample) *N*=59
Race/Ethnicity	
Asian	7 (11.8%)
Black or African American	1 (1.7%)
Hispanic	1 (1.7%)
White (non-Hispanic)	47 (79.7%)
Declined to answer	3 (1.7%)
Gender	
Female	51 (86.4%)
Male	8 (13.6%)
Age in years	
21 to 25	16 (27.1%)
31 to 35	9 (15.3%)
36 to 40	4 (6.8%)
41 to 45	2 (3.4%)
46 to 50	4 (6.8%)
51 to 55	1 (1.7%)
Nursing Program/Course	
Junior students in an innovative undergraduate three-year baccalaureate nursing program (nursing in acute II course)	12 (20.3%)
Accelerated baccalaureate (chronic illness course)	47 (79.7%)
Employment	
Part-time	15 (25.4%)
Full-time	3 (5.1%)
Not employed	41 (69.5%)
Highest degree held	
Associate's	2 (3.4%)
Bachelor's	47 (79.7%)
Master's	9 (15.3%)
Declined to answer	1 (1.7%)
Healthcare experience	
As a student	47 (79.7%)
Certified nursing assistant	8 (13.6%)
Other (students not asked to defined)	4 (6.8%)
Average number of hours preparing for clinical a week	

Less than 20	55 (93.2%)
21 to 30	2 (3.4%)
31 to 40	2 (3.4%)
Clinical setting they hope to work in after graduation	
Community health	6 (10.2%)
Home health	2 (3.4%)
Hospital	35 (59.3%)
Outpatient/physician's office	2 (3.4%)
Undecided	8 (13.6%)
Other (not asked to define)	6 (10.2%)

Procedures

Data Collection

Data for this study were collected in three key ways: faculty-student observations in the clinical setting, faculty post-observation debriefings with those clinical faculty participants who were observed in the clinical setting, and a faculty focus group.

Faculty-student observations. The goal of the observations was to provide meaningful data about the characteristics of the participants and the nature of their interactions. Although there can be varying degrees of prolonged engagement, it is important for all investigators to have a balanced perspective between the etic and the emic, work to remain unobtrusive, and provide descriptions that incorporate both seen and unseen data Taking notes during observations was crucial, as Patton (2002) pointed out: one must not rely on memory alone to remember details from every observational experience.

Observations provided a number of strengths to the study: a better understanding of the context of people and participants and their interactions, firsthand experience providing the opportunity for the investigator to be open and inductive, discovering tacit

behaviors, learning about topics not mentioned during the interview, looking beyond those perceptions provided by others, and drawing on personal knowledge and experience during data analysis (Patton, 2002). Some of the disadvantages included, but are not limited to: becoming a skilled observer, separating significant and trivial details, and causing others to feel self-conscious so that they might not have acted as they would if they were not being observed (Patton, 2002).

Prior to any observations, students were provided written informed consent forms (Appendix E) and asked to participate in a demographic survey (Appendix F.)

Observations were based on clinical faculty's individual practices in the clinical environment in the hospital setting. It was the goal of this study to observe each faculty participant twice at different times during their clinical teaching experience. This served two key purposes: to observe participants' interactions with students and capture common practices and to increase engagement in hopes of decreasing the burden of the investigator's presence as an observer. Notes were taken by the investigator during the observation to document all interactions (see Appendix G). In addition to taking notes, each clinical observation concluded with the investigator writing a memo about the experience that included the investigator's observations, a description of the faculty/student interactions, the investigator's feelings during the observation, and any other pertinent information to detail the observation in its entirety. Notes taken during the experience were not transcribed; however, both the notes and observational memos served as guides for the post-observational debriefing interviews that all observed clinical faculty participants participated in.

Faculty post-observational debriefs. Faculty post-observational debriefings differed from focus groups in two key ways: First, the flow of information through discussion was reduced to two people, the interviewee and interviewer. Second, the quality of information was largely dependent on the skills and knowledge of the investigator; therefore, it was imperative the investigator be prepared for the debrief (Patton, 2002). In addition to audio-recording the debrief, the investigator took notes to both document the conversation as it occurred should the recording device fail and to ask probing questions as they arose (Patton, 2002).

There were both advantages and disadvantages to conducting faculty post-observational debriefs. Some of the advantages included the opportunity for flexibility, spontaneity, and responsiveness to the individual differences in the interview as well as a more personal setting allowing participants to share things they might not have felt comfortable sharing in a focus group. Some of the disadvantages included a greater susceptibility to interview effects because the interviewer was often leading the questions and had the danger of being more biased (Patton, 2002).

All observed clinical faculty participated in two faculty post-observational debriefs and lasted about an hour. Most commonly, the debriefs were conducted immediately after the observation to help preserve recollection of the events that had transpired over the course of the observation. The goal of the faculty post-observational debriefs was to ask specific questions about the practices that were observed during the clinical observation experience. The documented reports from the observation experiences served as a template in identifying faculty post-observational debrief questions and helped to uncover tacit knowledge about faculty-student interactions and

how faculty taught for the development of clinical reasoning in the clinical setting. Therefore, much of the faculty post-observational debrief guide was developed over the course of the observation; however, there were a few basic questions that served to gain a general understanding of the clinical day (see Appendix H.) The faculty post-observational debriefs were audio-recorded and the investigator took notes to ensure all discussion themes were accurately recorded. The audio recordings were transcribed by a transcription service and checked for accuracy against the original recording.

Faculty focus group. Faculty participants were selected for the focus group based on the sampling plan as described above. All faculty participants were emailed the week prior to the focus group and asked to think about their interactions with students in the clinical setting and how these interactions facilitated clinical reasoning. This premeditated question asked the participants to reflect on their teaching practices to prompt them to prepare for the interview and to increase articulation about these practices. The investigator chose to conduct the focus group after all faculty-student observations, faculty post-observational debriefs, and analysis were conducted for two reasons. First, this was a ripe opportunity to conduct member checking with the faculty participants. Questions were brought forth to faculty based on the findings from the faculty-student observations and faculty post-observational debriefs. Second, the faculty focus group setting allowed participants to interact with other participants and make additional comments based on what they heard the others say (Morgan, 1997; Patton, 2002).

All faculty participants were present for the faculty focus group. The group lasted two hours and was held in a room at the school of nursing at a time identified as desirable

for the faculty participants. As the focus group commenced, an interview guide containing open-ended questions was used to provide structure and ensure a focused comprehensive data collection based on the aims of this study (Morgan, 1997; Patton, 2002; see Appendix I). The interview was audio recorded and notes taken during the focus group to ensure major themes and ideas were documented. A member of the dissertation committee helped to take notes and in two instances helped to facilitate the conversation by asking deeper questions of the faculty. The audiotape of the focus group was transcribed by the investigator and verified against the original recording for accuracy.

There were a number of advantages and disadvantages to conducting a focus group for qualitative inquiry. Some of the advantages included cost-effective data collection, enhanced data quality related to group interactions, shared views or diversity among participants,, and enjoyable for participates (Patton, 2002). The disadvantages of conducting a focus group were a restricted number of questions, decreased responses in order to hear from the entire group, group facilitation and management, decreased minority perspectives due to risk of negative reactions, decreased confidentiality, and decreased micro-analysis ability (Morgan, 1997; Patton, 2002).

Data Analysis and Methodological Rigor

Data Analysis

As previously stated, data from this study were collected in three key ways: faculty-student clinical observations, faculty post-observational debriefings, and a faculty focus group. The investigator transcribed both the faculty-student observation and the faculty focus group; however, the faculty post-observational debriefs were transcribed by

a transcription service. All final transcriptions were reviewed alongside the original audio recording to ensure accuracy.

All transcribed data in this study were analyzed using inductive thematic analysis (Hsieh & Shannon, 2005; Patton, 2002, Saldana, 2013) in Dedoose software (2011). The goal of inductive thematic analysis is to make sense of "core consistencies and meaning" (Patton, 2002, p. 453) as they emerge from the transcribed data in a way that retains the spirit of both the interviews and observations (Patton, 2002). Once patterns, themes, and categories were identified, data were analyzed by the investigator and dissertation committee to ensure the authenticity of the findings by carefully examining data and looking for data that might not fit within the developed themes or categories (Hsieh & Shannon, 2005; Patton, 2002).

The Dedoose software served several key purposes in this analysis. First, the software allowed the investigator to bring all of the research data into one system so the investigator could visualize quotes both in the context of each interview or observation and also work through all data ensuring the most pertinent parts of the data were being captured. Finally, Dedoose is a web-based product that allowed the dissertation chair to review and comment on analysis in real time. Although the dissertation chair had access, the best way to communicate analysis involved exporting the documents with the codes attached and sending them to all dissertation committee members using secure and encrypted email. This allowed the committee to review the data both in the original transcribed form and as themes were created, providing a clear picture of the entire analysis process to help ensure methodological rigor.

Methodological Rigor

The goal of methodological rigor is to ensure both the "credibility and legitimacy" (Patton, 2002, p. 545) of the research findings to ensure they are trustworthy. Although several different sets of methodological criteria exist in the qualitative paradigm, this study used the methodological rigor criteria as described by Lincoln and Guba (1985), which include credibility, dependability, confirmability, and transferability. This set of criteria was chosen for two key reasons. First, the criteria of Lincoln and Guba (1985) complements the qualitative descriptive methodology chosen for this study by ensuring that the findings remain both data near and close to the meanings provided by the study participants (Sandelowski, 2001, 2010). Second, the Lincoln and Guba (1985) criteria are a seminal work (Morse, Barrett, Mayan, Olson, & Spiers, 2002) and therefore, they are widely used in the qualitative research community.

Credibility. Credibility focuses on examining the results to ensure they are believable or credible confirming that the investigator represents the social reality of the participants and the meanings participants give to their experiences. Study results are considered more credible when they include triangulation, peer debriefing, negative case analysis, and member checks (Lincoln & Guba, 1985), all of which were included in this study.

There are four key types of triangulation: methods triangulation, triangulation of sources, analyst triangulation, and theory and perspective triangulation to facilitate credible findings (Patton, 2002). Data from multiple methods of collection—survey, faculty-students observations, faculty post-observational debriefs, and the faculty focus group—were reviewed to ensure triangulation of methods. Additionally, information was crosschecked among data collected at different times and from different sources

confirming triangulation of sources. Triangulation of the analysts was used during bi-weekly dissertation meetings at which time committee members shared their themes and perspectives about the data assigned for review. Finally, negative case analysis was used to confirm emerging patterns and facilitate refinement. Negative case analysis played an essential role in crafting questions for the focus group and served as an important tool when triangulating sources, elucidating discrepancies between what was being observed and what was being said in the post-observational debriefs.

Peer debriefing occurred during the bi-weekly dissertation meetings with committee members and served as an imperative part of the research process. Discussions helped to ensure that data analysis remained consistent with the methods, study aims, and data analysis technique. Additionally, discussions provided the opportunity to strategize about upcoming data collection events, such as the focus group, and offered the opportunity to gain insight and knowledge from expert committee members. Finally, discussions provided the opportunity to debrief about the research process.

Member checking was used during the focus group conducted with faculty participants. Participants were presented with some of the study findings and asked follow-up questions (Appendix I). This helped to further develop and expound findings from both the observations and post-observational debriefs.

Dependability. *Dependability* means the investigator was able to demonstrate that the findings were consistent and dependable through the use of acceptable analytic methods (Lincoln & Guba, 1985). Techniques that facilitate establishing dependability include an inquiry trail and a dense description of the methods used in the study. An inquiry trail is when an investigator not involved in the research process examines the data. This serves to evaluate both the accuracy as well as whether findings and conclusions are in fact supported by the data (Lincoln & Guba, 1985).

There are both strengths and weaknesses to conducting an inquiry trail. Strengths include the opportunity to assess the adequacy of the data and obtain critical feedback that may help strengthen the findings. Weaknesses are similar to those in member checking that again assume there is one fixed reality, or there may be disagreements between investigators about interpretations; therefore, inquiry audits should be used cautiously. Finally, it is important for the investigator to provide a dense description of the methods used in the study. If the study methods are articulated clearly and referenced appropriately, those reading the study will be more likely to find the study findings more dependable (Lincoln & Guba, 1985).

All of these techniques were incorporated into this study. The research committee served as the uninvolved researcher for the inquiry trail. Although the research committee was involved in the entire research process, they were not involved as closely as the investigator. Additionally, they had comprehensive knowledge of the purpose, aim, and proposed data collection techniques of the study, therefore making the committee the best source for an inquiry trail.

Confirmability. Confirmability occurs when the research findings appear to be shaped by both the study participants and study aims, and they are not a result of investigator bias. Techniques used to establish confirmability include audit trail, reflexivity, and triangulation (Lincoln & Guba, 1985).

Throughout the data collection and analysis process, an audit trail, field notes, and memoing were used to support confirmability of the findings. An audit trail was created using an Excel document and included documentation of the research process and data analysis decisions. Field notes and memoing were created in Dedoose and were linked to the data collection event and participant facilitating data analysis. As discussed above, triangulation was an essential part of data collection and data analysis, and in writing up the study findings.

Transferability. Transferability is the ability to demonstrate that research findings are applicable in other contexts (Lincoln & Guba, 1985). That is not to say the research findings are transferable in such a way that a research could repeat the study and come up with the same results; instead it means that the research findings are applicable in other settings and others are seeing some of the same patterns or themes. The technique used to establish transferability is thick description (Lincoln & Guba, 1985). Thick description is the detailed explanation of research findings that provides the links between data and analysis, thereby allowing the reader to see how the connections were made (Patton, 2002). This helps readers appreciate the description as well as help facilitates credibility, dependability, confirmability, and transferability of all findings in the study.

All of these techniques are incorporated into this study. Research findings were written using thick description and with the support of the dissertation committee, they

were used to meet the requirements of the dissertation process. The dissertation committee has reviewed the description of the research findings and helped to ensure comprehensive and logical findings.

Protection of Human Rights

This study was reviewed and approved by the institutional review board at Oregon Health & Science University (Appendix I.) Because observations were also conducted in another hospital, the IRB of the second facility also reviewed and approved the protocol.).

Informed consent was obtained from all clinical faculty participants before students were contacted. Consent allowed the investigator to observe faculty teaching in the clinical setting on agreed-upon days and times, and to conduct faculty post-observational debriefs with those faculty participants observed in the clinical setting. Finally, the informed consent allowed a faculty focus group so the investigator could better understand the data collected from faculty-student interactions and faculty post-observational debriefs The consent form described the expected risks and benefits for participating in the study, the methods and goals of the study, and the participants' right to withdraw from the study at any time.

Informed written consent was obtained from all students of the participating faculty before the clinical observation took place and only after the faculty member agreed to be part of the study and signed the consent form. Consent allowed the investigator to observe students interacting with faculty and to document conversations verbatim. The consent form described the expected risks and benefits of participating in the study, the methods and goals of the study, and the participant's right to withdraw

from the study at any time. Several students from clinical groups chose not to participate; therefore, no faculty interactions with those students or conversations with faculty were documented.

Confidentiality was protected in all participant cases. All data collected about participants were de-identified before committee members had access to the data; therefore, only the investigator had access to the participant list. All audiotapes, transcripts, and data files were locked in a cabinet in the investigator's office on the OHSU campus. Data entered into the database used for qualitative data analysis were safely encrypted, backed up, and protected at all times using the highest industry standards (Dedoose, 2011,). Data entered into this system used only faculty participant letters and student participant numbers to ensure participant confidentiality, and only the investigator knew the real names of the participants for the purpose of follow-up interviews and member checks.

Because faculty participants were participating in the focus group, they were reminded that they were bound by confidentiality when they signed the informed consent ensuring that all material discussed during the interviews and group interview remained confidential. Furthermore, participants were guaranteed that their participation would not jeopardize their employment and none of the audiotapes or transcripts would be shared with anyone in their employing institution who was not on the research team. Finally, there was no identifying patient information documented during these clinical observations and no direct contact between the patient and the investigator of this study. If faculty and students went into a patient room during an interaction, the investigator did not follow.

Possible participant risks for participation in this study included feeling negative or embarrassing emotions as they shared their practice with other participants in the focus group and during one-on-one interviews. These risks were clearly stated in the consent form with the understanding that participants could withdraw from the interview and study at any time without repercussion or loss of compensation.

Investigator Experience

As previously stated, the investigator was a doctoral candidate at the school of nursing in question. Three key experiences as a student helped strengthen this research study. First, two years of PhD courses focusing in both qualitative and quantitative research provided a strong foundation for comprehending the research and the research process. Second, working with internationally renowned faculty who study nursing clinical education provided the investigator with in-depth experience in cutting-edge nursing clinical education research. Finally, the investigator has had the opportunity to work as a research assistant in evaluation science within the school of nursing, which has provided experiences in conducting focus groups, analyzing and disseminating quantitative and qualitative research findings both within the school and for publication, and conducting statewide evaluations. Collectively, these experiences provided in-depth learning experiences about research, research methods, analyzing data, and disseminating findings, all of which helped facilitate this study.

CHAPTER IV

RESULTS

The purposes of this study were to describe the interactions between clinical faculty and undergraduate nursing students in a clinical setting and describe how clinical faculty teach for the development of clinical reasoning in undergraduate nursing students in that setting. Three data collection methods provided different perspectives on faculty student interactions: direct observations of faculty and students, post-observational debriefings with faculty, and a focus group with faculty to reflect on and explore more deeply the preliminary findings from the observations and debriefs.

Data from these methods of collection were analyzed as described in Chapter III. Themes are presented here that represent data collected across all participants and all three of the primary data collection methods; excerpts from observations and interviews are used to provide evidence for and illustrate the identified themes. This chapter will begin with a description of the background for faculty-student interactions followed by a discussion of the phases of the clinical day and a summary of the results.

Background for Faculty-Student Interactions

Five factors in the clinical teaching environment shaped relationships among faculty, students, and nurses and the interactions between faculty and students: 1) the structure of the clinical experience, which focused on providing total patient care, 2) the faculty member knowing the student, 3) student expectations, 4) the nurses the student worked with, and 5) the progression of the clinical day. These factors collectively here

are termed *background* because they are not the focus of the interaction but they influenced the content of the interactions and the types of questions faculty members asked of the students.

All faculty participants used a traditional total patient care clinical educational model. Students were assigned to one patient and expected to provide total care by working with their assigned nurse. Total patient care included completing a health assessment, identifying priority care needs, doing basic hygienic care, administering medications and treatments, and addressing other care needs as demonstrated in this faculty post-observational debrief quote:

> **Investigator (I):** *Tell me about how the rest of the clinical day went.*
>
> **Faculty member (F)**:- *It actually went very well, and that would be defined as patients got their medications, vital signs outside the parameter were noted, patients had assistance by the student ambulating, and just those other things that I think are really important in patient care but maybe not the student's highlights. In other words, some hygiene things, and things just as important like ambulation, particularly for post-op clients. They might think, oh, medications are all that it is, particularly IV's so I'm really pleased that things got done more in a holistic or total-patient care manner.*

This quote captures the emphasis that all faculty placed on assuring that the required patient care was completed safely and in a timely manner. Although faculty also considered students learning needs, most of the initial and ongoing interactions with students centered on the completion of patient care tasks. It is important to note- all observations were in the acute care environment. Students were working with acutely ill

patients who had complex care needs. Faculty were rightly concerned about patient safety and faculty saw it as a moral obligation to assure patient safety.

Another factor that shaped faculty-student interactions was faculty knowing their students. Although there were differences in the degree to which the faculty emphasized this, generally faculty described knowing students in four different ways: knowing students as a group, how much of the nursing curriculum the students had completed, knowing the strengths and weakness of individual students, and knowing the students' emotional status.

For all students, whether they were in the traditional or accelerated baccalaureate program, this was their first term in the acute care clinical setting. Faculty reported that this informed how the faculty member interacted with students as a group:

> **F:** *So much depends on where they're at in their course of study. Like when we take sophomores in the baccalaureate program into that acute care setting for the first time, my questions may have a different purpose or meaning than when they are a junior in Acute 2. So really taking not only the individual student where they are at, but where they are at in their course of study as well.*

Here faculty described that knowing the student's progression in the curriculum was a key element to the purpose of their questions. That purpose differed as students developed both individually and over the course of their program.

Faculty indicated that their interactions were based on what they expected students to be able to manage, by virtue of their length in the program, degree of experience in the particular setting, and the time in the academic quarter. Their expectations were more limited at the beginning of the quarter, the student's first in an

acute care setting, and hence their interactions tended toward more directive instructions about what tasks were to be completed. By the end of the quarter, the faculty's expectations were higher and interactions were characterized by more discussion and less direction.

Faculty also described knowing the strengths and weaknesses of both the group and of individual students. They were asked during the faculty-post observational debrief to describe the strengths and weaknesses of their clinical group. In nearly all cases, faculty named students whom they identified as strong or those whom they needed to follow more closely. The statement below from a faculty-student observation illustrates a faculty participant identifying a strong student:

> F: *17's patient went home yesterday. 17 is a strong student so today I decided to give 17 a post-op heart [patient]…17 needs to take the time to look it up though. Some might not, but 17 will.*

Here the faculty member indicated that the particular student is up to the challenge of a more complex patient but also needed to be encouraged to take the time to get more information. In contrast, here is an observation shared during a faculty debrief, describing a student the faculty member is concerned about.

> **I:** *You said 20 is your biggest concern, and you listed a couple of things that you're concerned about. 20's communication, and I thought that was interesting, your description of it, but listening to 20 talk, that's exactly it. 20 talks like a textbook. But when I asked you if you thought 20 understood what 20 was saying, you said no. So what makes you think that?*
>
> **F:***Yeah, that was a gut [talking]*

I: *Because of the way 20 was talking was at a very high level?*

F:*Right. It's not…because I don't see 20 functioning at that level. So I think that it's a protective mechanism for 20. I think 20's trying really hard, and I think 20's hoping that it's all just gonna osmose in a little bit, but I don't know if you were there or maybe this happened later, but 20 and I had this conversation and 20 kind of rattled all of this stuff off and I looked at 20 and I said, "Tell me what that means." And in some way 20 could then give me some specifics, but it was like, honestly, I didn't know what 20 meant when she was talking like that. So yeah, I'm not confident that 20 always really knows what 20's saying.*

Here the faculty member identified a student whose communication and actions are incongruent. The faculty member is concerned with how much the student understands and therefore will continue to watch this student closely.

Finally, faculty also developed a sense of the student's emotional status and related factors that might interfere with patient care. For example, one faculty member decided to not assign a student to care for a patient with cancer because the student's father had recently died with cancer. The faculty described how they identified students who were anxious or easily overwhelmed as shared in this faculty post-observational debrief:

F: *And I have another student that…I intentionally connect with this student more, because she strikes me as someone who is kind of a little bit overwhelmed and not sure what to do, and isn't as much of a self-starter as the others. So that one I also try to connect with more, and I have one that I feel like tends to get overwhelmed, and then we refocus and she's off and moving. So I guess I've tried*

to read them a little bit and figure out where they're at, and based on that, try to address those things."

This relational stance is further exemplified by this statement from a discussion between the faculty member and the investigator:

F: *Familiarity is my goal. I can't do anything until they are familiar. They are learning anyway but they have to lower their anxiety level first.*

Later in the day. F: *I can see these students' anxiety coming down. Next week will be a really good week. The more you increase familiarity, the more you can increase learning…exponentially increase their learning.*

These statements reveal the importance that faculty place on assessing each student's emotional status and the awareness of how that emotional well-being affects the student's thinking, learning, and performance throughout the clinical experience. It is important to note, all faculty-student observations revealed the relationships between the faculty and students were positive. It is likely that the positive interactions contributed to the emotional well-being of students and helped mediate some of the stressors that come from being in the acute care clinical environment.

Faculty-student interactions were also shaped by expectations, both those held by the students and by the faculty. Faculty indicated that students have high expectations of themselves as revealed during this faculty debrief when a faculty member described a situation with a student who was holding a stool specimen in a container with no gloves and asking what to do with it. The faculty member suggested the student wear gloves and the student became visibly upset.

F: *"Are you okay?" [I asked.] That was it, it was just a waterfall. Then of course the nurse walked up at that moment and she was like, "Oh my god, are you okay?" And [the student's] explanation was, "I just have such high expectations of myself that I can't do anything wrong." And I said to her, "It's not necessarily that it was wrong, and that isn't what crossed my mind either," because I always try to think, Did anyone show them? Do they have the information? Where are they at in the process?*

Here the faculty member was describing a student who was devastated by the possibility of making a mistake; however, the faculty member saw it differently. Instead of seeing it as a mistake, the faculty member saw it as a lack of information and relevant to where the student was in the learning process and program.

Faculty described the importance for students to understand the faculty's expectations of them as demonstrated by this statement where a faculty member describes what he or she expects of students during their pre-clinical preparation.

F: .... *I'm not expecting…They need to know what the meds are and that kind of thing, but they're not managing IV fluids, they're not managing some of the more complex things that are going on with the patient. I want them to go get fluid balance. They're not looking in depth to what's going on and they're spacing. They're just at such an earlier level that I guess I kind of, I like to scaffold and build and kind of build them up, because otherwise I think it's a little overwhelming.*

Here the faculty member identified that he or she expects students to be prepared by knowing their medications and understanding basic concepts, but because of where the students are in the program, they are not expected to understand the complete complexity of the patient.

Faculty-student interactions were also shaped by the presence of the nurse students were working with during their clinical experience. Faculty saw the nurses as an integral part of student development. As one faculty member said during a debrief "I can't be everywhere all the time." Faculty therefore relied on the nurses on the unit to help.

> **F:** *…The nurses, they share things with them. They want to take the time and go through things and explain why they're doing what they're doing. Maybe they've had extra training doing that, or maybe they're just like, "I'm really excited about your learning," and it makes it positive and then the students see nursing as positive, and these nurses are their role models for being nurses in the future, so I think it's really important. This is part of our profession- that we help those who are learning. It's not something you can just learn from the outside.*

Relationships with nurses helped support student learning and facilitated students' understanding of what it means to be a nurse from an emic perspective.

Students working with nurses who both liked working with students and liked to teach provided the faculty with reassurance that the students' learning needs were being met when faculty were unable to be present.

F: *And most of the nurses on the unit are really very good teachers themselves, and they will really question the students and say, "Well, why would you give this?" and "What do you need to watch for?" and I've overheard that enough that I guess it takes away some of that anxiety that I have or that, whatever, that I know they're not with me every minute. But I really try to be with them as much as I can.*

However, faculty noted that not all nurses liked working with students or provided the same learning support.

> **F:** *Because that one nurse, whom I worked with, my very first year, she was acting more like a CNA than a nurse, and she wasn't talking through her process, and she really didn't want a student, and the student felt horrible. It was a really wretched experience for the student…I would spend most of my time with that student and the patient. And I've done that before, last year, when the nurse said, "I just don't want to take students." I said, "I'm really sorry, I don't know what to do about that. One solution is that I can take the student and the student and I can work with the patient, and we will go ahead and give the medications. We're at the medication stage. We'll start that next week." So we did everything for that patient, and it was a positive experience. And the nurse sort of settled down a little bit and realized, "This is not so bad." But I did most of the teaching with the student, and it took away from other students on the floor, but for that day it was really important that the student have a positive experience and not feel that tension from the nurse.*

Finally, faculty-student interactions were shaped by the progression of the clinical day. Although there was variation among faculty, in general all nine-faculty participants had a similar progression of the clinical day. Once students arrived for their clinical day, faculty most commonly connected with students as a group to check in and to answer any questions, make a plan for the day, and in some cases quickly review written clinical preparations. Students then dispersed and met up with their assigned patient's nurse to participate in report. During this time, it was common for faculty to assist students in

finding their nurse. In all cases, report was conducted nurse to nurse, usually in the hallway outside of the patient room. Once faculty ensured that all students were with their assigned patient's nurse and getting report, they typically took time to review the student's written clinical preparation. In no instance did the faculty leave the clinical unit; instead they made sure they were in a place where they were available or visible to students.

After report was complete, faculty started making rounds intentionally looking for students. In many cases they were looking for specific students, students about whom they had concerns or had had limited contact with the previous clinical day. When the faculty member found the student, he or she approached the student and started asking questions. Faculty were equally approached by students who most commonly requested faculty support and guidance in skills and tasks related to their patient. This pattern continued throughout the clinical day while on the clinical unit.

At the end of the clinical day, faculty convened students for a clinical post-conference. The conference, conducted either at the hospital where the clinical took place or at the school of nursing, lasted 1-2 hours. In all cases, each student delivered a case presentation talking about his or her patient and clinical day and sharing his or her experiences with the rest of the clinical group. Some clinical post-conferences consisted only of students sharing about their clinical day; however, some clinical groups also had a guest speaker, practiced skills, examined a case study, or had assigned more formal student presentations. At the conclusion of the post-clinical conference, faculty remained available for students until all individual and group questions were answered.

The Clinical Experience

Data collection revealed faculty-student interactions were different throughout the clinical day and occurred in three phases: pre-clinical preparation, engaging in clinical care, and post-conference.

Pre-Clinical Preparation

Although pre-clinical preparation was not included in the faculty-student observations for this study, the topic was continually raised throughout data collection. These discussions demonstrated that pre-clinical preparation was an important part of clinical learning and helped to prepare students for providing patient care.

> **F:** *So they start their prep work and meds, etc. Compose the story so they get a sense of which doors of inquiry are really kind of open to them and then…They start gathering the data and taking the data back up to "here are the problems"…we can kind of prompt them and have them start thinking about some of the questions and keep them safe. Raise new things they aren't even aware of because a lot of it is awareness raising and then earlier on when they are starting to build a mental framework.*

Here the faculty identified how clinical preparation helps to prepare students for engaging in clinical care by challenging them to think deeply about their assigned patients and their care needs, which the faculty member suggests ultimately helps to support safety.

Pre-clinical preparation was composed of two main events: clinical patient assignments, and written clinical preparation.

Clinical patient assignments. Eight of the nine faculty made clinical assignments the day before the clinical experience. The selection of patients for students' clinical experience was a complex iterative process considering four major factors: (1) patient availability and likelihood of not being discharged prior to the clinical day; (2) patient care requirements, determined by consulting with nurses; (3) student learning needs and capabilities; and (4) the qualities of the nurse assigned to care for the particular patient and therefore working with the student.

To begin the process, faculty obtained a list of patients on the unit either from the computer or from the charge nurse, and they reviewed each patient's medical history. Faculty chose patients whose care needs were within the scope of what a student could safely provide:

> **F:** *I went through every patient on the unit, and then I made notes if they were being discharged, if they seemed like they wouldn't be. I want to avoid putting students with somebody who is on hospice, unless a charge nurse says, "I think this would be a good thing," because I think it can be really awkward and it's that families are sometimes not comfortable with it, and generally the charge nurse knows if they are not. And then ones who were in for something where they had no chronic illness, I was like, "I don't want students with those.*

Here the faculty member describes the process of reviewing every patient chart on the unit to identify which patients would be best suited for students and opportunities that would provide the best clinical experiences. However, the faculty also identified they needed input from the charge nurse before finalizing their decisions. Faculty typically

consulted with the charge nurse or nurses who knew the patients and understood both their complexity and care needs.

> **F:** *So I made a long list of ones that I was good with students getting, and then I talked to the charge nurse who was like…. "Oh, this is a really good patient."*

Faculty also commonly reported considering student learning needs, their abilities, and their clinical experiences to date. This helped to ensure that the particular student would gain new experiences and also have the basic capabilities for safe patient care.

> **F:** *…Yeah. So like Participant 17, I put 17 in spots that I thought would give me a chance to see what 17 could do. When I first became concerned about 17's communication, then I put 17 in a spot the next time to see that again. It's like, "Okay, I want to see, was that just a bad day," and then when I was reassured that 17 could do it, even though it's not 17's strength, then it was like "Okay." So I actually ended up giving 17 yesterday what was a great combo because I figured 17 was going to have to do some communication but I also gave 17 the stuff that she likes to do.*

In this situation the faculty member made a patient assignment based on which student struggled with communication. The assignment challenged the student's communication abilities but also built on his or her strengths. The assignment provided the faculty member with the opportunity to assess the student and ultimately reassured the faculty member about the student's abilities.

Finally, faculty indicated that when making patient assignments, they considered the qualities of the nurse who would work most closely with the student as a way to

further enhance the student's clinical experience, including the nurse's willingness to work with students and be a good role model as well as his or her teaching abilities and general clinical expertise. Here a faculty member considered all four factors when making clinical patient assignments for her students.

> **F:** *I can go in and I'll look up on the schedule [as to] which nurses are going to be here the next day. Then I'll work with the charge nurses the day before we come in in selecting patients not just based on what the patients' issues are for learning, but who the nurses the next day are going to be so that I can actually focus much more on the nurse preceptor that is going to be there than the patient assignment because they are going to see all kinds of random things in patients. But my first focus is who's the staff tomorrow, who are our strongest teachers and preceptors in multiple domains, not just the practice stuff [but] like the affective stuff and the ethical pieces and the engagement of the student.*

Although most faculty made their clinical assignments the day before the clinical experience, in two instances something else occurred. First, although one faculty member chose the patients the night before, she let students come an hour before their clinical day started to review and prepare for their clinical assignment. In the second exception, the faculty member chose the patient assignments the morning of the clinical experience and gave them to the students as they came onto the their unit at the start of the clinical day. In both of these cases, the faculty made themselves available to students in person to answer any questions.

Once patients were selected, faculty then communicated the patient assignments with the students either by email or a note left at the nurses' station of their assigned

clinical unit. Email was the most common form of communicating clinical patients assignments with students with an encrypted, secure email containing information about their patient assignment for the following clinical day. The information ranged from a short description of the patient to a lengthy email covering the patient's entire admission history. Faculty also indicated that they checked email regularly to answer any questions students might have about their patient or the assignment.

Those faculty who did not use email to communicate clinical patient assignments with students commonly left a note at the nurses' station containing only the patient's initials, room number, and the name of the assigned student. Although the amount of information varied, in all cases the faculty expected the students to find the necessary patient information through the patient's chart and through the use of external resources such as course materials and the library.

Nearly all faculty reviewed patient assignments on the clinical day, prior to students' arrival on the unit, assuring that the assigned patients were still available and had not had significant changes in their status overnight. In only three instances was it necessary for faculty to change the patient assignment. In those cases, faculty gave students additional time to prepare for the care they would give.

Written clinical preparation. Once clinical patient assignments were made and communicated with students, both faculty and students began completing their writing clinical preparation. However, written clinical preparation was different for faculty and students.

Faculty typically created their own form, with relevant information about each patient assigned to the students. Most commonly spent "several hours" (one faculty

indicated spending 12 hours) the night before the clinical experience reading through patients' electronic charts and writing down information they felt they needed to know about each student's assigned clinical patient.

> **F:** *I know all the meds, I know the times they're to be given, I know the procedures, I know the history, I know all the tests, the diagnosis, I know, "Are they on I&O?" and "When are you putting oxygen on, SCDs, Lovenox, whatever. I know their tube feedings, I know everything, pretty much, about the patient, so I can have a conversation with them. That usually takes me a couple of hours to prep on six patients. The only break I got this week was, I had two before, so I could just update, I didn't have to do the whole history.*

This degree of preparation was unusual, but faculty typically felt the need to create some notation about the care each patient needed, in order to track that that care was completed.

All faculty required students to do some written preparation for clinical, although the extent of the preparation varied substantially among the faculty. Students were required to complete a patient information form used to guide them in collecting information they would need to prepare for providing patient care. Most faculty members expected that students would obtain patient information from electronic records and use textbooks or other resources to look up information to explain the diagnosis and draw linkages between the patient's diagnosis and treatments. Some faculty required students to identify learning goals for each clinical day; however, this was completed only by those students who had a clinical experience at a particular hospital as it is an

institutional policy there and was used to facilitate communication between the students and their nurse about what the student was expected and qualified to do.

Most faculty participants indicated that the written clinical preparation was an "organizational tool" that "helped students to answer the pressing questions," facilitate "prioritization," "identify what's salient," "force interpretation of the data," and "enable reflection." One faculty member shared this about how students report written clinical preparation informs the clinical day:

> **F:** *And I have students that tell me "You're right. That prep piece makes a really big different on how much I learned and how well I feel about my day."*

However, others offered a different opinion about the written clinical preparation, viewing the particular format as "repetitive" or "cumbersome."

> **F:** *It's sort of like if you're teaching someone to start the car. Put the keys in, put your seatbelt on, start the car, put it in first gear. And then the next week you're like okay put the keys in, put your seatbelt on, start the car and put it in first gear. You're like I already learned that last week; now I want to learn about—I want to keep advancing them forward…. I don't know about other clinical groups but I do want them to be ready to work in the morning and I don't want them to be up until 3 o'clock in the morning doing clinical preparation because under the whole medical model you just have to be tough. I want them to be well rested. I want them to be well fed and I want them to be ready to work. I don't want them to be catching colds or whatever. I want them to be as safe as possible. It's the same kinds of things I would use when I go to be a nurse in the morning—well rested and one student I think it really turned her around to have someone to have some*

organization, some calmness in her world so she can bring that into her clinical. It really changed her so I have them prep on—they have to know their meds ahead of time. I give them time to know that.

Others also questioned the usefulness of written clinical preparation.

F: *I don't have a mindset around it yet but I have a lot of questions around it. I think it's confusing to students. I think it might be a disproportionate time to benefit. I don't know what I think about it is where I'm at. I see different tools that people use. I don't know that any one tool would work for every person. That's all I can say.*

Engaging in Clinical Care

Engaging in clinical care was the heart of the clinical day. During this phase, faculty and students worked together, with the nurses, to provide total patient care as the primary way for students to learn clinical nursing. Engaging in clinical care was composed of two main events: group check-in and one-on-one interactions with students guiding and supervising students in providing care.

Group check-in. In most cases the first verbal interactions between faculty and students occurred during the group check-in. The group check-in was held on the assigned clinical unit in either the staff locker room or conference room. Faculty-student observations and faculty post-observational debriefs indicated that this time was used for three purposes: student assessment, review of written clinical preparation or goals cards, and nurse assignment communication.

Generally, faculty started off the group check-in with an assessment of the students by commonly asking them "How are you," "Do you have any questions," and

"How is your stress level." Although this was not discussed at length during any of the faculty post-observational debriefs, the faculty-student observations revealed this was an important time for faculty to assess the students to see how they were doing physically and emotionally observation of a faculty member speaking to the group gathered in the meeting room.

F: *Where are you? How are you feeling?*

Students (as a group):*Overwhelmed...exhausted*.

F: *Okay. What can we get done today?*

Observations revealed it was a common practice among the faculty was to take the "emotional temperature" of the group, determining the general anxiety, fatigue, or overall feeling tone of the group prior to the start of the clinical day. Here the faculty participant is acknowledging that the students were hitting their limit. At that moment a current nurse, who is a former student from the same school of nursing as the student participants, walked into the student lounge where they were all gathered. The faculty member asked the nurse to share her experience with the students as support and this is what she said:

F: *You remember being a student. Tell them about your experience.*

Nurse: *This is the hardest part. But don't worry, everyone makes it.*

Although the faculty member was trying to find another way to support the students through this stressful time, the words of support from the nurse did not appear to reduce student feelings of anxiety or being overwhelmed.

Once faculty had assessed the students, over half of the faculty participants then asked students for their written clinical preparation. Although most faculty conducted

what appeared to be a cursory review of the written clinical paperwork with a few questions for students, faculty did use the written prep to guide their interactions with the students during the day. “If their prep is great, then I know that they're going in knowing the patient and knowing what their goals are.”

Faculty indicated that the review of the written clinical preparation provided key information about which students they wanted to connect with first that clinical day.

> **I:** *So I noticed that you went around to most people and you wanted to see that they had it [goal card], because that clearly is a requirement from you. You were particularly interested in Participant 17.*
>
> **F:** There [are] three spaces on a goal card and 17 had, like, 10 things. So 17 had it hand-written out and so 17 had a good handle on what 17 wanted to do, so it was kind of plan of care and goal card in there together. So most of the students had, "Do head to toe assessment" but 17 some really defined things as far as sub-categories and the like. "Administer enteral feeding, administer meds by enteral tube, flush NG tube," and that might have been under number one. So I spent a lot of time looking going, "Oh, oh, oh, oh!" (laughing).

In this example. many of the other students identified higher-level goals for their clinical experience; however this student identified a list of tasks. This was concerning for the faculty because the student was focused on the individual tasks and could be missing the opportunity to make linkages between the tasks and larger concepts needed to support the student’s learning and ensure patient safety.

Furthermore, several faculty indicated that if the students’ written clinical preparation was incomplete, they would send the students home, revealing the

importance those faculty placed on the written clinical preparation. Here a faculty member describes her reaction to the student showing up on the first day with incomplete written preparation:

> **I:** *So, you made mention that "Good thing today's the first day, because if this were a normal clinical day and you had a patient assignment, you'd be going home to get it." So tell me a little bit about that.*
>
> **F:** *So, the very first week, obviously I haven't assigned them a patient at all, so they're not really responsible for doing direct care for a specific person. They're really shadowing, rounding, getting engaged in tasks alongside the nurse rather than more independently. So it wasn't a huge issue, but I wanted the student to really be very clear that clinical is not the same as class. If you want to breeze in at the last minute to a didactic classroom setting and fill out a worksheet and turn it in at the last minute, well, fine. But here there are human elements to that, and preparation is not just a good idea, it is an expectation. So we actually had a further discussion about that as well in a one to one setting.*
>
> **I:** *And how did that go?*
>
> **F:** *It went fine. I just made it really clear that I do understand, in fact, that there is a lot to do right now, especially at this time in the term, and it is a huge term in the program. It's a very stressful, high-content-oriented term. But I did help her understand that from a prioritization perspective, anytime she's about to prepare to take care of another human being, that is going to be her first priority, period. And if she comes in, or any student comes in, and it is clear that there is little evidence that they have adequately prepared, I will not let them engage in clinical*

that day, because they're just not prepared for that. And they really need to have a sense of the weight, that this isn't an assignment when it's dealing with the health and life of another person. It goes way beyond that. So, usually one or two students in a term will kind of not do a great job with prep and I'll have to have a conversation kind of like that, so I don't think it was unexpected to have at least one person to talk to this week about what prep really means here and why. But I have sent students home for not being prepared before. And that sits on them, because it could affect their grade. They could not pass clinical if they have a pattern of behavior like that that emerges, and I have them reflect really deeply on the potential outcomes, and then we have a follow-up discussion.

At the conclusion of the group check-in, faculty communicated the nurse assignments with each student individually. In many of the cases, faculty described the nurse to the student to make it easier for the student to find the nurse, further indicating that the faculty know the nurses. Once students knew who their nurse was ,they went to the nursing unit to meet with their nurse and participate in report. Faculty then waited for students to complete report.

One-to-one interactions between faculty and students. Faculty-student observations revealed that when engaging in clinical care, interactions between faculty and students were equally initiated; however, the focus of the interaction was different depending on who initiated the interaction. It is important to note that the investigator did not observe any interactions that took place in the patient room or with a patient.

Student-initiated interactions were focused around students asking the faculty questions most commonly related to patient care. Specifically students were asking

faculty for assistance with medication administration, assessments, and other procedures that were part of their assigned patient's care. Because the focus of this study is faculty, the student-initiated interactions are not discussed here.

Once students had received report, faculty then started making rounds to check in with students. Faculty described looking first for students about whom they were concerned or with whom they had little contact during the prior clinical week, but they often would begin their interactions with the first student they encountered. Analysis revealed faculty interactions had two elements: questioning and coaching.

Questioning. Commonly, faculty initiated interactions with students using questioning; however, faculty reported their questions lacked two factors: intentionality and depth. Faculty shared their questions lacked intentionality. "I think there's often a lot of lack of intention that is known to us [when asking the students questions]." This was further exemplified in a faculty post-observational debrief.

> **I:** *I noticed you used questioning quite a bit in…and I saw you doing it today and in post-conference. Is it intentional for you? Do you have a schematic that you use for it or does it just come very organically?*
>
> **F:** *That's a good question. I don't know; I think you just keep asking why.*

These quotes reveal although faculty commonly use questioning with students they reported they often did not immediately recognize the intention of their questions.

Faculty also indicated that although they understand the hierarchy of questioning, they are challenged to use questions that get at deeper learning. "I still struggle, though, with asking questions that are—I guess asking the really pithy questions that stimulate students' learning. I feel like I still have work to do."

Although faculty self-identified that their questions often lacked explicit intention and depth, analysis of the faculty-student observations, faculty post-observational debriefs, and faculty focus group suggested implicit goals in their questions: (1) ensure patient safety, (2) ensure completion of tasks, (3) assess the need for supervision, and (4) provide anticipatory guidance. These categories represent both the content of the question and the implied intent of the faculty member in asking it.

The most common purpose for questions was to ensure patient safety, and faculty used a range of questions to confirm the patient's safety. They asked students questions about the assessment, lab results, charting, and knowledge about medications.

> **Faculty participant B:** *Well, I guess when I ask a question like "Did you get this number" I'm wanting to make sure they closed the loop and did what was being expected of them so that the patient and getting that number [blood glucose] I'm figuring out if they if it was 460 and they are "It was 460" and did nothing then I want to figure—I guess when I'm inpatient my students are really beginners so they don't have a lot of that judgment so I want to make sure they have followed up in the way they should have.*
>
> **Participant I:** *It's a safety concern.*
>
> **I:** *Talk more about that.*
>
> **Participant I**: *That's exactly what these guys said. If I'm asking them what the number is, I've already checked them off on the psychomotor task so that's always where we start. I accompany them to watch them do their psychomotor task so if I'm asking just what is the number; then it's more around patient safety. It's an example of what you said [pointing to participants F and B]. It's not just a*

number (laughing). There's interactions. Implied in that number is what do you do next. Clinical judgment, clinical reasoning and action.

Here faculty indicated that because these students are new to the hospital and early in their program, they want to assure that students have followed up on incoming lab results. Faculty also commonly asked questions about patient data, apparently assessing the patient's condition, and determining from the data if any follow up was needed as a way to ensure patient safety.

F: *I feel I have to know the vitals and the CBGs because there are just so many little innuendos like that that an experienced nurse knows and recognizes, but can really easily be missed and could have some pretty devastating consequences.*

Faculty also used questioning to ensure that all of the required tasks were completed. This included questions about the completion of procedures (e.g., CBG), laboratory values, medication administration, the patient's status, the student's assessment, and specific medications. The faculty-student observation below illustrates a faculty participant approaching a student inquiring about the completion of medication administration and a pain assessment.

F: *How's it going?*

S: *Just did assessment. My patient's nice.*

F: *Always good to make your day. Any meds due?*

S: *I'm reviewing meds right now.*

F: *How about pain?*

S: *4/10 but bearable.*

Here the faculty member used questioning to ensure that the student had reviewed the chart looking for any upcoming medications that might be due and was keeping up with tasks. Although the student reported having just completed an assessment of the patient, the faculty failed to question the student more deeply about the assessment finding or the pain level, missing an opportunity to further support and develop the student's learning.

Faculty also used questioning to assess the need for supervision. During the following observation, a panicked student approached the faculty member to tell her they needed to call the physician immediately:

S: *I just did an assessment and the physician told me to call if my patient's respiration rate was high. I don't know how to do that*.

F: *Have you called your nurse? You need to do that first. What is your patient's respiration rate?*

S: *24.*

F: *Well, that's a normal range. What are his sats [oxygen saturation]?*

S: *His sats are okay.*

Here, the faculty member uses questions to understand the patient's situation and assess the student's knowledge, thereby assessing the need for supervision. The faculty member helped the student to see that the patient's respiration rate was within the normal range. Once the two had established that the oxygen saturation level was normal, they went into the patient's room together to conduct a more thorough assessment resulting in administration of pain medication rather than a call to the physician.

Finally, faculty questions were used to provide anticipatory guidance. In anticipatory guidance, faculty used questions guide students' to think to where they need to be in future courses.

> **F:** *A lot of times our questions while the clinical learning environment is very situated learning and very specific to that day, that unit and that course— but we still all know where we need them to go into the future [courses]. Sometimes a lot of the things we do are in anticipation of not just about in the here and now but are we progressing them through. Are they going to be heading to a direction? Because we kind of know what's coming [in future courses] or where they're going [in future courses].*

Here a faculty member described using clinically situated questions to challenge students to think about the topic at hand while at the same time setting them up for future concepts and situations.

Coaching. Although faculty-initiated interactions commonly used questions, findings from the faculty focus group also revealed that faculty used another technique: coaching to guide students to draw on their existing knowledge and relate this knowledge to the particular clinical situation in an effort to support the development of clinical reasoning. Clinical reasoning, or the process used to make clinical judgments, is a complex iterative practice of noticing, interpreting, responding, and reflecting (Tanner, 2006.) Clinical reasoning was identified both when faculty used the specific language from Tanner's (2006) clinical judgment model, used as a framework in this curriculum, such as "effective noticing," or when they engaged students in a discussion about salient

aspects of a situation, identifying priorities for care, connecting their clinical knowledge, or promoting reflection.

Faculty described coaching students to support their development of clinical reasoning by helping them identify what was salient or important about the clinical situation.

> **F:** *Sometimes I'll choose a question because what it is that I'm asking is sending a message about what I think is important. And so whatever you pay attention to that's this message of you-should probably be paying attention to this as well.*

Coaching students to identify what is salient was also described during a debriefing when a faculty participant described reviewing a student's written clinical preparation where there was no plan of care around the patient's cast.

> **F:** *.I don't expect their [written clinical preparations] to be perfect, but I want them – So, like Participant 21 this week, 21 had a patient with a spica cast that hadn't gotten on 21's care plan, there was nothing related to his cast, either cast care or checking circulation or motor sensation, any of that. It just wasn't on 21's list. So that's the stuff that I wrote in the note. It was like, "What are the issues around the cast? What do you need to be thinking about?" so that then 21 knows, "Oh, I need to look this up. I need to figure this out," so I come back and check and I say, "Okay, now what are you going to do about the cast?"*

In this situation the faculty member coached the student, through notes on the written clinical preparation, by helping the student recognize important aspects of caring for a patient with a spica cast. The faculty member's notes coached the student to look up information about the spica cast and connect the information to the current patient.

Another way faculty supported the development of student clinical reasoning was by coaching to support the development of prioritization..

F: *One of my favorite questions to students about 9:30 in the morning is tell me how your plans have changed now that you've met your patient. What are your priorities now? So I'm—I usually want to hear—I'm doing some level of checking up on them. How is your patient doing? Have they followed up on anything that they should be following up on? And then the other one is usually to try to help them to come back to the bigger concepts, and not just get caught in the activities because that's such an easy trap. And to really look at their clinical judgment. Outcomes. I sometimes try to use those words with them…my goal is to try to make that a little more visible…that it really is that clinical judgment piece, and that even though she probably did it fairly unconsciously, to pull it apart a little bit.*

Here the faculty member was coaching students around larger concepts as a way to minimize a focus on tasks and make their clinical reasoning more visible.

In another example of coaching for the development of prioritization, a student was gathering medications for a teen patient.

F: *…. What are your nursing priorities today?*

S: *Make sure that the medications are given on time especially the respiratory medications.*

F: *Is on time a big deal?*

S: *She's got a weird schedule so she will sleep late. I guess not.*

F: *That's not uncommon.*

In this example, the faculty member coached the student by drawing on the student's knowledge and helping the student understand that the teen's sleep schedule might appropriately change medication administration times.

Another way faculty coached for the development of clinical reasoning was by facilitating deeper clinical thinking. Although much of the discussion about coaching for clinical reasoning occurred during the faculty post-observational debrief and faculty focus group, several exemplars of coaching for clinical reasoning were observed. For example, a student enthusiastically informed the faculty member that the student had just removed an IV catheter with the nurse. It is important to note that this was the student's first day of clinical for the term and the first clinical in an acute care setting.

F: *Tell me about the IV catheter.*

S: *It was harder than I thought it would be. It was on the hand. It didn't come off easy with the tegaderm. I've done phlebotomy before but this was different. It just felt awkward.*

F: *Let's back up. Tell me about your assessments.*

S:- *Worried about hurting her.*

F: *What [body]systems are involved in what you just did?*

S: *Vascular, pain, nervous.*

F: *Skin, vascular, pain. Anything else relevant?*

S: *No, not really.*

F: *So let's deconstruct this. You took the tape off and there was pain.*

S: *When I had everything in the middle, it was easy.*

F: *What did you notice about the catheter itself?*

S: *Simultaneously put the 2x2. I had to change the 2x2 because she bled out a little and then taped it.*

F: *Given this is the first time, was the catheter intact?"*

S: *Yes.*

F: *How do you know?*

S: *My nurse. It looked like it was.*

F: *What would it look like if it was?*

S: *I've seen one before so I had a good gauge of what it should look like.*

F: *So nothing obvious. What signs? They might feel something. Maybe not with bleeding. Think about anatomy and what else is going on.*

S: *Valves.*

F: *Yes. It could become occluded.*

S: *Yes. Become more edemitis.*

F: *Biggest concern-Tell me your thoughts on infection.*

S: *Right!*

F: *Veins are systemic. It might not be obvious to the patient. Looking back the reality and pre-thinking.*

S: I went into thinking it was no big thing, but after doing it and talking to you, it's a way bigger deal.

F: *Yes. There's a lot more. What if they were on anticoagulants? I know your nurse was with you and that you would be safe but I want to talk to you about the take home message.*

S: *I might think it is easy if I have a history with it but it might not be. I see there are lots of underlying issues.*

F: *Yes. This is a life lesson. Something you should take away is that you should remember this and what we talked about sometimes being an expert is knowing you're not an expert.*

Here the faculty member coached the student to understand, at a much deeper level, what it means to discontinue an IV and that although at first glance it seemed innocuous, there are risks to removing an IV, which were important for the student to understand. The faculty member was also helping the student understand some of the ground rules around what students were allowed to do without supervision.

During the faculty focus group, the same faculty member described her thinking behind the coaching for deeper thinking.

F: *Also at times to help them think a little bit deeper too. Like you know the serial questioning that maybe Participant F was talking about—where you actually have a sense that the knowledge they are trying to act upon is actually very shallow at the moment. Like "Oh I just took out my first IV" and you're like "well we didn't really talk about that" so let's figure out something more with that (laughing). "How did you know it was safe to take that out?" "Well, because the nurse said so." "Oh" and then it leads you to a place of "Well tell me what was your assessment before you took it out? What was your assessment when you took it out? How do you know all of the catheter came out? What would happen if something went wrong and what would that look like?" It's a way of serially taking them deeper and deeper until they realize "oh no I should not have done*

that!" "Maybe at a certain point soon you'll be able to do that but right now you're right.[you shouldn't have done that" So it kind of does help them to go broad and go deep at times so they can see the peaks and valleys and start to experience their environment not only 360 degrees but also in 3 dimensions so they can engage more effectively.

In this situation the faculty described the intentional coaching used during the faculty-student observation of the student removing the IV. The faculty describes drawing on the student's knowledge to help them identify the salient aspects of the clinical scenario by deepening the student's clinical reasoning around what it means to remove an IV.

Finally, faculty described coaching students in clinical reasoning through the promotion of reflection, both in-action and on-action, as revealed in the following description of the importance of reflection:

F: *Here we provide them with all this discrete and what Participant I was talking about parallel knowledge pieces and then we don't say go home for a few weeks and pretend to take care of patients and then come back when you're ready. We don't get that opportunity so the clinical learning environment is a live everyday setting and the nature of learning to be a nurse means that they will learn about performance while they are performing so that critical piece of reflecting in action absolutely has to be dialed in by the faculty and colleagues we teach with—the staff nurses. Otherwise we miss the harvesting of the learning. We can't create a lot of the learning unless we get reflection-in-action and then on-action. So I think that's one of the reasons questioning is so vital to all of us. We*

recognize—even if it's intuitively—that the learning is here and now and we have to engage in it here and now because it was in the performance.

In this example, the faculty participant described how critical reflection is for student learning and faculty coaching plays an important role in that process. In addition to reflection-in-action, faculty also coached students to reflection-on-action both during post conference and through the use of written work such as reflective journaling.

Faculty coaching for reflection was exemplified during a faculty-student interaction that occurred during a post-conference. The student is asking the faculty member a question and the faculty coaches the student to promote reflection on-action.

S: *I have a question about my patient's pain measurement. I'm not even really doing it.*

F: *Are you asking the level?*

S: *Yes.*

F: *Are you choosing the medication?*

S: *Yes but with my nurse.*

F: *That's okay. You're still doing it. You're evaluating its effectiveness and you reflect about that. What if you were making the decision?*

S: *I don't know.*

F: *Picture yourself as the nurse.*

S: *Nurses can only do so much*.

F: *You're just going to have to play with these ideas. There's potential to learn. What don't people think about? Massage. Meditation. What's the evidence say about those things?*

Here, the faculty participant was coaching the student to reflect on the action of medication administration as though he or she was the primary nurse making the decision, further supporting the development of clinical reasoning.

Post-Conference

In all cases, the investigator's afternoon observations included observing a post-conference directly after the clinical experience. The post-conference was located either in a hospital conference room or on the school of nursing campus. Post-conferences were generally conducted in two ways: student-led or faculty-led; however, they commonly had elements of both.

Student-led post-conference. Student-led post-conferences occurred in two ways: student-facilitated case presentations and formal student presentations. Nearly all post-conferences had student-facilitated case presentations where students shared with the clinical group and faculty about their clinical day. Although faculty generally initiated the conversation by asking for a student to volunteer to begin discussion, the rest of the conversation was student-led. As the student shared about his or her clinical day and experiences on the unit, other students asked questions. Observation revealed that faculty would add to the conversation if they were directly asked a question or if students were struggling with something, but generally the conversations took place among the students.

> **F:** *I think the [post] conference is more about them than about me, and I have a lot of [post]conferences where I try not to say anything even and just direct the conversation. "Well, what do you think about that?*

Student case presentations provided the opportunity for students to learn from each other. This included, but was not limited to, hearing about unfamiliar diagnoses, procedures,

hospital operations, unit culture, and professional and ethical comportment. The examples below is from a post-conference discussion between a student, the clinical group, and the faculty member.

> **S:** *Awesome day. My nurse makes me do everything so that was good. I want to share a moment—a family member told me a racist joke. I had to decide how to react. I told her I'm not going to laugh at this, but it was awkward. I was smiling but it was because I was nervous.*
>
> **Clinical group:** *Good for you*.
>
> **S:** *That was hard. I gave the medications and walked away.*
>
> **F:** *We will have lots of patients with different views. What do you do? You did a wonderful job. I sometimes think if I had a student for every patient that had a comment, that student would learn a lot. We don't want to argue but don't engage. Disarm it. Good job. You didn't make them defensive because you still had to care for the patient.*
>
> **S:** *I got the message across thought. It was good.*
>
> **F:** *Sometimes patients test [people]*.
>
> **S:** *I was tagged as the student who didn't know anything but we hit a boundary. It's valuable to think about how to not go along with things like that. It was the first time I didn't just go along.*

In this situation the student shared a story about the clinical day and much of the interaction was between the students; however, there was a missed opportunity to support the student's development of clinical reasoning around ethical comportment. Instead the faculty provided little coaching about the ethical dilemma. This was a common practice

during post-conference. Instead of faculty delving more deeply into the situation at hand students shared their clinical day with each other consecutively with little discussion or guidance from faculty:

F: *41, how about you?*

S: *Good. Well, this patient was a bit complicated. The patient had a history of coronary artery disease so that's why they were in the hospital. Usually this patient didn't want to get up. I administered medication, but it was a good day.*

F: *Good. How about you, 38?*

Again the student discussed their clinical day and with little input from the faculty missing the opportunity to investigate this patient scenario more deeply.

In contrast, another faculty member had students share about their patients using a standard format that included the situation, background, assessment, and recommendation commonly known as the *SBAR*.

S: *My patient is a 71-year-old male who came into the ER via ambulance for an upper GI bleed. He came in with weakness but he was later diagnosed with the upper GI bleed. Cirrhosis, hypertension, hypercholesterolemia, arthritis, which is the only issues he thinks he has.*

F: *That's the patient's perception.*

S: *Fatigue, impaired mobility. Admitted on the 6th with low RBCs, decreased hemoglobin and platelets. Secondary diagnosis is cirrhosis with mild jaundice in the legs and sclera. Vital signs within normal limits except for the blood pressure, which was high.*

F:- *Does he have a history of hypertension? Oh never mind. Of course he does.*

S: *Monitor GI bleed. Check stools and level of consciousness. That's about it. Continue with medications for gastric distress associated with bleed.*

F: *We don't' know where he's going?*

S:–*Yes, he's going to a skilled nursing facility tomorrow. There is a lot of questions about who he lives with, which is interesting. Oh, he tested positive for the H pylori. But they can manage that outpatient.*

This faculty member used SBAR, a technique students will need to know when communicating about patients in practice. In both instances of students sharing about their clinical day, faculty asked few questions and again did not relate their experience to another student's clinical experience. By not relating students' experiences, the faculty missed an opportunity to support students' development of clinical reasoning by helping the students understand patterns and how diagnosis and care manifest differently in patients.

The second type of student-led post-conferences was one in which students presented formally about particular topics. There were two clinical groups where students gave more formal presentations. In the first group, each student was assigned a presentation around a sterile procedure (e.g., ventilators, catheters, dressing changes.) The faculty member reported that the student presentations were "….just a one-time thing because they have had all gotten these…" during their clinical experience. Students were required to use research to support their presentations.

F: *So they had already heard people at least say, "Well, now Medicare isn't going to pay for this." And I also think that one thing that came out of it that I wasn't expecting as much was the evaluation of research. I was like, "Yay!"*

It is important to note that although the formal presentations were focused on a topic that students had or would experience in their clinical education, these topics were pre-arranged; therefore, they did not have a direct connection to the course topic that week or a recent clinical experience.

In the second clinical group, students were required to have two clinical experiences off the unit because the unit was not equipped to handle all eight students in one clinical day. Students were also required to attend both the trauma and nursing grand rounds. Although this is not the only unit where students had clinical experiences off the unit due to unit restrictions, it is the only clinical group that gave a formal presentation about their off-unit experiences. Students were required to choose one of the patients presented on during grand rounds and present the topic in class supported by current research.

Faculty led post-conference. In addition to students summarizing their clinical day and experiences, faculty had students participate in three other types of activities during post-conference: case study, skill practice, and a staff presentation. One faculty led a post-conference where students participated in a case study based on one student's patient from that clinical day and focused on infection. Because infection was the most common reason for admission on this unit, the faculty member used real lab results and asked students to review them as a group with the goal of reasoning through whether the patient had an infection. During the observation, students were actively engaged, and it was clear they appreciated this activity. The quote below, shared during the faculty post-observational debrief, reveals both the faculty and student assessment about the utility of the case study:

> **F:** *The other thing is what I found is it—it's through a case often—real stuff that you get a chance to really emphasize some of the different concepts, and it's the real data that makes [sic] sense to them. And also I find that when the students have to present it helps them to focus their energy as well. They learn a lot more about it, and it helps them to develop the skills in being able to verbally start talking about patients. And I did this on the fly last winter with the Acc Baccs [Accelerated Baccalaureate students] one day. It was just very spontaneous, and they loved it. And they were like, "Do this – we love this. Do this again mor*e."

In this quote the faculty described how students appreciated the case study because it was a situated example of one of their peers that helped to support the explicate the steps of the process further supporting the development of their clinical reasoning.

Another activity of a faculty-led post-conference was practicing skills. Students met in the skills lab in the school of nursing after their clinical experience and focused on central line dressing changes. Students were to read several assigned articles and watch videos before attending this post-conference to help inform their practice. The faculty member first discussed the skills providing handouts, and then she demonstrated the skills for the students to observe and ask questions. Finally, students practiced the skill together in pairs and the faculty member walked around the room answering questions and assisting students.

Finally, in the last activity, the faculty participant had arranged for a social worker from their assigned clinical unit to come and talk with the students about their role. Much of the two-hour presentation was the social worker explaining to the students what the social worker does on a daily basis, leaving the last 30 minutes for student questions.

When asked during the faculty post-observational debrief why she had the social worker come talk to the students, the faculty participant stated:

> **F:** *I've had her come each year, and this is my third year. Last year we had some tough patients. One was an incarcerated patient, one was a homeless patient. So the care issues and the resources came up, and really it was quite distressful for a couple of my students who were working directly with these patients and had a connection with them, and so I really wanted her to address some of the background, because [the social worker] was involved but the students didn't always know what the background was, so I wanted her to provide some light onto that. And then this term, 52 had an undocumented patient who was very complicated, as they talked about. So that was part of it. The other thing that [the social worker] just added on her own last time was the self-care piece, and it was so delightful how she described it. I really felt like it was important. We promote self-care in nursing school, and that's just another reinforcement for that"*

Here the faculty described having the social worker come and present to students about their role helped students understand the background of patients care, the use and availability of resources, the importance of self-care.

Again it is important to note, that in both practicing skills and the staff presentation, these topics were pre-arranged; therefore, they did not have a direct connection to the course topic that week or a recent clinical experience by a student.

Summary

In summary, and the focus of clinical education is total patient care-not student learning. Total patient care strongly influenced faculty-student interactions, as do the

faculty knowing the students, faculty expectations of students, nurses, and the progression of the clinical day. Although questioning dominated the interactions, much of it focused on assuring that the patient was safe and patient care was completed. Although there was some evidence that interactions were aimed toward the support of clinical reasoning, it was limited in comparison to the number of interactions related to patient safety and the completion of tasks.

Chapter V

Discussion, Strengths and Limitations, Implications of the Study, and Recommendations for Future Research

This study had four major findings: the focus on patient care and patient safety strongly influenced the nature of faculty-student interactions, faculty use questioning and coaching to support students learning and the development of clinical reasoning, to a limited degree, faculty help students draw connections between theory and clinical practice, and perpetuating the practice-theory gap.

The first major finding of the study is that patient care is the primary focus of the clinical experience. Although faculty worked hard to plan clinical learning experiences, the structure of the clinical day, clinical patient assignments, and faculty-student interactions all revolved around providing total patient care. Students were assigned to one patient and expected, with the support of both the patient's assigned nurse and the faculty member, to provide total patient care. Additionally, when faculty and students interacted, the faculty member's questions were commonly based on ensuring patient safety and completion of tasks as they related to total patient care clinical experience. Because patient care was the focus of the clinical experience, other learning's were pushed into the background.

The literature reveals that the structure and intention of clinical experiences has remained unchanged for the last half century (Benner et al., 2010; Ironside & McNelis, 2010; Tanner, 2010). Students are expected to learn clinical nursing practice through providing total patient care. There is evidence that this approach is not sufficient: students, faculty, health systems, and nurses all agree that nursing education in its current

form is not effectively preparing students for the current practice environment (Benner et al., 2010; Berkow et al., 2008; Hickey, 2009; Ironside & McNelis, 2010Tanner, 2010). Although there are numerous calls for nursing education reform (Benner et al., 2010; ; Institute of Medicine, 2011; Ironside & McNelis, 2010: Tanner, 2010). Oregon Consortium for Nursing Education (OCNE) is the only model proposed in the literature in which clinical education is being completely redesigned from the ground up (Gubrud & Schoessler, 2009; Nielsen, Noone, Voss & Matthews, 2013; Tanner et al., 2008.) However, it has not been fully implemented, and no examples of its use were seen in this study.).

In the OCNE nursing education model, learning is the primary focus of the clinical experience, not total patient care. OCNE uses concept-based clinical experiences to enhance student learning by having students focus on a particular concept. For example, students might focus on the concept of oxygenation, a concept students need to understand to care for any patient. Throughout the course of their clinical day, students examine how oxygenation is different both across patients and diagnoses. Although there is much more to this model, it is an example of how to think differently about clinical experiences and how these experiences can be used more effectively to better support students' learning and the development of their clinical reasoning. However, the OCNE model has been introduced on several school of nursing campuses but has not yet been fully implemented. It has not been implemented as part of the accelerated baccalaureate program, which comprised the majority of the student sample in this study.

Although this study found that patient care was the focus of the clinical learning experiences, faculty did use questioning and coaching to support students' learning and their development of clinical reasoning; thus, the second major finding: faculty use questioning and coaching to support student learning in the clinical environment.

Results revealed that faculty-student interactions were most commonly based on questioning. Faculty questions focused on four areas: ensuring patient safety, ensuring completion of tasks, assessing the need for supervision, and providing anticipatory guidance. Although questions were used to support learning, more commonly, questioning focused on the needs of the patient; however, there were instances where faculty coached for clinical reasoning, which was more focused on students' learning needs

Although less common than questioning, faculty used coaching for clinical reasoning to directly support the students' learning by drawing on students' existing knowledge and relating it to the clinical situation at hand. Clinical reasoning was identified in five ways: when faculty used the specific language from the clinical judgment model (Tanner, 2006), when faculty engaged students in a discussion about the salient aspects of the clinical situation, when faculty identified priorities for care, when faculty connected their knowledge, and when faculty promoted reflection.

Both the Ironside and McNelis (2010) and Benner et al. (2010) studies also found that faculty commonly used questioning and coaching to support student learning; however, as described in both of these studies, faculty were intentional and explicit about their use of questioning. Faculty in this study reported that their questions often lacked intention and they were challenged to ask the deeper questions. Furthermore, the

investigator's faculty-student observations revealed that questions and coaching for clinical reasoning were often implicit. It was only during the faculty post-observational debriefs and faculty focus group that faculty revealed they were asking deeper questions than appeared during the observations. Finally, the Benner et al. (2010) study found that the explicit and intentional use of questions, as demonstrated by Pestolesi, provided students the opportunity to make necessary and deep connections in their learning and clinical reasoning. However because faculty in this study used implicit questioning and coaching and often struggled to ask questions that facilitated deep learning and clinical reasoning, it is unclear if students were able to make the necessary connections, which is the next major finding.

Implicit questioning and coaching for clinical reasoning coupled with a lack of depth contributed to a missed opportunities in drawing connections during clinical experiences. Missed opportunities refers to those interactions in which the faculty might have deepened the discussion. For example, by coaching the student to notice other relevant aspects of the situation or to more fully interpret data; instead the conversation stopped. The opportunity may have been missed for any number of reasons, which were not revealed in this study. For example, faculty may have had their immediate concerns addressed, been assured that care was being completed safely or that the student had the most critical information. Faculty indicated in the focus group interview that they did not feel that they had the skills for deep questioning; but they also indicated that the questions they posed, which seemed directed toward task completion, also served other purposes. The term "missed opportunities" simply means that the conversation may have gone to a deeper level, but did not."

Implicit questioning and coaching for clinical reasoning were not the only factors that contributed to missed opportunities. How faculty conducted group check-in, the clinical day, and post-conference were additional elements that contributed to missed opportunities in drawing connections to support students' learning and the development of their clinical reasoning. First, at the beginning of the clinical experience, nearly all faculty conducted a group check-in and used this time to assess students, review their written clinical preparation or goal cards, and communicate nursing assignments. Although in the Benner et al. (2010) study, Pestolesi also described using this time to review students' written clinical preparation She took it one step further. Pestolesi used what she knew about the patient, the clinical situation, and the students' written clinical preparation and helped to both ensure that the student had identified the salient feature of the clinical situation, ensured the context or patient situation had not changed significantly and supported the development of the student's clinical reasoning by helping him or her plan and prioritization patient care and the clinical day.

During the clinical day, faculty in this study used implicit questions to support students learning and the development of their clinical reasoning; faculty indicated that these questions helped students identify what was salient, how they were going to respond, and in some cases helped them reflect on the clinical situation. However, it is not clear from the faculty-student observations or faculty post-observational debriefs that students were guided in their interpretation of the clinical data. The faculty essentially asked questions about relevant data but did not coach the students in why these data were important nor how they might interpret them. This constituted a missed opportunity to

help students draw intentional connections between noticing, interpreting, responding, and reflection (Tanner, 2006.)

All post-conferences had student-led case presentations. During the case presentations, students shared about their clinical day. Although there was no prescribed format, students commonly shared about their patient's diagnosis, the care required, procedures completed, and any rewarding and challenging situations. Faculty-student observations revealed that after a student presented his or her case, the next student would begin to share his or hers until all students had shared. In very few instances did faculty elaborate on the student's presentation, point out relevant data about the student's patient, or draw connections between two or more students' experiences. Furthermore, the characteristics or experiences of one student might have related differently to another student's patient or experiences, thus supporting students' learning and the development of their clinical reasoning. This again was a missed opportunity to help students deepen their understanding of key concepts, recognize salient aspects of clinical situations, or develop reasoning skills to derive sound conclusions.

Similar to the findings of this study, Pestolesi also conducted post-conferences using student-led case presentations; however, she intentionally used post-conferences to "mine the experiences of one student for the benefit of the whole group" (Benner et al., 2010 p. 121). She used explicit and intentional questioning to draw connections between the experiences of the students during that day. Furthermore, Pestolesi also drew on her own experiences as a nurse to help support students' learning and the development of their clinical reasoning. Finally, she continually related both her own experiences and the experiences of the students back to concepts discussed in their theory course—something

rarely observed in this study, which leads to the final major finding from this study: the gap between practice and theory and the compartmentalizing of clinical experiences.

Results from this study revealed that faculty rarely related students' clinical experiences directly to their theory course. However, two instances differed. One faculty member conducted an impromptu case presentation, drawing on one of the student's clinical experiences that day and facilitating students' clinical reasoning in the identification of infection through real-life lab results. Although this related globally to the course, it was not directly tied to what was currently being discussed in theory. In the second example, a faculty participant had students give formal presentations on a predetermined topic, which related to the clinical experience globally; however, the presentations did not relate to the clinical experiences that day nor did they directly relate to current theory discussions. Collectively, the absence of faculty explicitly connecting theory with students' clinical experiences segregates the two experiences, leaving it up to the students to make the connections between theory and clinical experiences. Furthermore, faculty rarely related students' clinical experiences that day to other days or other experiences they had had throughout the term or the program, further missing an opportunity to help students make necessary connections, facilitating their learning, and supporting the development of their clinical reasoning.

In contrast, Pestolesi (Benner et al., 2010) bridged this gap through the use of situated questions and coaching for a sense of salience, drawing on students' past and present clinical experiences, sharing her own experiences as a nurse, and finally drawing on theory. Pestolesi knew both the program and her students, and starting with those pieces of knowledge, she built on what students knew and intentionally supported

students' learning and clinical reasoning by using questioning and coaching to draw connections and make learning explicit.

Strengths and Limitations

Conceptualizing, designing, and implementing this study required the investigator to weigh trade-offs related to study methodology. Some of the decisions were made in the interest of time and resources, resulting in limitations on study findings. Limitations are characteristics of the design or methodology that impacted the implementation or interpretations of the study results (Patton, 2002). Study decisions imposed a limitation in five areas: design, methods, participants, setting, and assumptions of the investigator.

Design

This interpretative, naturalistic study used a qualitative descriptive approach and three primary methods of data collection: faculty-student observations, faculty post-observational debriefs, and a faculty focus group. To expedite the IRB process, it was decided that observations would not include patients or any patient data. This meant that when faculty-student interactions moved to the patient's room or when the faculty member and student were working directly with a patient, it was not recorded in the observation notes. Although this was a limitation, most faculty-student interactions occurred outside of the patient room. Additionally, information about patients was often general enough to be included in the observation notes. Therefore, although a limitation, it is the belief of the investigator that there was minimal loss of data.

Data Collection

This study used multiple methods of data collection strengthening the rigor and trustworthiness of the findings; however ,one of the methods, observations, posed three

additional limitations. First, the observations were hand-scribed using pen and paper while all other data collection methods used both hand-scribed notes accompanied by an audio recording. Because the primary investigator completed the observations, there were instances when she was unable to capture everything that was being observed. For example, it was challenging to document every word of a faculty-student interaction because conversations often moved quickly; therefore, some of the conversation was lost.

Second, participants' behaviors could have been altered because of what Patton (2002) called *the observer effect (p. 306)*. This occurs when the study participants behave differently because they know they are being observed, creating the potential to affect the data and the study findings. This was taken into account during the design of the study, and a second observation session was added to help decrease the observer effect.

Finally, observation is inherently limited to collecting data about external behaviors. Thus, when using observational methods, the investigator is unable to see or collect data about the participants' thoughts, feelings, and motivations that are connected with their behaviors during the faculty-student interactions (Patton, 2002). This too was taken into account during the design of the study, and faculty post-observational debriefs and a faculty focus group were added as additional sources for of data collection to assist with both member checking and to allow better understanding about what had been observed, particularly interactions that needed additional explanation. An example is the use of questioning. Questioning was a common part of the faculty-student interactions; however, during the observations, the questions appeared to be task-oriented and simple. Data from the faculty focus group demonstrated that faculty were asking more complex questions than had appeared during the observations.

Sample

The selection of participants posed two study limitations: faculty focus and student program placement. The focus of this study was on the faculty. Although students were part of the observations, they did not participate in the post-observational debriefs or the faculty focus group. Second, all student participants were in their first hospital clinical experience. Because this was their first experience in the hospital, it is likely that faculty-student interactions were specific to the students' relative inexperience. Focus group findings revealed interactions between faculty and students would be substantively different as the students gain more experience.

Setting

The setting posed a limitation to the study because all observations occurred in the hospital. Although this was an intentional design of the study, to ensure that similar experiences could be examined and comparisons made, it is also a limitation. It is likely that the faculty-student interactions are different for those clinical experiences not located in a hospital setting; therefore, the findings of this study are limited to those hospital clinical experiences.

Assumptions of the Investigator

The investigator of this study has experience as a nursing educator; therefore, these personal experiences shaped the research lens. To mitigate this potential bias, triangulation of analysts, peer debriefing, member checking, audit trail, field notes, and memoing were used to help support the rigor and trustworthiness of the study findings.

Contextual Considerations

This study was conducted in a school of nursing that uses the Oregon Consortium for Nursing Education (OCNE) curriculum. The OCNE curriculum is distinctive from

other nursing curricula because it is a shared competency-based curriculum focused on the development of clinical judgment, culturally appropriate and relationship-centered care, systems thinking, leadership, and evidence-based practice (Oregon Consortium for Nursing Education). The OCNE curriculum is not seen as a limitation; however, it was not the basis for the clinical education experiences observed and therefore does have bearing on the results of this study as the majority of the students are from the accelerated baccalaureate program, which is not an OCNE program.

Implications of the Study

The goal of this qualitative descriptive study was not to generalize findings; instead, it allows a deeper look at the interactions between faculty and students and how faculty support the development of clinical reasoning in undergraduate students in the clinical setting. The investigator used triangulation of analysts, peer debriefing, member checking, audit trail, field notes, and memoing to help support the rigor and trustworthiness of the study findings in an effort to mitigate potential bias. However, ultimately it is up to the reader, to determine the transferability of the study results and implications (Patton, 2002) to their field of study and context.

Implications for Clinical Nursing Education

The results of this study have implications for clinical nursing education that can be used to assist faculty in continuing to develop their practice as a nurse educator. The implications include total patient care clinical experiences and preparing nurses for the practice of teaching. Total patient care was in the foreground and a persistent focus for faculty during the clinical experience in this study; therefore, learning is in the

background. Although patient care is and should continue to be of the utmost importance, when patient care is in the foreground, it becomes the priority. The redesigned nursing education model OCNE holds potential for the redesign of clinical experiences to help ensure student learning is the focus of clinical education.

The results of this study revealed that the faculty role is complex. Faculty have competing demands and their role is fraught with challenges. Faculty are using questions and coaching to support students' learning and the development of their clinical reasoning; however, they stop short by not making the intent of their questions explicit, not drawing connections, and not asking deeper questions. Because faculty often have little to no preparation for the role as clinical faculty and practice in isolation from each other, they never have the opportunity to learn from each other. Therefore, creating a collaborative and supportive faculty learning environment could help faculty develop their practice and support the efforts to transform nursing clinical, thereby making student learning a priority in clinical education.

Recommendations for Future Research

Based on the review of literature, study results, and methods used in this study, six recommendations for future research have evolved: 1) a call for more research in clinical nursing education and faculty practices, 2) a better understanding of the student perspective, 3) a better understanding of the clinical learning outcomes, 4) a more in-depth understanding of the use of questioning and coaching, 5) a better understanding of how clinical preparation helps students structure their clinical day and supports their clinical learning, and 6) additional data collection methods.

There is a paucity of research focused on clinical nursing education and faculty practices; therefore, we need more programs of research focused on clinical education in nursing. Finally, we need more research that uses a multitude of methods. Collectively, these would both add to the strength of the research and provide a deeper understanding of the clinical education in the United States which is facilitating faculty support and development as well as students' learning and their development as nurses.

Understanding the faculty-student interaction from the student's perspective is imperative. Findings from this study demonstrate that students interact with the faculty a lot during the clinical experience but because the focus of this study was on the faculty, it did not provide insight into what students need to facilitate their learning and development as nursing students or what they take away from the faculty-student interactions. Understanding the students' perspective will highlight areas students struggle most with and what they are taking away from the interaction, and it will provide faculty the opportunity to work with students to further develop those areas.

The review of literature demonstrated a dearth of research examining learning outcomes in clinical education. Being in the clinical environment is about learning. Understanding how students are learning and what their learning needs are is imperative to our efforts of continual improvement and will inform both nursing clinical and the nursing profession.

The result of this study found that questioning was an essential part of the faculty-student interaction. Observations demonstrated that faculty are asking patient-centered, task-orientated questions; however, this was contradicted during the faculty focus group where faculty shared that although the questions seem task-focused, what they are

actually asking is much comprehensive. Again, because the focus of this study was faculty, it is unclear if students understand the depth of the questions faculty are asking and if they are making the salient connections faculty are anticipating students will make with the use of their questions.

The students in this study spent a lot of time preparing for their clinical experience. There is a paucity of research that examines how preparing for clinical helps students structure their day and no research on how it supports their clinical learning. One-third of the faculty participants in this study questioned the utility of the written clinical preparation, the primary way students prepare for the clinical day. Therefore research is needed to better understand how this contributes to students' learning and their clinical day.

Finally, two design features of this study could be expanded to better understand faculty intentions. First, conducting two faculty focus groups, one before observations start and one after all observations are complete, would clarify faculty's intentions before the clinical experience and provide the opportunity to probe deeply into the faculty's intentions and what was revealed during the observations. Second, including patients in the observations would allow the investigator to continue the observation into the patient room and observe the faculty-student interaction in its entirety.

Conclusion

This qualitative descriptive study used observations, post-observational debriefs, and a faculty focus group to describe the interactions between faculty and students and how faculty are supporting the development of clinical reasoning in undergraduate

nursing students within the clinical setting. It is anticipated that the findings from this study will contribute to the science of clinical nursing education, assist faculty in continuing to develop their practice as a nurse educator, and support the development of my own program of research in clinical nursing education.

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APPENDIX A: PARTICIPANT EMAIL RECRUITMENT SCRIPT

Appendix A

Participant Recruitment Email Script

Hello _____,

My name is Anjie Raber and I am a PhD student at Oregon Health & Science University conducting a study about nursing education.

I am interested in talking to a group of undergraduate clinical faculty about their interactions with students in the clinical setting. Your name was provided to me by your program director, Ann Nielsen, who identified you as an undergraduate faculty member who will be teaching a clinical rotation spring and summer term of 2012 in an acute care setting.

If you choose to participate in this study, you will be asked to participate in:

- One two-hour group interview with other undergraduate faculty from OHSU SON
- Two separate clinical observations over the course of your clinical teaching rotation spring or summer term 2012
- Two post-observational debriefing discussions lasting no more than an hour each

If you would like to participate in this study, please contact me directly at your earliest convenience. Indicate in your response if you:

1. Are willing to participate in the clinical education study
2. If yes, the best way to contact you to set up the group interview

Interviews will be conducted by me, the researcher, on the OHSU SON campus at a time that works best for the group.

I look forward to working with you and hope you will participate in expanding our knowledge about clinical education.

Kind regards,

Anjanette Raber
Oregon Health & Science University Doctoral Student
503.702.6866 (cell)
rabera@ohsu.edu

APPENDIX B: FACULTY CONSENT FORM FOR HUMAN RESEARCH

Appendix B

Faculty Consent Form for Human Research

Oregon Health & Science University
Consent & Authorization Form

IRB#: 8363
Protocol Approval Date: 06/20/2013

OREGON HEALTH & SCIENCE UNIVERSITY
Consent & Authorization Form

TITLE: Nursing Faculty and Undergraduate Students Interactions in the Clinical Setting

PRINCIPAL INVESTIGATOR: Christine A. Tanner, PhD, RN, FAAN (503) 494-4206

CO-INVESTIGATORS: Anjanette M. Raber RN, MSN (503)702-6866
Paula M. Gubrud-Howe, EdD, RN (503) 494-3490
Mary T. Schoessler, EdD, RN-C (503) 215-6224
Kristin F. Lutz, PhD, RN (503) 494-5010

This form contains important information about the study in which you are being invited to participate. Please read the form carefully, ask questions of the investigators or others who are obtaining your consent to participate in the study, and take time to think about your participation. You may want to discuss the study with your family or friends before agreeing to be in the study.

What is the purpose of this study?

The purpose of this study is to describe the interactions between clinical faculty and nursing students and to describe how faculty facilitate nursing students developing the skill of clinical reasoning in the clinical setting.

What is required to participate in this study?

To qualify for this study, you must meet the following criteria:

Current Oregon Health & Science University School of Nursing (OHSU SON) faculty
Teach a clinical rotation fall 2012
Clinical rotation is in an acute setting (i.e., hospital)

What can I expect as a study participant?

As a participant of this study, you will be asked to participate in the following:
A two-hour focus group where you will be asked to:

1. Fill out a short demographic survey.
    a. Discuss your teaching in the clinical setting with a group of up to 10 other OHSU SON faculty members
2. Be observed on two different occasions by the researcher while you are teaching in the clinical setting for a period of two to three hours.
3. Share the clinical paper you ask students to complete during their clinical experience with the researcher.
4. Post-observation debrief discussion following each observation for a total of two post-observation debrief discussions. During this discussion the researcher will ask questions of you based on events noted during the observation.

This study requires participants to participate in one focus group, two observational experiences, and two post-observation debriefs over fall term 2012.

If you have any questions regarding this study now or in the future, contact Christine A. Tanner (503) 494-4206 or Anjanette Raber (503) 702-6866.

How will my privacy be protected?

We will protect your privacy in the following ways:

1. Your name or other protected information will not be used.
2. Only Christine A. Tanner and Anjanette Raber will be able to access your information.
3. All data will be password-protected and stored in a locked cabinet.
4. Data from this study may be used in future unspecified research.

What are the possible risks of participating in this study?

Although we will have made every effort to protect your identity, there is a minimal risk of loss of confidentiality. Additionally, although the risks for participating in this study are minimal, participants may feel negative or embarrassing emotions as they share their practice with other participants in the focus group and during the post-observational debrief.

What are the possible benefits of participating in the study?

You may or may not personally benefit from being in this study. However, by serving as a study participant, you may help us learn how to benefit both faculty and students alike in the future of nursing education.

What are my rights as a participant?

If you have any questions regarding your rights as a research subject, you may contact the OHSU Research Integrity Office at (503) 494-7887.

You do not have to join this or any research study. If you do join, and later change your mind, you may quit at any time. If you refuse to join or withdraw early from the study, there will be no penalty or loss of any benefits to which you are otherwise entitled.

You have the right to revoke this authorization and can withdraw your permission for us to use your information for this research by sending a written request to the Principal Investigator listed on page one of this form. If you do send a letter to the Principal Investigator, the use and disclosure of your protected health information will stop as of the date he/she receives your request. However, the Principal Investigator is allowed to use information collected before the date of the letter or collected in good faith before your letter arrives. Revoking this authorization will not affect your health care or your relationship with OHSU.

If the researchers publish the results of this research, they will do so in a way that does not identify you unless you allow this in writing.

You may be removed from the study if the investigator stops the study.

Participants can withdraw from the study at any time without repercussion.

The participation of OHSU employees in OHSU research is completely voluntary and you are free to choose not to serve as a research subject in this protocol for any reason. If you do elect to participate in this study, you may withdraw from the study at any time without affecting your relationship with OHSU, the investigator, the investigator's department, or your grade in any course.

To participate in this study, you must read and sign this consent and authorization form. If you withdraw your authorization for us to use and disclose your information as described above, you will be withdrawn from the study.

We will give you a copy of this signed form for your records.

SIGNATURES:

Your signature below indicates that you have read this entire form and that you agree to be in this study.

OREGON HEALTH & SCIENCE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
PHONE NUMBER (503) 494-7887

CONSENT/AUTHORIZATION FORM APPROVAL DATE

Jun. 20, 2013

Do not sign this form after the Expiration date of: 06-19-2014

_____ _____
Signature of participant ***Date***

_____ _____
Signature of person obtaining consent ***Date***

_____
Print name of person obtaining consent

APPENDIX C: FACULTY DEMOGRAPHIC SURVEY

Appendix C

Faculty Demographic Survey

Name:_____

Gender:	❒ Male	❒ Female	
Age:	❒ 20 or younger ❒ 21 to 25 ❒ 26 to 30	❒ 31 to 35 ❒ 36 to 40 ❒ 41 to 45	❒ 46 to 50 ❒ 51 to 55 ❒ Over 56
Race:	❒ American Indian or Alaska Native ❒ Asian ❒ Black or African American	❒ Native Hawaiian/Pacific Islander ❒ White ❒ Decline to respond	
Highest degree Obtained in *nursing:*	❒ Bachelor's	❒ Master's	❒ Doctorate
Highest degree obtained in a *field other than nursing*:			
	❒ Bachelor's	❒ Master's	❒ Doctorate
Are you currently enrolled in a PhD program:	❒ Yes	❒ No	If Yes, what is your study focus_____ _____
Do you currently practice as a nurse:	❒ Yes	❒ No	
What is/was your area of practice in nursing:	❒ Medical/Surgical ❒ Women's Health ❒ Pediatrics	❒ ICU ❒ Clinic ❒ Mental Health	❒ Other (specify)_____
Years teaching clinical:	❒ Less than 1 ❒ 1 to 2	❒ 5 to 9 ❒ 3 to 5	❒ 10+ years
Years teaching at OHSU:	❒ Less than 1 ❒ 1 to 2	❒ 5 to 9 ❒ 3 to 5	❒ 10+ years
Current employment as a faculty member:	❒ Part-time	❒ Full-time	
Average number of hours teaching	❒ Less than 20 ❒ 21-30	❒ 31-40 ❒ 51-50	❒ 51-60 ❒ More than 60

clinical each week *this year* at OHSU:			
Average number of hours you <u>spend in direct contact with students</u> each week (not including theory time):	❒ Less than 20 ❒ 21-30	❒ 31-40 ❒ 51-50	❒ 51-60 ❒ More than 60
Clinical setting you most commonly teach in:	❒ Hospital ❒ Nursing home ❒ Community health	❒ Home health agency ❒ Outpatient clinic/physician office	
Average number of students per clinical group *this year:*	❒ Less than 4 ❒ 5 to 6 ❒ 7 to 8	❒ 8 to 9 ❒ More than 10	
Average number of students in other clinical groups (i.e. ,integrative practicum):	❒ Less than 4 ❒ 5 to 6 ❒ 7 to 8	❒ 8 to 9 ❒ More than 10	

APPENDIX D: FACULTY FOCUS GROUP SURVEY

Appendix D

Faculty Focus Group Survey

Name_____

1. Please rank in order the top three ways you learned how to teach clinical nursing education:

	1st	2nd	3rd
Experiences with former teachers	□	□	□
Personal teaching experience	□	□	□
Learning from other colleagues	□	□	□
Obtaining a degree focused in nursing education	□	□	□
Obtaining a degree focused in teaching	□	□	□
Reading articles about teaching in nursing education	□	□	□
Reading books about teaching in nursing education	□	□	□
Attending educational conferences	□	□	□

Other_____

2. Who do you talk with about your clinical teaching practice? (Circle all that apply)
    a. I don't talk with others about my clinical teaching practice
    b. Faculty peers
    c. My program director
    d. More senior faculty
    e. My spouse/partner
    f. Staff nurses on the unit
    g. A personal friend
    h. Other_____

3. How often do you talk with others about your clinical teaching practice? (circle one)
    a. Almost always
    b. Often
    c. Occasionally
    d. Rarely
    e. Almost never

4. When I talk with others about my clinical teaching practice, the three most common things we talk about are:

    1. _____
    2. _____
    3. _____

APPENDIX E: STUDENT CONSENT FORM FOR HUMAN RESEARCH

Appendix E

Student Consent Form for Human Research

Oregon Health & Science University
Consent & Authorization Form

IRB#: 8363
Protocol Approval Date: 6-20-2013
[*Ensure the initial/annual approval date is inserted into the stamped approved consent form from the IRB*]

OREGON HEALTH & SCIENCE UNIVERSITY
Consent & Authorization Form

TITLE: Faculty and Undergraduate Nursing Student Interactions in the Clinical Setting

PRINCIPAL INVESTIGATOR:	Christine A. Tanner, PhD, RN, FAAN (503) 494-4206
CO-INVESTIGATORS:	Anjanette M. Raber RN, MSN (503)702-6866 Paula M. Gubrud-Howe, EdD, RN (503) 494-3490 Mary T. Schoessler, EdD, RN-C (503) 215-6224 Kristin F. Lutz, PhD, RN (503) 494-5010

This form contains important information about the study in which you are being invited to participate. Please read the form carefully, ask questions of the investigators or others who are obtaining your consent to participate in the study, and take time to think about your participation. You may want to discuss the study with your family or friends before agreeing to be in the study.

What is the purpose of this study?

The purpose of this study is to describe the interactions between clinical faculty and nursing students and to describe how faculty facilitate nursing students developing the skill of clinical reasoning in the clinical setting.

What is required to participate in this study?

To qualify for this study, you must meet the following criteria:

- Are a student at Oregon Health & Science University School of Nursing (OHSU SON)
- Your clinical faculty member is participating in this study.
- Your clinical rotation is in an acute care setting (i.e., hospital)

What can I expect as a study participant?

As a participant in this study, your interactions with your clinical faculty member will be observed twice for two to three hours over the course of your clinical rotation fall term 2012.

These observations will take place over fall term 2012.

If you have any questions regarding this study now or in the future, contact Christine A. Tanner (503) 494-4206 or Anjanette Raber (503) 702-6866

How will my privacy be protected?

We will protect your privacy in the following ways:

5. Your name or other protected information will not be used.
6. Only Christine A. Tanner and Anjanette Raber will be able to access your information.
7. All data will be password-protected and stored in a locked cabinet.
8. Data from this study may be used in future unspecified research.

What are the possible risks of participating in this study?

Although we have made every effort to protect your identity, there is a minimal risk of loss of confidentiality. Additionally, although the risks for participating in this study are minimal, participants may feel negative or embarrassing emotions as they are observed during their interactions with their clinical faculty member.

What are the possible benefits of participating in the study?

You may or may not personally benefit from being in this study. However, by serving as a participant, you may help us learn how to benefit both faculty and students alike in the future of nursing education.

What are my rights as a participant?

If you have any questions regarding your rights as a research subject, you may contact the OHSU Research Integrity Office at (503) 494-7887.

You do not have to join this or any research study. If you do join, and later change your mind, you may quit at any time. If you refuse to join or withdraw early from the study, there will be no penalty or loss of any benefits to which you are otherwise entitled.

You have the right to revoke this authorization and can withdraw your permission for us to use your information for this research by sending a written request to the Principal Investigator listed on page one of this form. If you do send a letter to the Principal Investigator, the use and disclosure of your protected health information will stop as of the date he/she receives your request. However, the Principal Investigator is allowed to use information collected before the date of the letter or collected in good faith before your letter arrives. Revoking this authorization will not affect your health care or your relationship with OHSU.

If the researchers publish the results of this research, they will do so in a way that does not identify you unless you allow this in writing.

You may be removed from the study if the investigator stops the study.

Participants can withdraw from the study at any time without repercussion.

The participation of OHSU students in OHSU research is completely voluntary and you are free to choose not to serve as a research subject in this protocol for any reason. If you do elect to participate in this study, you may withdraw from the study at any time without affecting your relationship with OHSU, the investigator, the investigator's department, or your grade in any course.

To participate in this study, you must read and sign this consent and authorization form. If you withdraw your authorization for us to use and disclose your information as described above, you will be withdrawn from the study.

We will give you a copy of this signed form.

SIGNATURES:

Your signature below indicates that you have read this entire form and that you agree to be in this study.

OREGON HEALTH & SCIENCE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
PHONE NUMBER (503) 494-7887

CONSENT/AUTHORIZATION FORM
APPROVAL DATE

Jun. 20, 2013

Do not sign this form after the
Expiration date of: 06-19-2014

_____ _____
Signature of participant ***Date***

_____ _____
Signature of person obtaining consent ***Date***

_____
Print name of person obtaining consent

APPENDIX F: STUDENT DEMOGRAPHIC SURVEY

Appendix F

Student Demographic Survey

Name:_____
_____

Gender:	❒ Male	❒ Female		
Age:	❒ 20 or Younger ❒ 21 to 25 ❒ 26 to 30	❒ 31 to 35 ❒ 36 to 40 ❒ 41 to 45	❒ 46 to 50 ❒ 51 to 55 ❒ Over 56	
Race:	❒ American Indian or Alaska Native ❒ Asian ❒ Black or African American		❒ Native Hawaiian/Pacific Islander ❒ White ❒ Decline to respond	
Highest degree *NOT* in Nursing:	❒ Associates	❒ Bachelor's	❒ Master's	❒ Doctorate
Which answer best describes your experience in health care: (check ALL that apply)	❒ As a student ❒ LPN		❒ As a CNA ❒ Unit secretary	Other_____ _____
Highest degree obtained in a *field other than Nursing*:			❒ Bachelor's	❒ Master's ❒ Doctorate
***Nursing program* you are enrolled in:**			❒ Traditional baccalaureate	❒ Accelerated baccalaureate
Current standing in your nursing program				
Traditional baccalaureate:			❒ Junior	❒ Senior
Accelerated baccalaureate:			❒ Term 1 ❒ Term 3 ❒ Term 5	❒ Term 2 ❒ Term 4
Current employment:	❒ Part time		❒ Full time	❒ Not currently working
Average number of hours you spend *PREPARING* for clinical each week*:*			❒ Less than 20 ❒ 21-30 ❒ 31-40	❒ 51-50 ❒ 51-60 ❒ More than 60
Clinical setting you hope to work in after graduation:			❒ Hospital ❒ Nursing home ❒ Community health	❒ Home health agency ❒ Outpatient clinic/physician office ❒ Other_____ _

APPENDIX G: CLINICAL OBSERVATIONS SHEET

Appendix G

Clinical Observations Sheet

Date_____ Name of Faculty Being Observed_____

Faculty & Students
_____# of students on the unit **Student first names** **_____ _____** **_____ # of patients students have** **_____ _____** **_____ _____** **_____ _____**

Unit
_____# of patients on the unit **_____ # of patients each nurse has** **_____# of patient rooms** **_____# of RNs (including charge)** **_____ # of beds on the unit** **_____# of CNAs** **_____# of secretaries** **_____# of housekeepers**

Interaction Ticks		
Faculty	**Nurses**	**Other staff**
Observations		

Theoretical	**Methodological**

APPENDIX H: FACULTY POST-OBSERVATIONAL DEBREIF GUIDE

Appendix H

Faculty Post-Observational Debrief Guide

These questions are not set in stone but instead serve as a guide to help create an open sense of trust between the participant and investigator to make the interview as comfortable as possible during our one hour together.

Housekeeping

1. This post-observational debrief will be recorded so I would like to start by having the participant introduce himself or herself so I have a clear record of the participant. Because this post-observational debrief is being recorded, it is important that we only talk one at a time. I will be taking notes during our discussion today. This recording will be kept in on a password-protected jump drive that is stored at OHSU SON.

Discussion Questions

1. How was today similar to a typical clinical day?
2. Was there anything unusual that happened during this clinical day?
3. Specific questions about observations made in the clinical setting.
4. What do you think are the strengths of your clinical group?
5. What do you think are the challenges of your clinical group?

APPENDIX I: FACULTY FOCUS GROUP GUIDE

Appendix I

Faculty Focus Group Guide

INTRODUCTION (2 min)

- Thank you, everyone, for coming.
- This focus group serves as an opportunity for me to bring my findings from the observations and post-observational debrief back to you to make sure what I'm finding rings true for you in your teaching practice with students in clinical and to get at some of those things a little deeper.
- This focus group is being recorded.
- At the conclusion of this focus group, I will transcribe this interview verbatim replacing your names with your participant ID letter. Only Mary and I will have access to the raw recoding—the remainder of my committee will see only the de-identified copy.

GROUND RULES (2 min)

- This focus group is confidential.
- Only one person speaking at a time.
- Please, no side conversations among neighbors.
- Provide everyone with a chance to participate.
- Mary will help keep us on track so if there is someone we aren't hearing from or it looks like someone has something to say, Mary will help make sure everyone gets the opportunity to talk.

PARTICIPANT INTRODUCTIONS (2 min)

- If everyone could say their:
    - First and last name
    - Program they teach in

FOCUS GROUP QUESTIONS (90 min)

1. One of the key focuses of my dissertation is faculty/student interactions. There were a lot of interactions I noticed focused around questioning:
    a. Tell me more about that.
    b. I want to share just one example of a question I heard faculty asking students " What was the CBG?"—What are you thinking when you ask a question like that?
    c. Something I noticed during the interactions: Many of the questions seemed directed towards getting things done on the unit.
    d. What were you thinking when you asked a question like that?
    e. Are those questions typical? Can we talk about that?

2. Sense of salience or what's important/relevant
    a. How do you help students identify what's important/relevant?
    b. I noticed most of you used some form of a written clinical assignment every clinical day. Tell me about that.
        - Most written assignments are due the following week. Tell me about that.
3. Based on my observations, the clinical learning environment has an impact on clinical education. Do you agree with that observation?
    a. Tell me about how the CLE impacts how students learn.
        i. Are there other factors in the clinical learning environment that impact how students learn?
        ii. Do the nurses affect this?
    b. Tell me about how the CLE impacts how you teach.
        i. Do the nurses affect this?

CLOSING (2 min)

- Thank you for taking the time to talk with me.
- 48 hours of follow up allowed with any additional thoughts to email or phone me and I will incorporate that into the transcript.

Tactics

- Lets unpack that a little bit.
- I suspect there are many more opinions in here.