

CREATING AN OPTIMAL CLINICAL LEARNING ENVIRONMENT FOR
UNDERGRADUATE NURSING STUDENTS: PRECEPTORS' VIEWS

By
Negishi Mayumi

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ABSTRACT

Title: Creating an Optimal Clinical Learning Environment for Undergraduate Nursing Students:
Preceptors' Views

Author: Mayumi Negishi, MPH, RN

Approved: _____
Deborah Messecar, PhD, MPH, RN, AGCNS-BC Associate Professor,
OHSU, School of Nursing, Dissertation Chair

Understanding preceptors' perceptions of an optimal Clinical Learning Environment (CLE) is essential to improving students' clinical learning. The purpose of this study was to describe preceptors' perceptions of what is needed to create an optimal hospital-based Clinical Learning Environment (CLE) for undergraduate nursing students. The specific aims of the study were to 1) explore preceptors' assumptions of what constitutes an optimal CLE for undergraduate nursing students; 2) describe the factors that preceptors view as facilitators or barriers to optimal student learning; and, 3) describe the strategies that preceptors identify to create an optimal CLE.

A qualitative descriptive design was used to address the aims of the study. Thirteen registered nurses who completed preceptor training and were identified as expert preceptors by clinical faculty were recruited to participate in the study. In-depth interviews with open-ended questions were conducted. Participants were asked about their perceptions of what constitutes an optimal CLE for student learning. Challenges and ways to overcome those challenges were also explored. Data were analyzed with thematic coding.

Five themes were identified from the data: 1) Unit characteristics; 2) Preceptor characteristics; 3) Faculty characteristics; 4) Student characteristics; and 5) Strategies. The fit of the theme and strategies, along with the Cognitive Apprenticeship Model originally introduced

by Collins, Brown, and Newman (1987) was noted during the analysis. Under this theme, preceptors identified modeling, coaching, scaffolding, articulation, and reflection as the ways or methods they used to teach students and to optimize the CLE. In this study, the depth and thoughtfulness of the preceptors' contribution to student learning via the strategies they used were revealed in a way that no prior study has identified. One of the key recommendations from this study is that the strategies described by preceptors can be included in future preceptor training by incorporating the use of the Cognitive Apprenticeship Model as useful clinical teaching skills. Findings from this study indicate that preceptors are fully capable of using a number of varied and complex teaching strategies. Given the increasing reliance on preceptors as part of nursing education, their ability to make this contribution should be recognized and supported by providing training in these strategies to preceptors, and to include them more in planning and evaluating the CLE.

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CHAPTER I

Introduction

Background and Significance

Changes in nursing clinical education that aim to improve patient care are crucial for the transformation of the health care system in the United States (Benner, Sutphen, Leonard, & Day, 2010; Institute of Medicine [IOM], 2010). The IOM report, *The Future of Nursing: Leading Change, Advancing Health* (2010) calls for nurses to function increasingly as analytical problem solvers rather than technicians, and for new nurses to graduate with the relevant competencies required to meet the future needs of patients. In addition to the IOM's call for change in nursing education, the National Council of State Boards of Nursing (NCSBN) has determined that entry-level nursing practice now requires a greater level of knowledge, skills, and abilities than was required just 5 years ago (NCSBN, 2014). What do these national trends mean? The competencies identified by the IOM report and the higher entry-level practice standards recognized by the NCSBN all require higher level clinical reasoning skills, which are primarily developed and honed during clinical practicums.

Yet, according to nursing education experts, there still remains a theory-practice gap (Allan, 2011; Ajani & Moez, 2011; Benner, 2010; Berkow, Virkstis, Stewart, & Conway, 2008; Hatlevik, 2012), which makes it hard for students to grasp the essential links between what they learn in the classroom and what they need for practice in clinical settings. Nursing students must know how to use knowledge in practice. Clinical learning, defined as learning focused on and usually directly involving patients and their families (Spencer, 2003), is vital for putting knowledge and skills into action. Hence, finding and developing appropriate clinical practice venues for quality student learning experiences is indispensable for bridging this

knowledge-practice gap (Benner et al., 2010; National League for Nursing [NLN], 2008). Key to this integration of clinical and classroom learning are experienced nurses in clinical settings who can help students make these important linkages. Finding ways to effectively integrate experienced clinical staff with their local knowledge of the setting into building an effective clinical learning environment (CLE) where students are able to integrate their classroom learning with clinical practice application is critical (NLN, 2008).

Clinical Learning Environment

The CLE has been defined as the interactive network of forces within the clinical setting that impacts nursing students' learning (Dunn & Burnett, 1995). Papp, Markanen, and Von Bonsdorff (2003) maintain that these interconnected influences include everything surrounding the nursing student in the setting. This encompasses the participants (e.g., patients, other healthcare and non-healthcare staff, and faculty); the interactions among participants; the qualities in the setting that are difficult to define or describe clearly (but are nonetheless perceived as important, such as unit culture); and the actual physical attributes of a given setting, such as numbers of beds, census, or unit layout. In a study completed by Hosoda, Gubrud, and Negishi (2012), nursing students described themselves as a part of their CLE, as they too are participants in the setting who play a part in shaping their own learning. In short, the direct or indirect interactions with every person involved in a clinical setting, together with the clinical setting's built environment and institutional systems, collectively shape students' learning.

As Smedley, Morey, and Race (2010) discuss, students learn best through being immersed in the context of the real-life nursing workplace as their learning environment. A critically important component of negotiating and operating in the CLE is guidance from an

experienced nurse acting in a one-to-one relationship with the student as a preceptor (Henderson, Briggs, Schoonbeek, & Paterson, 2011; Bonnel, 2009). However, nurses acting in these roles are often viewed as just personnel in the setting with a limited role rather than as integral co-creators of the learning experience (Raines, 2012). While their local knowledge of the clinical setting informs student learning, this knowledge remains untapped in informing clinical education.

Preceptorship. Preceptorship is generally defined as a one-to-one relationship (as referenced above) between a registered nurse and a nursing student in order to facilitate student learning during an intense, time-limited clinical experience with the support of nursing faculty (Luhanga, Billay, Grundy, Myrick, & Yonge, 2010; Smedley et al., 2010; Rogan, 2009; Keller, 2005). According to Benner (2001), preceptors for nursing students are comparable to an expert nurse who guides a novice nurse to learn the art and skills in nursing. Benner (2001) further states that the novice nurse needs to work with an experienced nurse who can role model, perform, and teach patient care in the clinical setting. Although individual staff nurses that are not assigned as preceptors also interact with students, their role in shaping the CLE is not nearly as critical as is the formal preceptors. Preceptors provide a form of site-specific, time-limited mentorship in the clinical setting. Their role is critical, because they, not the nursing faculty, are the local experts in the clinical setting—they know where things are, the usual routine, the types of patients typically cared for, and most importantly, they know the culture and unwritten rules about how things work. Students need access to this knowledge to get the most out of the CLE.

Prior research done with undergraduate nursing students and clinical faculty showed that preceptorship is one of the most important influences that shapes the quality of the CLE

(Happell, 2009; Heffernan, Heffnan, Brosnan, & Brown, 2009; Zilembo & Monterosso, 2008a). Although nursing faculty bring expert knowledge about nursing education and the educational goals of the clinical practicum to the setting, they may not have this vital local knowledge. Therefore, it is important to include nurse preceptors' suggestions of how to shape more effective CLEs. By blending the local expert clinical knowledge of the preceptor with the expert knowledge of the faculty, better CLEs can be created. However, preceptors have rarely been asked to share their beliefs about what constitutes a good CLE (Raines, 2012). The increasing ubiquitous reliance on preceptors in undergraduate nursing education, as described in NLN's Clinical Nursing Education (Ard & Valiga, 2009) and as referenced in the Model Nursing Practice Act (2009), further argues for the inclusion of their voice in constructing sound CLEs. The Oregon Consortium for Nursing Education (OCNE—a statewide partnership of nursing programs) has created a curriculum that has as one of its key features, the Integrative Practicum Relationship Model (see Figure 1), which is used in the senior level integrative practicum courses. In this model, preceptors, which the OCNE model calls Clinical Teaching Associates (CTAs), are a central and essential force that helps to shape the quality of the CLE. As illustrated in the figure, the CTA is viewed as the centerpiece that connects students and faculty to the clinical setting, and they are considered a bridge in the CLE that facilitates the student's learning.

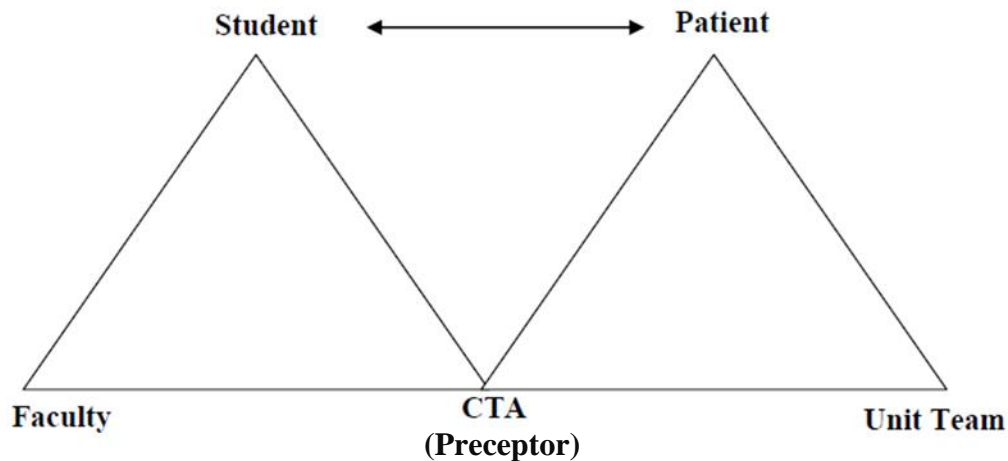


Figure 1. Integrative Practicum Relationship Model

The Integrative Practicum is an extended, individually-precepted, student experience, in which a CTA holds a central role and is available to the student for an extended period in a specific clinical setting; also, the integrative practicum helps the student transition from being a “student” to the professional role of the nurse. Filling a crucial role that bridges theory and practice, the CTA is most important for their local knowledge—in other words, the understanding and skills that she or he brings to the practice-specific situation. Local knowledge includes knowledge of the culture and expectations of the clinical practice unit; use of clinical judgment specific to that practice situation, including access and use of evidence-based practice data; modeling of effective skills in teamwork, negotiation, and conflict resolution; integration of ethical standards and practices into day-to-day care; and most importantly, the ability to liaison between patients, unit team, faculty, and students. With their local knowledge, the CTA is the lynchpin in successful learning, meaning that the CTA can make or break a student's learning experience in the CLE. In the figure, the term preceptor is listed underneath CTA, and from here forward, preceptor will be the term used in this study to be consistent with the language used in other preceptorship studies.

Purpose of the Study

The purpose of the proposed study was to identify preceptors' assumptions of what is needed to create an optimal CLE, and in addition, to describe preceptors' views of what facilitates and/or hinders learning in the CLE and what they do to facilitate an optimal, clinical learning environment. The specific aims of this study were to:

1. Explore preceptors' assumptions of what constitutes an optimal CLE for undergraduate nursing students.
2. Describe the factors that preceptors view as facilitators or barriers to optimal student learning.
3. Describe strategies that preceptors identify to create an optimal CLE.

This study addresses the gap in the literature about how preceptors could contribute to building more effective CLEs and how this can inform nursing education practice in several ways. First, preceptors will be able to suggest new and original ideas about how to create better CLEs. Second, they will be able to propose alternative approaches to setting up CLEs, which may fix problematic areas already identified by students and faculty. Third, preceptors may already have some of the same perceptions that nursing students and faculty have about what builds better CLEs, which could be used as a starting point for improved preceptor-faculty collaboration. The short-term goal of this study is to use the nurse preceptors' perceptions to inform the shaping of CLEs for nursing students in the future. Findings from this proposed study will raise awareness about key aspects of the CLE that currently either hinder or support optimal learning by students. The long-term goal is to design and develop better CLEs for nursing students by understanding all of the perceptions and shared values of key stakeholders in the CLE.

CHAPTER II

Literature Review

Introduction: Overview of Literature Review

The purpose of this chapter is to provide a review of the most pertinent literature that first describes what clinical nursing education is, why we need it, and how it changes. This section will further describe the challenges in clinical education that present barriers to student learning. In addition, the section includes a review of the importance of preceptors and their role in shaping student learning, while it also explores the importance of where clinical education takes place and what is known about the clinical learning environment (CLE). This overview describes the literature gaps and discusses how the important perspective hospital-based student-nurse preceptors can contribute to creating and evaluating quality CLEs. While there are many published studies of preceptors in the nursing education literature, this review places an emphasis on the studies that focused on nursing student preceptors' impact on the quality of the CLE, in addition to the qualitative studies that sought preceptors' input as to how their role in clinical education could be expanded. The importance of improving clinical education for nurses begins with a discussion of what clinical nursing education is, and why the high-quality preparation of nurses is so important.

The Importance of Clinical Nursing Education

Clinical Nursing Education Defined

Clinical nursing education is ideally a holistic experience where students pull together "...the intellectual, physical, and passion components of learning what it means to be a nurse and developing one's identify as a nurse" (Ard, Rogers, & Vinten, 2008, p.2). The intellectual aspects of clinical nursing education include what is important to know as a nurse. This

includes the mastery of the knowledge that is needed to function as a practitioner in the clinical setting. Included in the intellectual skills are the foundational knowledge that lets the nurse employ critical thinking, make safe decision making, set priorities appropriately, and skillfully transfer knowledge from the abstract to a specific clinical problem. Ard and Valiga (2009) have described many strategies that faculty have developed in order to help students bring these intellectual components to bear in the clinical setting. The physical facet of clinical education is where students practice much-needed psychomotor skills to enact clinical care. Inherent in this aspect of clinical learning is the need to practice skills actively, which does not come through observation alone (Rogers & Vinten, 2009). It is in practice that the three apprenticeships of heart, hands, and mind are engaged to deepen student learning (Benner et al., 2010). The passion component of clinical learning is where students grow their professional identity and values, and where the psychosocial aspects of caring are developed and nurtured (Rogers & Vinten, 2009). Further, all three components of apprenticeship must be present to meet the full definition of clinical learning (Rogers & Vinten, 2009).

Role of Clinical Education in Nursing

Current practice in nursing requires the ability to pull together a diverse array of nursing knowledge in the context of the care of a particular patient. In order to do this skillfully, the nurse must be able to solve complex problems, think critically about the care that is proposed or planned, and attend to relevant evidence-based practice or standards of care while being sensitive to patients' values and needs, and to therefore alter care accordingly (Benner et al., 2010; IOM, 2010; Sitterding, Broome, Everett, & Ebright, 2012). Traditionally, nursing education had relied upon situating students in the practice setting to ensure that students have the opportunity to apply the concepts learned in the classroom with actual

patients, in order to meet program learning outcomes (NCSBN, 2005). As active participants in an actual clinical setting, students experience real challenges that allow them to build their clinical skills and confidence while being called upon to think and act while providing clinical care. Also, interacting with other nurses and professionals as they carry out their roles further facilitates socialization in the profession (Rogers & Vinten, 2009).

Clinical Nursing Education Changing

Nursing practice now calls for nurses to function increasingly like analytical problem solvers rather than as technicians, and for new nurses to graduate with the relevant competencies needed to meet the future needs of patients (IOM, 2010; NCSBN, 2012). Entry-level nursing practice now requires a greater level of knowledge, skills, and abilities than was required just 5 years ago. According to these authorities, nurses need to be educated in new ways that better prepare them to meet the needs of the population. Why are these changes being recommended?

The US healthcare system is in the midst of a period of transformation to improve quality of care and reduce costs. More than a decade ago, the IOM identified six aims to improve the US healthcare as safe, timely, effective, efficient, equitable, and patient-centered in their report (IOM, 2001). However, the US leads the developed world in the lowest health outcomes, and health expenditures rank at the top of other industrialized nations (Organization for Economic Co-operation and Development [OECD], 2013). In 2011, the US National Quality Strategy (AHRQ, 2011) adopted the Triple Aim, a framework developed by the Institute for Healthcare Improvement (IHI) to clarify the goals of health care. The Triple Aim is defined as improving the patient experience of care, which includes quality and satisfaction, improving the population health, and reducing the health care costs (IHI, 2013). With the

increased emphasis on quality of care, it is clear that nursing education in the clinical setting has to help students learn how to navigate this complex health care system and juggle new demands for improved care.

What role does nursing education in the clinical setting play in improving the quality of care? First, in healthcare, nursing makes up the largest occupational population, with 2.7 million RNs in the nation's workforce in 2014 (US Department of Labor, 2014a). Further, the employment of RNs is expected to grow 19 percent from 2012 to 2022, which is faster than the average for all other occupations (US Department of Labor, 2014a). Hence, the impact of graduating new nurses with improved skills in the clinical setting can make a positive impact through solely the virtue of the numbers of nurses in the health care system. Second, nurses have many new and important responsibilities in administrating and titrating complex treatments using diverse technological interventions (Benner et al., 2010). Also, the growth of the geriatric population has led to increasing levels of acuity in hospitalized patients with many diverse chronic conditions and needs for complex care planning and delivery (Benner et al., 2010). Hence, new nurses must graduate from their programs with advanced care delivery skills that would not have been necessary years ago. Third, nurses are often at the center of coordination efforts among disciplines (Propp, Apker, Zabava Ford, Wallace, Serbenski, & Hofmeister, 2010) and thus play a key role in interprofessional collaboration, which has been defined as key by the IOM in providing quality care (IOM, 2010). Learning precise and clear communication skills to function within an interprofessional team becomes a critical skill that nursing students must master in the clinical setting.

At the same time that these new challenges for higher performance among nurses are developing, nurse shortages are still projected for the future (US Department of Labor, 2014b).

Nursing shortages have been an issue since 1998 in the US (Benner et al., 2010; US Department of Health and Human Services [DHHS], 2002; DHHS Health Resources and Services Administration [HRSA], 2010; Unruh & Fottler, 2005). The shortage refers to a condition that the supply of nursing professionals, especially for registered nurses (RNs), is not sufficient to meet the demand. Approximately 250,000 to 1 million RNs would be expected to work by 2020 in order to support the ongoing population growth and aging society, which would thus demand further health care consumption (DHHS HRSA, 2010; Rivers, Fottler, & Kommenich, 2003; US Department of Labor, 2014b; Murray, 2013). Further, 30 million people are now expected to obtain health insurance through the implementation of the Affordable Care Act of 2010 (ACA) in January 2014, thereby adding a greater imperative to meet the added demand (Anderson, 2014). In other words, the number of employed RNs, either new or experienced, would need to increase by 26% from now through the next decade (US Department of Labor, 2014b). Therefore, the need for more new nurses with the clinical skills to function in a transforming health care system becomes more critical than ever.

Challenges to Improving Clinical Nursing Education

Several important reports and standard-setting panels have identified the need for improving clinical nursing education so that students master higher level clinical competencies has been identified at the national level. First, the IOM committee report on the future of nursing has called for nurses to achieve higher levels of clinical reasoning skills, as well as other core competency skills, before graduation. The report suggested that pre-licensure students be educated in new ways that better prepare them to meet these higher competency expectations (IOM, 2011). Second, the NCLEX-RN's passing rate standard was recently raised through a vote of the NCSBN board in 2012. The standard was raised to respond to the higher

entry-level practice expectations identified as needed by the annual standard-setting survey that solicited the opinions of employers about the competence of new graduates (NCSBN, 2014).

Yet, recent studies suggest that the approach to clinical education may not be changing enough to meet these challenges. A recent multi-site study focusing on how programs teach nursing practice found that for both educators and students, a focus on task completion persists and often overshadows the more complex aspects of learning nursing practice that these national standard setting groups have identified as being essential (Ironside, McNelis, & Ebright, 2014).

Challenges in Clinical Education

Several barriers to maximizing student learning in the clinical setting were identified by the National Survey on Clinical Education in Pre-licensure Nursing Education Programs (McNelis & Ironside, 2009). The survey explored the views of three to five nursing faculties on what was impeding their ability to optimize the students' clinical learning. The faculty named the lack of quality clinical sites and qualified faculty as the most frequent barriers they encountered to optimizing students' clinical learning. Other barriers identified that were thought to hinder students' clinical learning were the faculty-student ratio, restrictions on the number of students allowed in the setting imposed by clinical sites, taking too much time for orientation when having rotations, and most importantly, a lack of qualified preceptors (McNelis & Ironside, 2009).

From the students' perspective, several challenges were identified by McNelis and colleagues (2014) in their multisite study that impede student clinical learning. Their study was a qualitative descriptive design using observation and individual interviews of 30 nursing students and 6 faculty from three nursing universities with a total of six clinical sites located in the United States on the east and west coasts and the midwest. The researchers examined

students' thoughts and their interactions with faculty during their clinical practicum. The results showed that students often felt they missed opportunities for learning in the clinical setting due to having no faculty readily available to discuss questions and care when those issues arose. Also, due to the need to share faculty among several students, students felt that they often missed important cues in patient care because they had no one immediately available to reflect on care with them in the setting. Also, the preceptors were sometimes not prepared to apply theories to practice, so their guidance was not as helpful as it could have been. Students also felt that there was a lack of emphasis in the clinical setting on honing students' abilities to delegate care and synthesize pathophysiology, pharmacology, and lab values into their plans of care. The students also identified what the study authors called failing to enact situation-specific pedagogies to foster clinical learning as a key problem. For example, in the absence of meaningful activities, the emphasis shifted to finding something to do, rather than moving onto another purposeful learning activity. In other words, most faculty (including preceptors) were not able to shift the students' attention to other activities that would enhance or extend their learning during downtime. A failure to engage as part of the team was also identified as an important deficiency often encountered during clinical education experiences. Apparently, many faculty and some preceptors did not routinely help students to engage in working with the team to meet patient care goals

Theory-Practice Gap

All of these challenges in clinical education, as identified in various studies, help to explain why nursing students often report feeling disconnected from their classroom learning when they try to apply real life applications of that knowledge in clinical practice (Ajani & Moez, 2011; Benner et al., 2010; Meyer & Xu, 2005). This disconnection or gap between what

is being learned in the didactic coursework and how that knowledge is applied and reinforced in the clinical setting is known as the theory-practice gap (Benner et al., 2010). Results from several preceptor studies (Barker & Pittman, 2010; Duteau, 2012; Mamchur & Myrick, 2003; Myrick & Younge, 2004) indicate that preceptors could provide an effective means for bridging this theory-practice gap in nursing education.

Preceptors Role in Shaping Students' Learning

The term preceptor has been applied to an RN who is in charge of supervising new nurses or nursing students (Myric & Yonge, 2004). The precise definition of a preceptor varies depending on the setting and the state. Preceptorship is generally defined as a one-to-one relationship between a registered nurse and a nursing student during an intense, time-limited clinical experience to facilitate students' learning, and is supported by nursing faculty (Luhanga, Billay et al., 2010; Smedley et al., 2010; Rogan, 2009; Keller, 2005). Formal training to be a preceptor may or may not occur. In some settings, facilities have internal programs designed to primarily prepare staff nurses to orient other new nurses to the setting.

In Oregon, the term preceptor is not used by the Oregon State Board of Nursing (OSBN) for pre-licensure nurse guidance of student nurses. In the OSBN draft rule development, the advisory group supported the concept that the preceptor is a role for the orientation of new graduates and employees; thus, the term Clinical Teaching Associate (CTA) is designated for those nurses other than the faculty that work with nursing students in an appointed role in the clinical setting (Oregon Consortium for Nursing Education (OCNE) Team, 2008). In Oregon, the Oregon Consortium for Nursing Education (OCNE—a partnership of nursing programs) does make available an 8-hour Clinical Teaching Associate (CTA) training course (Mood, 2010). Despite these two distinct definitions of preceptor versus

CTA within the state of Oregon, preceptors may not be aware of the differences between a preceptor and a duly trained CTA (Linda Myer, personal communication, September, 2014), which is probably due to the broad use of the term preceptor to include this specific pre-licensure education context, as commonly used and defined by hospitals and nursing schools in that way (Linfield College, 2014).

In this review, the term preceptor will be used in lieu of CTA, even though the term preceptor in Oregon typically refers to a nurse who is orienting or training other licensed nurses and is not working with students. Though the term CTA is used in other states besides Oregon, in the literature, and even among nurses functioning in the CTA role in Oregon, the term preceptor is more commonly used to refer to the pre-licensure preceptor role. Studies and papers will be reviewed as long as they focus on either the CLE or nurse preceptors defined as RNs and designated to supervise nursing students with one-to-one relationships. In Oregon, CTAs mostly work with senior nursing students who are completing their final clinical examinations and are expected to have already mastered basic undergraduate competencies but are now in their final integrated practicum, where students are expected to pull together all of the didactic and clinical education.

Preceptors' role. Studies of the preceptors' role have focused primarily on their reports of their understanding and meaning of the role, the skill sets they bring to the role, and the importance of the relationship toward the enactment of the role. Brammer (2006) found that nurses' understanding of the preceptors' role varied—some held the view that preceptors' focus was student-centric, while at the other end of the continuum, some were more focused on getting the workload completed or wanted no contact with students at all. This study highlighted the varied ways that nurses view the preceptor role; for example, in how students

that may promote or impede the quality of student learning interest, or how motivation to be a preceptor can have a synergistic effect for the preceptor. In general, one's interest in precepting is related to more reported positive preceptor role experiences (Hallin & Danielson, 2009).

Preceptors see themselves as teachers and consider themselves to possess genuine skills, such as the ability to artfully connect, create a culture of respect, acknowledge contextual realities, and preserve the ideals of ethical and competent care (Paton, 2010).

Several studies have explored how preceptors rank and rate key skills that they need to be preceptors. In one classic study that explored both students and preceptors perceptions of the preceptor role, 32 registered nurse preceptors and 42 senior undergraduate nursing students completed a survey ranking factors related to both participants in the clinical learning partnership. Both preceptors and students valued the following skills: 1) attitude toward teaching and learning; 2) Communication skills; and 3) Clinical competence (Byrd, Hood, & Youtsey, 1997). The significant differences in values between preceptors and students are listed as follows: a) the ability to give and receive criticism, b) knowledge of the precepting process, c) clinical competence, and d) compatibility. Preceptors ranked the ability to give criticism and address clinical competence as the highest, whereas students ranked this value as the lowest. Students ranked having knowledge of the precepting process the highest, whereas compatibility had the lowest ranking. Strategies and techniques used by preceptors were described in a study conducted by Carlson, Wann-Hansson, and Pilhammar (2009) in Sweden. In this study, the researchers used an ethnographic approach using participant observation and focus group interviews with nurses who were experienced preceptors in order to help the preceptors articulate the specific pedagogical practices they used when precepting undergraduate students. The preceptors used a continuous process of adjusting and evaluating

their precepting practices, which were not described prior to this study. Preceptors have also been asked to rate their own teaching competences, and these rankings were compared to their self-rated locus of control and self-directed learning (Chen, Hsu & Hsieh, 2012). High internal locus of control and being a self-directed learner correlated with rating oneself higher in terms of teaching competency.

The relationship between student and preceptor and how it is defined and set is also an important part of the preceptor role. Foley, Myrick, and Yonge (2012) interviewed 7 preceptors and 7 senior nursing students, and using a phenomenological approach, explored preceptorship within an intergenerational context. Preceptors value what the authors termed being affirmed (being respected, seeing students grow, imparting the legacy, and strengthening nursing knowledge). Charleston and Happell (2006) completed in-depth interviews with 20 second-year nursing students and 9 nurses who worked as preceptors. In their grounded theory analysis, the core category that students identified as most relevant to the preceptor relationship was coping with uncertainty, while the preceptors' core category was attempting to accomplish connectedness. Recognizing the importance of the student-preceptor relationship, a model of preceptorship has been proposed that takes into account the factors and influences that might impact, both positively and negatively, the strength and effectiveness of the relationship and the resulting student learning outcomes (Happell, 2009).

Other studies have explored the unstructured student-staff nurse relationship (Veltri, 2015), but only one known study in the US focused exclusively on the examination and detailing of preceptor's perspectives on the nurse preceptor role as it currently exists (Raines, 2012). In this study, 26 experienced nurse preceptors were asked how they view the preceptor role and what factors facilitated or inhibited their willingness to precept. Preceptors needed to

have at least one year of experience as a preceptor to qualify for participation in the study. One consistent and strongly held belief was that preceptors were not being engaged properly in the educational process. The educational process includes the setting of standards for the experience. Another theme that emerged was that the preceptors were often not acknowledged for their efforts nor recognized for the amount of time they spend with students versus faculty. This study focused on the role of the preceptor and what was satisfying or frustrating in that role. Although the preceptors' perceptions of what should be done to structure more effective CLEs was not a focus, the findings indicate that preceptors are likely to want to be asked that question.

Preceptor's impact on student learning. Studies by Koontz, Mallory, Burns, and Chapman (2010) and Zilembo and Monterosso (2008a) have found that preceptors are key to effective student learning. Koontz et al. examined a total of 10 nursing students' perceptions of their CLE experiences through three focus group interviews with a qualitative descriptive exploratory study. The most significant element of the CLE that students identified was preceptors who were receptive, who oriented students to the floor, who provided varieties of hands-on skills, and those who guided students to be a part of their team (Koontz et al, 2010). Zilembo and Monterosso looked at 23 nursing students' perceptions of desirable leadership qualities in preceptors with a mixed methodological survey approach. The results indicated that the most desirable components of preceptors' leadership students perceived were clinically competent, purposeful, supportive, approachable, consistent, organized, and effective communicators and motivators in order to develop students' psychomotor skills and to orient them to the reality of nursing care, including supporting students to apply theories to practice (Zilembo & Monterosso, 2008a). Both studies showed how preceptors can guide students in

getting them settled in their clinical settings and how they can be their personal and professional support.

Preceptors have multiple roles as coaches, role models, socializers, evaluators (Wieland, Altmiller, Dorr, & Wolf, 2007), and nurturers and supporters of nursing students (Boyer, 2008; Mamhidir, Kristofferson, Hellstrom-Hyson, Persson & Martensson, 2014). Prior research done with undergraduate nursing students and clinical faculty showed that preceptorship is one of the most important influences that shapes the quality of the clinical learning environment (Happell, 2009; Heffernan et al., 2009; Zilembo & Monterosso, 2008a, b).

Guidance from nurse preceptors (Henderson, Briggs, Schoonbeek, & Paterson, 2011; Bonnel, 2009; Mamhidir et al., 2014) is an important component of negotiating these more complex CLE settings. In Wieland and colleagues' (2007) qualitative study of data collected from 14 students' journal entries, interviews with three faculty and nine preceptors indicated that preceptorship was a key to helping many students become integral members of hospital unit teams. In Kim's study (2007), which examined 102 senior students' perceptions of their clinical preceptorship program using a 52-item survey questionnaire, 90 % of students felt that their competence level was increased through the preceptorship program. With a greater amount of preceptor interaction, there was a greater degree of perceived increase in nursing skills among the students. For example, there are significant differences in students' increased competence in interacting with a preceptor by organizing and prioritizing nursing care with a preceptor ($r = .65$, $P = .02$), evaluating together with a preceptor of students' strengths and weaknesses ($r = .61$, $P = .001$), and having effective communication with a preceptor ($r = .40$, $P = .01$). Further, 96 % of the students rated their relationship with their preceptor as important to

very important. Myrick and Yonge (2002) have advocated a position that preceptor behaviors, such as role modeling, facilitation, guidance, and prioritization, are integral to the promotion of student critical thinking. In 2010, Myrick, Yonge, and Billay (2010) followed up on this work by using a series of semi-structured interviews, field notes, and journaling to explore the process used by preceptors to nurture practical wisdom. They defined practical wisdom as a “discerning process of evaluating and applying ideals or principles often in a moral context” (p.86). Also, they found that preceptors who nurture practical wisdom do so by modeling their own process of authentic nursing practice. Berry (2005) found that students matched with RN preceptors felt better prepared than students who did not have such pairings in collaboration, use of evidence-based practice, self-direction, and use of community resources.

Furthermore, preceptors are the key persons who guide students toward becoming successful clinical practitioners. The way this happens has been covered by several preceptor studies. Welcoming, being supportive, and advocating for students was a key factor explored in four studies (Heffernan et al., 2009; Hosoda et al., 2012; Levett-Jones, Lathlean, Maguire, & McMillan, 2007; Schumacher, 2007). Other important factors included involving students in performing patient care (Hosoda et al., 2012), providing students feedback and autonomy (Luhanga et al., 2010; Schumacher, 2007), behaving professionally (Hosoda et al., 2012), and connecting students to patients, family, and staff (Hosoda et al., 2012; Schumacher, 2007). Moreover, they also help students to bridge the gap between theories and real-world nursing practice (Hosoda et al., 2012; Halfer, 2009).

In a quasi-experimental study, Ownby, Schumann, Dune, and Kohne (2012) randomized students were assigned to either a traditional or precepted clinical group. Though the preceptors for the precepted group were not specifically trained to be preceptors, they were

specially selected baccalaureate-prepared nurses who had been practicing for at least one year. A total of 72 students were randomized to the traditional or the precepted group, and then the groups were compared on their exam scores, their HESI scores, and the quality and timeliness of their clinical paperwork. The findings indicated that the precepted students performed as well as the students mentored by the faculty alone.

Barriers to learning in the CLE. In a program evaluation for OCNE, which examined students' perceptions of their preceptors overall and coaching effectiveness, Mood (2010) hypothesized that several factors limited specially trained preceptors' ability to have a greater impact on learning. Potential explanations offered for this limited impact included the economic recession in Oregon, which greatly affected nursing staffing in most of the units where CTAs were practicing. Short staffing and stress in the clinical setting were thought to obviate the gains made through the structured training of the preceptors. In other words, the limitations present in the CLE were thought to be potentially responsible for training outcomes.

Other studies have documented that not enough consideration is being given to the CLE and that availability of a setting was often considered rather than potential for success (Altmann, 2006) In an integrative review of preceptor studies, Uldis (2008) concluded that while preceptors contribute significantly to students' learning by guiding their adaption to real-world clinical situations in over 56% of the studies reviewed, further study is needed to find out why their impact was not greater in the remaining 44% of studies reviewed.

Preceptors should be asked to help co-create the CLE. An intervention study that used paid supernumerary clinical facilitators to enhance students' integration into the clinical setting found that students reported an improvement in the psycho-social factors of the clinical learning environment; however, these improvements were not sustainable over time again due

to workplace stressors such as high turnover and increased patient acuity (Henderson, Twentyman, Eaton, Creedy, Stapelton, & Lloyd, 2010). A survey study conducted in Turkey by Addis and Karadag (2003), which queried untrained preceptor nurses about their clinical teaching role in working with students, found that the nurses rated themselves most effective in helping students integrate into the clinical site but felt they could do more to help students if there was a true partnership with the school of nursing that would allow them to create better learning experiences for the students.

Charleston and Happell (2005) compared preceptors and nursing students' perceptions of preceptorship in a mental health care setting. In individual interviews, nine preceptors said that one of their highest priorities was to seek to accomplish connectedness in the preceptorship relationship. The 16 students, who all participated in focus group interviews, reported how critical this help from preceptors was in adjusting to the mental health care environment and in reducing their fears and misconceptions. Both the students and the preceptors agreed that the preceptor had a key role in protecting the students. In a follow-up study by Charleston and Happell (2006), the importance of attempting to accomplish connectedness with the students for the preceptors, as well as coping with uncertainty for the students, were the core categories identified in a grounded theory analysis. Preceptors indicated that they felt the need to formalize the process of preceptorship and that clear guidelines should be developed to better co-create the learning environment. In Bourbonnais and Kerr's study from 2007, the eight nurses with previous experience as preceptors who participated in in-depth qualitative interviews expressed a strong desire to have more input regarding the set-up of the precepted experience. Using a participatory action research approach that included nine preceptors, Blum

(2009) found that the preceptors reported great satisfaction with creating a clinical preceptor model and being part of the process.

Partnerships with clinical sites and agencies have been created as the first step toward the development of truly collaboratively-created CLE (Delunas, & Rooda, 2009). Henderson, Heel, and Twentyman (2007) created stronger partnerships with their clinical settings by opening channels of communication with the hospital staff, thereby allowing them to have more say in the placement of students. Smedley and Pennyey (2009) used a partnership approach to developing a course designed for the preparation of preceptors. Newton, Cross, White, Ockerby, and Billett (2011) investigated how the social practices of a clinical partnership placement model could facilitate workplace learning for undergraduate students. Three themes were identified that facilitated students transition into the clinical setting: organizational familiarity, continuity, and social participation. This study indicates how partnerships do a better job of integrating the student into the CLE and preparing them to function in that setting. The Bridge to Practice Model developed by Paterson and Grandjean (2008) provides students with a bridge to practice by holding the CLE stable throughout more than one clinical rotation. By holding the placement stable, less orientation time is required for students and faculty, there is more involvement with clinical support services, and care management improves. Duteau (2012) reviewed nine preceptorship studies in both the US and in other countries. Based on the review, she concluded that collaboration between schools of nursing and health care agencies and organizations was a key to developing a successful preceptorship program. Dual involvement in creating carefully delineated role descriptions, access to support, and feedback are important factors in achieving positive outcomes.

While all of these efforts are commendable, the one consistent thing missing from these partnership initiatives is a concerted effort to solicit and understand the preceptors' assumptions of how the CLE could be co-created and made more effective. Building in the views of preceptors with their expert local knowledge of how such workplace stressors in the setting impact clinical practice into a model of nurse educator and preceptor collaboration is critical to building strong and effective CLEs. Findings from the reviewed studies point to the importance of co-creating the clinical learning environment.

Clinical Learning Environments

The concept of the clinical learning environment (CLE) implies a group of characteristics that are distinctive to a certain clinical setting that impacts on one's behaviors within that setting (Orton, 1981). The CLE is defined as an interactive network of forces within the clinical setting which influences the students' clinical learning outcomes (Dunn & Burnett, 1995). This interactive network of forces, which involves everything that touches on the students' experience in the setting, consists of physical and non-physical factors, including ward atmosphere (Hosoda, 2006a; Saarikoski & Leino-Kilpi, 2002; Chan, 2001; Dunn & Burnett, 1995), relationships within and between students and faculty, supervisor, staff and/or other healthcare providers (Hosoda, 2006a; Saarikoski & Leino-Kilpi, 2002; Chan, 2001; Dunn & Burnett, 1995), teaching and supervising (Saarikoski & Leino-Kilpi, 2002; Hosoda et al., 2012), quality of nursing care (Saarikoski & Leino-Kilpi, 2002), built environment, including spaces, resources, and equipment (Hosoda et al., 2012), and student satisfaction (Chan, 2001; Dunn & Burnett, 1995).

Perspectives about optimal CLE studied. Thus far, studies that have examined perceptions of CLEs have been mostly focused on students. Chan (2002) examined the

relationship between student learning outcomes from their clinical placement and their perceptions of the social climate of the clinical learning environment using the CLEI in Australia. The CLEI Actual and Preferred forms, with an added Student Satisfaction scale, were distributed to all of the second-year pre-licensure nursing students at the University of South Australia. Out of this cohort, 138 actual forms, which rated their current CLE, and 108 preferred forms, which rated their optimal CLE, were completed and compared (Chan, 2002). The results showed that all six subscales in the actual CLEI form scored slightly lower than their preferred CLEI form, thereby indicating that the actual CLE was rated slightly lower than the ideal, but it was still positive. Also, students rated “personalization” the highest of all the CLE features in the actual and the preferred CLEI. Using the CLEI measurement, this review of studies will focus on this key subscale. Personalization emphasizes whether or not students had high-quality interactions with faculty, preceptors, and or clinicians. This result indicates how important the influence of faculty, preceptors, and clinicians is on student learning in clinical settings. A limited amount of time in the setting makes personalization even more important to students in terms of the quality of the CLE. Chan (2002) observed that the students in the cohort that were studied spent only a few weeks in each clinical setting and noted that students may have needed more support from faculty, preceptors, and clinicians (and therefore rated actual personalization higher), due to the limited time required to develop relationships with them in each setting. The higher score for personalization in the preferred form suggests that, even though personalization was rated positively in the actual setting, students would like to have even more of this type of support and guidance in their optimal CLE. These results reinforce just how important the preceptors are in terms of influencing the CLE for students.

In Hong Kong, Chan and IP (2005) examined actual CLEs (N=281) and preferred CLEs (N=243) by surveying students at a range of levels spanning sophomore to senior nursing students. The results showed that students rated “personalization” as the most important feature of the CLE, which is similar to Chan’s study (2002) in Australia. Also, students’ ratings of their perceptions on the actual CLEs were lower than their preferred CLEs. However, the researchers noted that the mean scores of all subscales in the actual CLEI forms were associated with high standard deviations and showed more of a U-curve rather than a normal curve distribution (Chan & IP, 2005). This means that students’ perceptions of their actual CLE varied from negative to positive in a wide range – some seeing the CLE as very good, while others seeing it as very bad. In contrast, the mean scores of the six subscales of the preferred CLEI forms showed far less variation and were distributed normally which may have indicated that students had more consistent perceptions of their ideal CLEs. This study also demonstrated that students seem to put more weight on interacting with faculty, preceptors, and clinicians when rating the CLE than any other facet measured by the CLEI.

In Italy, Perli and Brugnolli (2009) surveyed 232 nursing students from three levels of the nursing program using a translated CLEI that consisted of six subscales and 42 items. The researchers followed Chan’s studies (2002 and 2005) and asked their study participants to rate both the actual and preferred forms of the translated CLEI. In this study, all subscales were rated highly on both the actual and preferred CLEI. This means that students’ actual CLEs might have been close to what they perceived as their optimal CLEs. Perli et al. used the original set of anchors developed for the CLEI by Chan (2001, 2002) where 5 = strongly agree, 4 = agree, 2 = disagree, 1 = strongly disagree. From the report, it isn’t clear if the researchers used 3 for indicating that an item was omitted or answered incorrectly and then included this in the

total score for the subscale. The reported Cronbach's alphas for the six subscales ranged from 0.47-0.74, indicating that the translated subscales showed poor reliability. Given this difficulty, the researchers instead reported their results descriptively using means and standard deviations of the subscale items. In this study, the highest subscale score item mean was 4.14 (actual) and 4.63 (preferred) of for "satisfaction". "Personalization" ranked as the third most important facet of the CLE (4.08) on the actual CLEI and the second (4.43) on the preferred CLEI. The researchers concluded that the CLEI was not an optimal measure of the CLE in all domains for their study participants due to the poor reliability subscale results. The reasons they attributed to the poor reliability were possible issues related to the translation of the measurement and the differences in cultures and education systems among Australia, Hong Kong and Italy (Perli & Brugnonli, 2009). For the purposes of this review, an additional limitation was that the researchers did not discuss how clinical teaching and learning models or systems work in Italy, and it is not clear how much they depend on or may use a preceptor model for clinical education. Since some of the CLEI items use the term preceptor, this might also have hampered the CLEI's utility in this setting.

In Australia, Henderson, Twentyman, Heel, and Lloyd (2006) examined a total of 370 second and third year nursing students' perceptions of a collaborative clinical education model on the CLE using the CLEI scale through a pre-test and post-test experimental design. The pre-test was obtained after students' first clinical practicum in their curriculum. The post-test was performed after students' second clinical practicum. During the second clinical practicum, the control group was in a traditional setting, and the intervention group was in the Clinical Education Unit (CEU). The CEU model uses an academic and clinical partnership to provide students a consistent and solid clinical education by a team of nurses (Henderson et al., 2006).

Due to the concerns of using the original Likert-point scoring system of the CLEI developed by Chan (2001, 2002), the authors modified it to a 4-point scale, as described previously, where 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree, with the non-response value excluded from the score calculation. Personalization is one of the subscales that most directly measures preceptor influence on the CLE and includes items such as “The preceptor/clinician considers students feelings.” In this study, personalization was rated higher (21.15 out of 28) in the CEU units than in the traditional facilitation units where the mean score was 20.16 ($p = 0.019$). In addition to higher scores in Personalization, students also scored Student Involvement and Task Orientation higher in the CEUs, thus indicating that they had greater engagement in the CEU (Henderson et al., 2006). Students valued being “buddied” with preceptors in the CEU model and found them more helpful for their learning in this especially constructed model versus the traditional facilitation model. This study illustrates how preceptors can shape student learning, and should be part of creating the CLE.

The same authors also published another article about nursing students’ perceptions of the psycho-social CLE using the CLEI scale in three different models: 1) a facilitation model, 2) a CEU model, and 3) a preceptor model in the same time period when they conducted the study described above (Henderson et al., 2006). The total of 389 first, second, and third-year undergraduate nursing students in a baccalaureate program took the survey ($n=269$ respondents in the facilitation model, $n=114$ respondents in the CEU model and $n=16$ respondents in the preceptor model). The authors modified the scoring system to a usual 4-point scale, as described previously. The results showed that students rated the preceptor model highest with a median personalization score of 22.69, versus a median facilitator model score of 17.05 and a median CEU model score of 21.08. The Kruskal-Wallis test was statistically significant

($p=.008$). In the preceptor model, students worked closely with one or two preceptors, while the CEU model used a variety of staff as clinical supervisors for the students. The difference in median scores was explained as being due to preceptors who have great precepting skills being in charge of student learning (Henderson et al., 2006). This may indicate that assigning a preceptor per student tailors student learning better than having multiple nurses, even if they too have good precepting skills.

Saarikoski, Leino-Kilpi, and Warne (2005) studied nursing students' experience in their CLEs and perceptions of supervision in their clinical setting using the CLES scale developed by authors (Saarikoski & Leino-Kilpi, 1999; Saarikoski & Leino-Kilpi, 2002). The authors also examined how well the CLES measurement worked in two different European countries' nursing education cultures. The samples comprised 426 nursing students obtained from four colleges in Finland and 142 students obtained from two universities in the UK. Students' supervisory relationship with nurses, called mentors in the article (oftentimes one-to-one relationships), was the most common method of supervision in both countries according to the authors (Saarikoski et al., 2005). Details of how these mentors supervised students in the clinical setting were not provided, so it is not clear if they function in the same way as preceptors do in the US. Finnish students evaluated their experience with the CLE and mentors more positively than the UK students' evaluated their experiences. No significant difference was seen in both countries in terms of how students worked with their mentors. The results also showed that Finnish students and their clinical faculty had more meetings than the UK students and faculty did. The authors noted that cultural differences of how students value each component of the CLE/supervision were seen between Finland and the UK, along with the differences in the educational system in both countries.

In Cyprus, Papastavrou, Lambrinou, Tsangari, Saarikoski, and Leino-Kilpi (2010) studied undergraduate nursing students' perceptions of their CLE and supervision in clinical settings using the CLES scale developed by Saarikoski and Leino-Kilpi (2002). The researchers recruited 645 participants in their first, second, and third year of programs from the only public nursing school in Cyprus (90% of the student body) to complete a questionnaire. These students were the last students admitted into the hospital-based nursing education system, which is probably similar to a three-year diploma program in the US, though this was not described in detail. The CLES instrument was translated from English to Greek through the back-translation technique. In this study, the supervisory relationship was identified as being problematic, due to over 30% of the students having a 'failed supervisory relationship', meaning that they had no supervisor, their supervisor did not work well, or the supervisor changed and the substitute was unsatisfactory. According to the researchers, students were supervised not only by a staff nurse but also by other healthcare providers, such as nurse managers, doctors, or fellow students depending on settings or situations. Some students were even not assigned to a supervisor, as noted above (Papastavrou et al., 2010). Yet, the impact of the supervisory relationship on the quality of the CLE was the identified as the most important finding of this study.

In Norway, Skaalvik, Normann, and Henriksen (2011) studied nursing students' experiences and satisfaction with their CLEs in both nursing homes and hospital settings. A total of 511 study participants ranging from first- to third-year students were recruited from two nursing colleges in Norway. The researchers indicated that in Norway, nursing education is completed in a three-year baccalaureate program that is different from the US four-year baccalaureate nursing program in terms of time spent in the program and total clinical hours

(both are less). In the US, nursing diploma programs and associate degree programs are often three-years long. The CLES instrument developed by Saarikoski and Leino-Kilpi (2002) was modified to a Norwegian version called the Clinical Learning Environment, Supervision, and Nurse Teacher (CLES + T) scale. The CLES + T consists of 34 items that are focused on one of three subject areas. The first subject area is the clinical learning environment, and items included in this domain are: a) pedagogical atmosphere (9 items); b) leadership style of the ward manager (4 items); and c) nursing care on the ward (4 items). The second areas focus on supervision, and the items included in this area focus on the content of the supervisory relationship (8 items). The third area focuses on the role of the nurse teacher, and the items included in this domain are: a) enabling the integration of theory and practice by nursing faculty (3 items); b) cooperation between clinical placement and nurse teacher (3 items); and c) relationship between student, mentor, and teacher. The third area, the role of the nurse teacher, was added to the original version of the CLES scale for the purposes of this study of the Norwegian students' ratings of the CLE. The results showed that across all domains of the CLES + T, students rated nursing homes as more negative clinical learning environments than hospital settings. The researchers postulated that nursing students seemed more interested in having clinical placements in the acute care setting and rated them more positively because of a prevailing value among students that values curing patients above caring for them. Also, students reported that nurses in hospital settings had a stronger interest in teaching students compared to the nurses in the nursing homes (Skaalvik et al., 2011). This study shows how crucial the hospital nurses were in motivating students to learn in their clinical practice and for them to view their CLE positively. Rather than being part of the background of the CLE, the nurses in the setting in this study were critical in shaping the experience and the student's

attitudes toward practice in those settings. Nurses in the setting have also been reported by students in the US as crucial factors influencing CLE.

Also, some other studies about the CLE focused on the clinical faculty's views. For example, Hosoda et al. (2012) interviewed 40 nursing clinical faculty about their perceptions of a desirable CLE for students in both Japan and the US. The results showed that having a coherent partnership between academic and clinical, faculty- and preceptor-facilitated learning, and varieties of clinical experiences, were some of the important factors required to create a positive CLE. Two studies (Chuan & Barnett, 2012; Hosoda, 2006b) examined nurses' perceptions of CLEs for student learning. An exploratory study by Chuan and Barnett (2012) surveyed 142 three-year diploma program nursing students, 54 staff nurses, and eight clinical instructors about their perceptions of the CLE. The survey was created by the researchers using 44 items extracted from existing CLE instruments developed by Chan (2002), Dunn and Burnett (1995), Hosoda (2006), Saarikoski and Leino-Kilpi (2002), and Sand-Jecklin (2000). The results indicated that participants' overall perceived CLE was positive. There is a significant difference in the most positive component of the CLE. Staff nurses considered their CLE as the most learner-friendly, whereas students and clinical instructors chose supervision by clinical instructors as the most positive component of the CLE. The issue with this study did not clarify whether preceptors were included in their samples. Also, a three-year diploma program in Malaysia may not be comparable to that of a nursing education in the US.

Only one qualitative pilot study (Hosoda, 2006b) examined the perceptions of 14 experienced nurse preceptors and 20 undergraduate senior nursing students in Japan. Despite the inclusion of preceptors to examine their perspectives on the CLE, this pilot study was part of the development work for a CLE measurement instrument and has not yet been published.

The data from the preceptor interviews may have limited applicability in the US as Japanese preceptors' perceptions may be significantly different from US preceptors, since both countries have substantially different healthcare and nursing education systems. Overall, it is evident that no studies are available that reflect on preceptors' views of the CLE in order to provide insight into aspects of the CLE that are seen as facilitators and/or barriers to optimal learning by students.

Hence, little is known about nurse preceptors' assumptions of what should be done to structure effective CLEs for students; thus, this study will address that gap. The voices of all the stakeholders—nursing students, clinical faculty, and nurse preceptors—are needed if we are to fill in the missing pieces of what creates a better CLE for nursing education now and in the future.

Gaps in Literature

Though many studies have examined student feedback on what constitutes the optimal CLE, preceptors' views have rarely been sought. Instead, most studies that focus on the preceptorship of undergraduate students ask preceptors what they need to perform their role, which fails to fully detail what their opinions are in terms of the aspects of creating an optimal CLE. As Smedley et al. (2010) discuss, students learn best through being immersed in the context of the real-life nursing workplace as their learning environment. Most of the time, preceptors are treated as part of the background of a CLE, much like the other features of the unit, and are not viewed as co-creators of the learning experience (Raines, 2012). Also, preceptors' local knowledge of the clinical setting remains untapped. For this reason, identifying preceptors' perceptions of what is needed to create optimal hospital-based CLEs is crucial and would suggest new and original ideas about how to create better CLEs. This

proposed qualitative descriptive study would also propose alternative approaches to evaluating existing CLE measurements, provide insight into aspects of the CLE that are seen as facilitators and/or barriers to optimal learning by students, and help to develop optimal hospital-based CLEs for nursing students with shared values of key stakeholders in the CLE.

Summary

The CLE is a constantly changing situation that not only demands not judgments and reactions, but also interpersonal communication and collaboration. With constant changes, nursing students, as well as staff, have been facing increasing interpersonal and technological stressors in the clinical setting. Physical and organizational challenges are often hard to cope with for novice nursing students. However, nursing preceptors, as the individuals with local knowledge and skill in navigating the setting, have the capability to take on an important role in reducing students' stress and to change potentially negative experiences into positive ones. What will change the CLE for the better is for nurse preceptors to be partnered with academic faculty to facilitate students' learning collaboratively. Currently, when nursing faculty plan clinical experiences for students in a given clinical placement, they do not routinely elicit the point of view from the preceptors as to what factors might be shaping those experiences either positively or negatively. This study will seek to describe their perceptions of what might help students to remove barriers to effective learning and/or facilitate their studying.

CHAPTER III

Research Design and Methods

Research Design

Little is known about preceptors' assumptions of what constitutes an optimal hospital-based CLE. This study used a qualitative descriptive design (Sandelowski, 2010) using semi-structured interviews, as described by Bogdan and Biklen, (2006) and thematic analysis, as outlined by Braun and Clarke (2006). The goal of a qualitative descriptive study is to acquire a straight description of the facts extracted from participants' experiences in their own colloquial language (Sandelowski, 2000). Compared to other qualitative methods, such as grounded theory and phenomenology, a qualitative descriptive study attempts to present the "findings closer to the data as given," in order to stay as close to the participants' intended meanings as possible (Sandelowski, 2010, p.78).

Because capturing meaning is an essential concern of the qualitative approach (Bogdan & Biklen, 2006), the focus of this study was to describe the perspectives of the preceptors as accurately as possible. This was seen as the best approach to obtaining preceptors' in-depth descriptions of what they know and see as key players bridging the academic and practice gap in the CLE. Interviews, not observation, were chosen as the primary means of data collection in this study because the focus was on the subjective knowledge and experience of preceptors not constrained to a specific moment in time (Flick, 2009). The specific aims of this study were to: 1) explore preceptors' assumptions of what constitutes an optimal CLE for undergraduate nursing students; 2) describe the factors that preceptors view as facilitators or barriers to optimal student learning; and 3) describe strategies that preceptors identify to create an optimal CLE.

Sample & Setting

Maximum variation sampling, which is a purposive sampling method, was used for this study. Maximum variation sampling is especially useful when researchers want to identify the common and unique observations among a variety of participants who are describing a particular phenomenon (Flick, 2009; Sandelowski, 2000). To obtain participants who would be able to provide rich information about the topic, only expert preceptors were sought as participants. In this study, the CLE setting was limited to hospital-based settings, in which there is a long history of using preceptors in a lynchpin role in nursing undergraduate education. Since a majority of the preceptors' working with undergraduate nursing education are still based primarily in hospitals (McNelis & Ironside, 2009), hospital-based settings seemed the best to choose for the focus of this study. Participants were hospital-based preceptors who work with undergraduate senior nursing students in Oregon. A total of 13 preceptors were recruited from a teaching hospital that provides tertiary care and clinical sites for Oregon Health & Science University (OHSU) School of Nursing in Portland, Oregon.

The inclusion criteria for participants included the following: a registered nurse who: 1) had completed the OCNE CTA training; 2) was identified by nursing faculty as an expert preceptor (however, individual referring faculty may have defined that); 3) had precepted senior undergraduate nursing students within the past two years so that their experiences were relatively current; and 4) worked in an acute care setting in Portland. The goal was to identify participants who were skilled as preceptors in order to identify common themes and patterns that cut across their multiple perspectives (Creswell, 2007). Some preceptors identified as experts by faculty were relatively new as nurses, and others had many years of experience. Though this may or may not have affected clinical competence, years of experience in the

setting was not used as inclusion criteria because expertise as a preceptor was the relevant focus of this study, as defined by referring faculty members. Preceptors who did not meet this background experience inclusion criteria were not interviewed.

The rationale for the inclusion criteria was based on the Integrative Practicum Relationship Model presented in Chapter 1, where the preceptor (CTA) is viewed as the centerpiece that connects students and faculty to the clinical setting and acts as the bridge in the CLE that facilitates student's learning. In this model, the preceptor holds a central role and is available to the student for an extended period in a specific clinical setting, which helps the student transition from student to the professional role of the nurse. Therefore, preceptors who had received the CTA training and were familiar with this model and had received prior orientation as to the philosophy behind the role of the preceptor. Second, preceptors who were viewed as experts by their faculty colleagues were assumed to be more proficient at adapting the CLE to meet the learning needs of the students. Also, faculty who had worked with many preceptors were assumed to be in the best position to identify those preceptors who executed the role with greater skill. Recent experience as a preceptor was also viewed as an important inclusion criteria because their recall of their experiences was more accurate, and those experiences reflected the challenges of precepting in current health care settings in a more accurate manner.

Recruitment

A database that listed the names and work locations of all CTA-trained nurses maintained by OCNE was accessed after obtaining permission from OCNE and the OHSU Institutional Review Board (IRB) to obtain contact information for recruiting interviewees. A total of seven potential hospitals employing nurses that have received CTA training through

OCNE in Portland, Oregon. However, only the largest institution was chosen to recruit participants, because there were a large number of CTA-trained preceptors in a variety of units in that particular hospital.

Following the OHSU IRB approval, the researcher asked the OHSU undergraduate nursing clinical faculty, who had worked with students in their clinical capstone experience (in the OCNE model this is the same as the Integrated practicum), to help identify possible preceptors for the researcher to approach to participate in this study from names located in the OCNE database. The integrated practicum is a required precepted clinical course that prepares senior nursing students in the transition to the workforce during their last two quarters before graduation (OHSU, 2012, p. 70). An email describing the study and the criteria for the preceptors being sought for interview was sent to those appropriate faculty members (See Appendix A). The email included an attached flyer that described the study in detail and provided the Principal Investigator's (PI) contact information for participation (See Appendix B). This researcher made contact with the preceptor via email (See Appendix C). If participants responded with questions about the study, either via phone or email, a script for answering questions on the phone was used (See Appendix D), and a list of possible responses to anticipated questions by email appears in Attachment E.

Preceptors were informed of the purpose of the study and asked whether they were interested in participating. Participation in this research interview was voluntary. In the first contact, any questions about participation from preceptors were answered by the researcher, and an appointment for their interview was set. All interviews were set and performed in a private room booked by the researcher at OHSU SON. At the beginning of the interview, the researcher reviewed the study purpose along with the approved study information sheet and

assured participants that they had the right to withdraw from the study at any time. The IRB waived the requirement for written informed consent because this study presented no more than minimal risk to participants. The information sheets described the background and purpose of the study, ways to keep participants' confidentiality, contact information about the researcher, the dissertation chair, and the IRB, voluntary participation, and time required for participation. A \$10 gift card was offered as a thank you for participation. No one withdrew their interview or requested not to include their data for analysis.

Semi-structured Interview Guide

This researcher created a semi-structured interview guide with open-ended questions based on the literature and organized to meet the aims of the study. The aim of this semi-structured interview was to learn about preceptors' experiences and assumptions about how to create the best CLEs (see Appendix F). In semi-structured interviews, participants' viewpoints are more likely to be expressed if the interview is more like a guided conversation, as opposed to simple responses to a predetermined set of close-ended questions (Bogdan & Biklen, 2006). A semi-structured interview guide meets the goal of asking similar questions to all participants, while also allowing the flexibility and fluidity that allows deeper exploration of the contextual factors that arise during the interview (Flick, 2009). In creating the guide, an effort was made to create multiple probes in the form of additional questions to elicit specific information that were actively used during the interviews.

Data Collection Process

The researcher received a preceptor training list from the academic coordinator for the undergraduate program at the Oregon Health & Science University (OHSU) School of Nursing (SON) in Portland. At the time, there were 133 trained preceptors through OHSU SON in

Portland. Of the 133 preceptors, 33 did not have current contact information due to getting a management position or leaving their employment. Among the rest of the 89 preceptors, 53 were recognized as experts by several clinical faculty members and were contacted by email. Of the 53 preceptors, 15 responded to the recruitment email. Only preceptors from one major metropolitan hospital were recruited. Of these initial respondents, three preceptors did not respond to set up the interview date. The remaining 11 preceptors who responded to the researcher's email participated in interviews. The interviews were completed in a quiet, private room in the school of nursing located close to the hospital where the participants work. The length of interviews ranged from 45 to 60 minutes. After two interviews were completed, this researcher initiated data analysis. Data analysis proceeded using Thematic Analysis as described by Braun and Clarke (2006). Data showed saturation by the time the 11th interview was analyzed. Therefore, two additional preceptors from the initial list were contacted and interviewed to verify the data saturation. The data collection process occurred during July 2015 to March 2016.

Data Analysis

All interviews were digitally-recorded by the researcher using two digital voice recorders to ensure accurate and complete recording. The recordings were transcribed verbatim by a transcription service. The researcher reviewed each transcript against the audio recorded interview to ensure accuracy. Data analyses were started after the first interview and then proceeded iteratively during data collection in order to be able to examine progress toward the goal of data saturation.

This researcher used thematic analysis to analyze the data, as described by Braun and Clarke (2006). Thematic analysis is a frequently used method in qualitative studies (Guest,

MacQueen, & Namey, 2011) where the researchers use “an accessible, and theoretically flexible” (Braun & Clarke, 2006, p. 77) method to identify, analyze, and describe themes within data in a qualitative study. According to Braun and Clarke (2006), themes are patterns across the data that organize and categorize important information related to the research questions.

As described by Braun and Clarke (2006), this researcher used six steps to analyze the data. The first step involved reading and rereading the data, which a translation company transcribed verbatim. This was facilitated by verifying each transcript of data against the recorded interview. In the second step, initial coding was done in NVivo® 11. In the third step, themes were explored by organizing and gathering codes into potential themes. There were two themes containing more codes than the other three themes. Thus, several categories were created under these two themes by collapsing similar codes. As a result, two themes had categories and codes, while the other themes just codes. This third step was done with the dissertation committee, who also provided feedback for the fourth step of reviewing the coded data to make sure it matched the potential themes. A thematic map was created of these themes from the fourth step and discussed with the dissertation committee.

These first four steps (not including generating a thematic map) were initiated after two interviews were completed. Data saturation occurred by the time the eleventh interview was analyzed. Two more participants were recruited and interviewed to confirm the data saturation. After these last two interviews were analyzed, the dissertation committee blind-coded these transcriptions. Then, all of the codes from the last two transcriptions were compared to confirm the data saturation. In the fifth step, the names of each theme were then identified and further defined. Braun and Clarke’s sixth step is to publish the findings.

Verification of Analysis

To create a coherent analysis of all of the findings, the data were further collected and sorted using the categories and themes identified during the prior descriptions of the analysis. Then, all themes were incorporated into a written scholarly report. Field notes were originally planned to be incorporated into the analysis. Field notes are the descriptions of the researcher's experiences, thoughts, and reflections that occurred during and after each interview, as written by the researcher (Bogdan & Biklen, 2006). After the first three interviews, the use of field notes was not continued because it was apparent that the important study information was coming from the content of the interviews.

To establish the validity of the qualitative findings, Lincoln and Guba (1985) suggest four issues of trustworthiness to evaluate: credibility, transferability, dependability, and conformability. Credibility is an evaluation of whether the study findings interpreted from the data adequately represent participants' perspectives (Lincoln & Guba, 1985). To address credibility, data analyses were reviewed by committee members and the qualitative dissertation seminar peers through regular meetings. Transferability is the degree of how much the study findings could be applied or transferred elsewhere (Lincoln & Guba, 1985). Thus, transferability was addressed by aiming to provide a thick description of the multiple perspectives of the interviewed preceptors (Creswell, 2007). Participants' demographics were discussed and presented in a table to aid readers' ability to understand how well the preceptors' characteristics were comparable to other preceptors in similar situations. Thick descriptions were judged by presenting the preliminary findings from the study to both the qualitative dissertation research seminar peers and the dissertation committee on an ongoing basis. Dependability is an assessment of the quality of the synthesized study process, and

conformability is a measurement of whether the study findings are well supported by the collected data (Lincoln & Guba, 1985). Both dependability and conformability were addressed by the dissertation chair and committee members.

Ethical Considerations

This study proposal was approved by the OHSU IRB. The researcher had no evaluation responsibilities or direct relationship with the participants for this study. Also, the researcher had no responsibility or role in student education potentially precepted by the participants. As stated previously, before conducting the interview, the information sheet was provided, and then verbal consent was obtained from all participants. Participants' confidentiality was protected by: 1) encrypting identifiable data; 2) removing face sheets containing identifiers (e.g., names and contact information) from a demographic information questionnaire after receiving them from the participants; 3) restricting access to identifiable information; 4) assigning security codes to computerized data; 5) securely storing data documents in a locked cabinet; and 6) properly disposing, destroying, or deleting study data and interview notes after publishing the study results near future. The data included demographic questionnaires, digitally recorded interview data, digital files, and some interview field notes. These materials were stored in either a locked cabinet or on an OHSU network location that was password protected. Restriction of the access of the study data was limited to the researcher, dissertation chair, and two dissertation committee members who were all faculty at OHSU.

Results of the research findings (except possibly identifiable negative events described by participants) will be provided to all participants before publishing the study. As previously described, participants were informed that the interview was voluntary, and there was no link to staff evaluation.

CHAPTER IV

RESULTS

The purpose of this chapter is to describe the results of the interviews with 13 preceptors who were referred as expert preceptors by clinical faculty and had precepted senior nursing students. The specific aims of this qualitative descriptive study were to: 1) explore preceptors' assumptions of what constitutes an optimal clinical learning environment (CLE); 2) describe the factors that preceptors view as facilitators or barriers to optimal student learning; and 3) describe strategies that preceptors identify to create an optimal CLE. In this study, the CLE is defined as the interactions among participants (e.g., patients, other healthcare and non-healthcare staff, and faculty) and qualities in the setting that influence students' learning.

This chapter will begin with descriptions of the preceptors' demographic and other salient characteristics. Next, the major themes identified in the study will be described and illustrated with data from the interviews. Further interpretations and a discussion of the findings, including the study's limitations and implications will be described in Chapter Five.

Participant Characteristics

Thirteen interviews were conducted with five male and eight female nursing preceptors working in an acute care urban hospital setting. The age of the participant at the time of the interview ranged from 24 to 56 years, with a mean age of 40.5 years. Participants had been nurses between 1.5 and 32 years, and had been acting as preceptors between 5 months and 25 years. The preceptors worked and precepted students in a variety of specialty settings. Nine participants worked in an intensive care type of unit, while the remainder were located on general specialty units. Two participants worked in pediatric units. All of the preceptors were baccalaureate prepared. Aside from one participant, all the participants who did not specify

their race or ethnicity in the study were non-Hispanic Caucasian. Table 1 provides selected demographic data for each participant.

Table 1

Selected Demographic Data of Participants

| Demographics | N | % |
|---|----------|----------|
| Age | | |
| <25 | 1 | 7.69 |
| 25-34 | 3 | 23.08 |
| 35-44 | 5 | 38.46 |
| 45-54 | 2 | 15.38 |
| <55 | 2 | 15.38 |
| Gender | | |
| Male | 5 | 38.46 |
| Female | 8 | 61.54 |
| Highest level of nursing education | | |
| Diploma | 0 | 0 |
| Associate | 0 | 0 |
| Baccalaureate | 13 | 100 |
| Master's | 0 | 0 |
| Post-master's | 0 | 0 |
| PhD-DNP | 0 | 0 |
| Years as an RN | | |
| <5 | 3 | 23.08 |
| 5-10 | 5 | 38.46 |
| 11-20 | 2 | 15.38 |
| 21-30 | 3 | 23.08 |
| Years as a Preceptor | | |
| <5 | 6 | 46.15 |
| 5-10 | 5 | 38.46 |
| 11-20 | 1 | 7.69 |
| 21-30 | 1 | 7.69 |
| Specialty | | |
| Critical Care | 8 | 61.54 |
| Emergency Department | 2 | 15.38 |
| Pediatrics | 2 | 15.38 |
| Telemetry | 1 | 7.69 |

All of the preceptors had formalized training to prepare them for the role of being a preceptor. Preceptor training varied from a 2-day-in-class training session provided by a school of nursing faculty affiliated with the same institution where the preceptor worked, and an

online version of the same training session, with eight modules including videos and readings and trainings provided by other institutions or a specialty conference. In addition, all of the preceptors completed training either through an in-class or an online format that was specific to the students' school of nursing. Therefore, they all had standardized knowledge in precepting students provided by the means described above.

Findings

Themes

Using the methods described in the previous chapter and earlier in this section, five themes were derived from 1,108 open codes. The first four themes identified include unit, preceptor, faculty, and student characteristics. Many of these four themes include characteristics that at times could be described as either positive and/or negative features of a given CLE. While some negative features could be considered barriers to creating an optimal CLE, conceptually speaking, it made more sense to code those examples under the unit, preceptor, faculty, and student characteristics. The fifth theme, strategies, is the technique preceptors had been using to overcome barriers and create an optimal CLE for students' learning. Each theme will be defined and described below.

Unit Characteristics

The first theme, unit Characteristics, is defined as the various aspects of clinical units influencing student learning both negatively and positively. All preceptors talked about the unit characteristics of their units that influenced student learning. This theme contains the second largest amount of coded data among all the themes discerned from the data. Every participant mentioned at least two or more characteristics of their units as contributing to creating either a positive or negative CLE. This theme illustrates that there are a variety of unit features

contributing to an optimal CLE. Under this theme, there are three categories identified: learning opportunities, staff related factors, and fixed factors. Each category contains codes describing key characteristics of units which affect the CLE and will be defined and explained below.

Learning Opportunities. Learning opportunities formed the largest category of the theme, unit characteristics, containing nine codes. Table 2, Learning Opportunities: Codes and Definitions, lists these nine codes and their respective definitions. These eight codes, as shown in the table below, explain situations that students face in their clinical settings that influence the quality and depth of their learning. The first code is called exposure to real-world practices and is defined as students receiving opportunities to apply concepts in an authentic setting. Authentic learning occurs when students apply theoretical or classroom knowledge in the clinical setting with patients and other health care providers. In this study, all clinical practicum settings were in an acute care hospital.

Table 2

Learning Opportunities Codes and Definitions

| Learning Opportunities Codes | Definitions |
|-------------------------------------|---|
| Exposure to real-world practices | Students receiving opportunities to apply concepts in an authentic setting. |
| Resources for learning | Materials, information and/or strategies to enhance student learning. |
| Valuable experiences | Experiences that are specific to a unit that provides students with broadened learning opportunities. |
| Distressing experiences | Students feeling a loss of integrity and dissatisfaction when faced with a difficult or complex moral issue with a patient or family in the clinical setting. |

| Learning Opportunities Codes | Definitions |
|-------------------------------------|--|
| High acuity as a challenge | Taking care of high acuity patients (based on intensity of nursing care) makes students overwhelmed or makes it difficult for preceptors to balance teaching and patient care. |
| Managing lots of medications | Needing to manage patient's multiple medications. |
| Lack of choices for assignments | Limited opportunities to pick an assignment for students due to census and/or characteristics of the unit. |
| Variety of patients | Number of patients who have particular conditions. |

At nursing school, students apply and practice the concepts and theories learned in a didactic-classroom setting and through textbooks. Even though unanticipated situations or emergencies may occur in a textbook, those circumstances are hypothetical. In contrast, when students are in a clinical setting, unexpected things happen in real time. Therefore, students sometimes face a situation in the real world with real patients that they have never seen in a textbook or heard about in a lecture. Difficult ethical situations are one example of a problem that students may be unprepared to manage or even cope with. Preceptors know how it happens and describe the importance of the practical exposure to dealing with clinical ethics in the clinical learning environment. One preceptor encouraged students to see how nursing practice varies between different situations and nurses:

... I'm sure in a learning environment here at the school they get exposed to some of those ethical questions and they get to talk about it. But, when it's put into practice in front of them, that's how you learn. That's what you do. And we all come to terms with it in our own way. (Participant 11)

She was not judging the ways in which other nurses practice patient care, rather she was telling students that there was not always one answer in nursing. There may be multiple answers to providing care and students can learn this from encountering care in real life situations.

... I think that's good to have students in that design where you know there are two, usually like at least one or two other nurses, in that pod with us... so, they get exposure to different ways of doing things, or different [ways of] thinking about things.

(Participant 2)

Students learn how nursing knowledge is developed in the real world, which is different from decontextualized textbook examples. However, preceptors also know that they need to guide students when students are puzzled by seeing a variety of nursing care in the CLE, or redirect students when they learn outdated or unsafe practices. Thus, real world experiences are sometimes different from the textbook, though they may be more suitable for the actual practice situation.

Resources for learning is the second code. It describes how preceptors can provide students with opportunities to learn in their clinical learning environment. Resources for learning is defined as materials, information, and/or strategies to enhance student learning. Some preceptors mentioned that there are textbooks and files of guidelines and policies for their units that students can read or refer to while they are on a floor. One preceptor added that they are an important resource for students, by directing them to educational resources to help them learn.

I think the biggest thing that I found was the ability to point my student to the right resources. He hadn't come in with as much knowledge regarding the quickest way to find answers or anything like that. And so just pointing him to the most appropriate

resources and the easiest to digest resources. I was able to recommend a couple books and then websites that were helpful. (Participant 3)

This preceptor also talked about how she strategized to provide the student with information he needed based on his learning needs and developmental level. Resources for learning can promote student learning, but can become overwhelming if too many choices or options are provided. Resources for learning can sometimes become an obstacle to a student's ability to focus on learning if the resources are hard to filter and synthesize.

... it's nice to have so many resources, I think a lot of times that can be a barrier because the students get interrupted, and the flow of the day gets interrupted by all the different people coming through. So, it can help, but it can also be a challenge for them to filter all the people coming in and all the doctors and ancillary staff. (Participant 13)

Having multiple resources that stimulate student interest in a unit is generally a positive feature that supports learning, although having too little or too many resources can be problematic.

This illustrates how important specific conditions (amount, when something is present, etc.) can be in determining the impact of a given feature.

The third code, valuable experiences, is defined as experiences that are specific to a unit that provides students broadened learning opportunities. Most preceptors teach students only on their specifically assigned units. Interestingly, one preceptor shared her experience of taking a student to another unit in a floating role.

So they get to see a lot of it. We'll occasionally do a float with them just so they can see what that role is like also, but that's not – their – our primary focus is OB, psyche, and the teams with the students so that they can practice taking a team. (Participant 4)

She knows that floating to other units may not be ideal for students because their primary learning focus for each rotation is nursing specialized to that unit. Moreover, some preceptors think that floating with a student may limit student learning because a preceptor floating to a different unit may also need to be oriented to that place. It may be a matter of how well preceptors are able to model the practice of floating to another unit that makes the difference in whether or not this is a good experience or not so positive. If they have a positive view of floating, it could expand the student learning experience. The next quote is another example of a common scenario, which depending on the preceptor, may provide a positive or negative student learning experience.

On our unit we have a lot of deaths, so people also have an opportunity to experience palliative care, as well as trying to help people, um, get better... every student I've had has really appreciated the unit and, um, they all, actually, would prefer getting a job there. (Participant 8)

A patient's death can be a traumatic experience for students without preceptor expert guidance and emotional support. This preceptor described how she guides students to see a holistic picture of the patient's dying process that involves palliative consults and ways to ease patients' suffering in their end of life. Thus, some students who may be reluctant or fearful of caring for a dying patient may overcome or diminish their fear through a valuable experience as a student and choose to work with patients in palliative care and at the end of life.

Yet, no matter how hard preceptors work, sometimes there are situations or experiences, particularly with patients' deaths, that leave students with unresolved questions or conflicts often related to their personal values or beliefs. The fourth code, distressing experiences, is about experiences that create moral distress. Moral distress is defined as students feeling a loss of

integrity and dissatisfaction when faced with a difficult or complex moral issue with a patient or family in the clinical setting. One preceptor remembered a case with a patient's family whose focus was on what the patient was going to leave behind to family members rather than on his quality of life. This preceptor expressed concern for the student's experience: "Sometimes the worst of family come... you know when that's all you see it can be morally difficult for some people – a lot of people actually" (Participant 9). Another preceptor talked about working with young patient populations who have unstable medical conditions or are in the end stage of illness, which may also contribute to emotional distress in students.

... a very challenging patient population. Generally speaking, these people spend a lot of time in XXX (a floor where the participant works) and their outcomes are not great. Very few people go back to their baseline which can be demoralizing and depressing.

(Participant 5)

With adult populations in difficult situations, moral distress can also happen. Another preceptor shared her experience in the next quote.

I think as the patient population gets sicker and we're offering more and more technology to keep people alive longer or to actually survive their hospital stays, um, I think it raises a lot of, uh, ethical questions for people and, um, rightly, you know, the, the financial end of it (Participant 11).

While this may create good opportunities for learning, it also can be difficult for students to cope with and can be depressing.

The fifth code, high acuity as a challenge, is defined as when taking care of high acuity patients (based on the intensity of nursing care) overwhelms students or makes it difficult for preceptors to balance teaching and patient care. High acuity can create good learning

opportunities or can be a barrier to learning. One preceptor recalled his experience when patient acuity became a learning barrier for students.

... sometimes the barriers are just how sick and how busy the unit can be. I think that is a barrier because sometimes they get so bogged down in the tasks and just caring for the patient that they aren't able to see the whole picture, the forest through the trees. So, I think that can be challenging for them and prioritizing what needs – because so many things happen that prioritizing what needs to be done can be a challenge for them (Participant 13).

Another preceptor also mentioned about how quickly everything changes on high acuity patients and how it may affect preceptors' time to teach students. She reflected her experience caring for high acuity patients and sympathized with how her student felt in such a situation.

Sometimes the patients are just – depending on what's going on – sometimes patients are just really sick and there's not a lot of opportunity. We had one patient that was – quite frankly, we were – you know, the – my student was like a deer in headlights and I was a little bit in over my head. It was a very sick patient, with – who ended up dying. Not on our shift, a few days later and you know, he had a hemorrhagic version of a – a stroke. And it was lots of blood products and lots of things that she – and we just couldn't wait to have the learning experience. You know, we just couldn't take the time to be like, all right, this is how you do this and this is how you do this (Participant 5).

During the interviews, many preceptors described different strategies to utilize the challenges presented by high acuity patients to create positive learning experiences for their students. These will be described in the strategies section.

Being assigned to a high acuity patient provides students many learning opportunities. Managing and administering patients' multiple medications are some of such opportunities. High acuity patients are usually on high-alert medications, which are medications that have a high risk of causing significant patient harm with a slight dosage change. The sixth code, managing lots of medications, is defined as needing to manage patient's multiple medications. One preceptor says that trying to learn how to manage multiple patients' medications often overwhelms students.

.... we have a lot of medications. Lots and lots of medications that, you know, if they are – now, a student probably would obviously be with their nurse. But, you know, all of our inotropes (cardiac medications with narrow therapeutic index), that's a whole another aspect of medications that they need to learn where you wouldn't see those on a step-down unit. So, I mean on an acute care floor. So managing those patients is, you know, is tricky for them. And not so much acuity at that point. Just managing their meds (Participant 7).

Learning on units with high acuity patients sometimes makes it difficult for students to get appropriate assignments.

The seventh code, lack of choices for assignments, is defined as limited opportunities to pick an assignment for students due to census and/or characteristics of the unit. Most preceptors said that they usually have options to choose patients for their students. However, some preceptors stated that sometimes they don't have these options or ability to choose due to circumstances, such as quick turnover, or lack of patients with certain diagnoses fitting the students' learning goals. These are described in the next two quotes below:

So, the quick turnover of patients I think can kind of hinder the continuity of the care and make that a little bit more difficult for the students. And so I'd say that's kind of the only thing I've seen. And also trying to target learning activities to patients where there may not be any patients with that pathology or that sort of intervention happening can kind of throw a wrench into plans a little bit, as well (Participant 3).

... there's a lot of times where whatever the student is trying to focus on, that presentation or that type of patient or whatever that is just not available on the unit (Participant 9).

As these quotes illustrate, although students may be learning about specific diseases or other pathology, that does not mean that there will be patients with those conditions on the unit when the student is there. Fewer options for student assignments also occur with low acuity patients. However, some preceptors know how to facilitate such a limited learning situation. The strategies preceptors use to facilitate student learning will be discussed in another theme focused on strategies.

The eighth code is called variety of patients and is defined as the number of patients who have particular conditions. Several preceptors discussed that students can benefit from learning through varied patient populations on their specialized units. One preceptor provided examples of different types of conditions patients may have in their workplace.

And then we have all of our vascular patients from triple As to amputations. So I think what makes it optimal is that we have, we're a specialty floor, but we have so many different types of patients within that specialty that they get exposed to. So, there is a huge exposure on our unit (Participant 7).

Another preceptor tries to show students a wide variation of patients in order to contribute to their learning. A variation of patients can include different conditions of the same illness or different illnesses. Also, the variation of patients can be through the assignment such as having a single patient or more patients.

I think seeing a lot of different kinds of patients. So, being exposed to sick singles and then stable pairs alike, may provide an opportunity to take care of a fresh open-heart patient that was admitted earlier that day. I think a variety of patients makes the clinical experience better (Participant 1).

As described, the category, learning opportunities, means that in their clinical settings, students are exposed to a multitude of possibilities to learn through experiences caring for patients and the resources and opportunities each unit provides. All of those learning experiences occur in a real world setting where students may discover a gap between theory and practice – what they learned in the classroom and what they experience and learn in the clinical setting. Preceptors indicate the important point is how they expand students' positive learning experience and also utilize negative learning opportunities by turning them into positive learning opportunities. To maximally utilize learning opportunities, preceptors indicated that staff-related factors are critical in creating an optimal CLE.

Staff Related Factors. Staff related factors is another category in the unit characteristics theme and is defined as features of unit characteristics that influence student learning through interacting or being supported by staff members who work in a unit. This category contains three codes that explain unit conditions that influence how preceptors teach students. The first code is called staff support presence and is defined as the existence of other

nurses' help or assistance in teaching students and providing patient care. One preceptor shows appreciation for her peers who continuously provide support for her to teach students.

... even if they're not your student people are really open to allowing students to watch them or they'll come get you and be like, hey, has your student done a straight cath before or put in a Foley, would they like that experience. So people are very aware of students on the unit and try and give them as much experience as possible, even if it's in other patient rooms. (Participant 1)

In the next quote, another preceptor describes the traits of peer nurses who support one another to help facilitate student learning. One trait is the peers' positive attitudes toward students. Another trait is willingness to bring learning opportunities to preceptors for the students.

... the staff are all very friendly and helpful, um, nonjudgmental and are open and, uh, forthcoming about opportunities that might exist for a student, whether it's placing an IV or learning how to draw blood from a vamp [venous arterial blood management protection system] (Participant 12).

Staff support presence is often embedded in a teamwork atmosphere where preceptors work. Good teamwork that is established by peers who help and encourage their team members is a key part of this presence. Preceptors say that students always enjoy learning in a good team. This situation highlights the importance of timing in learning for nursing students in clinical units. Interacting with physicians and other healthcare providers, who can also be great resources for students, may have a downside if the information becomes too overwhelming. However, this can also pull students attention in multiple directions requiring assistance from the preceptor to focus learning.

The second code, interprofessional experience, is defined as clinical learning experience where students develop teamwork through interactions with two or more professions in health and social care roles in the CLE. Many preceptors noted that there are multiple professions in healthcare settings who work collaboratively, especially compared to the past when they were students.

It's a lot more, um, collegial and much more of a team atmosphere with everybody. And so I feel like there's a lot more interaction with the doctors and getting to know your other levels of peers besides just the nurses (Participant 4).

In the next quote, another preceptor described how nurses coordinate with other disciplines in the CLE to provide patient care.

And there's a lot of teamwork coordinating with other specialties, like social work, and nutrition, and physical therapy, occupational therapy, the chaplain... So there's a lot of involvement in making a plan for patients – a lot of family; we have family there almost 24/7 for our patients, so there's a lot of interactions with the family. ... there's creating this plan with other members of the health care team, and it feels good to be on a team to make things better for your patients – family included, because they have to work with the family (Participant 8).

This preceptor works in a university hospital where there are a wide variety of professions working together to provide patient care. Learning from other healthcare providers gives students opportunities to practice teamwork but also to recognize nursing roles within a team.

The third code is called unit atmosphere and is defined as an atmosphere of a unit that may positively or negatively influence student learning. One preceptor talked about her empathy towards students in response to unit atmosphere.

I think that the students have liked the – that all of the nurses are generally very, um, approachable and friendly and happy to help if – like if I'm busy or they're – you know, happy to help. So I think they appreciate the teamwork. They've commented to me that they haven't seen that in other places. Um, and they've just said that I've been supportive and helpful in their learning and they've liked that part and I really care about their like psychological, social well-being while they're doing clinicals (Participant 6).

This example shows how teamwork contributes to creating an atmosphere on a unit. A welcoming atmosphere is intentional. It is a result of efforts of each staff member. One preceptor who has experience in teaching students more than twenty years in the clinical setting has watched how the team dynamics of units have changed due to staff efforts and resulted in a positive CLE.

I would say that the overall atmosphere from the staff or the feelings from the staff are... have progressed to be more involved and helpful, um, with positive attitudes and thoughtfulness to involve the students. So over time that has gotten better. There's been less pressure on the students to be self-sufficient and more emphasis on learning (Participant 12).

As the examples show, all three codes under staff-related factors are closely related to one another. Both the categories, learning opportunity and staff related factors, are conditions that can be changed according to an individual or team effort, unlike fixed factors, which will be explained in the following section.

Fixed Factors. The last category, which is part of the theme unit characteristics, is called fixed factors. Fixed factors are conditions that cannot be changed easily because such

conditions are set by regulatory agencies or are designed and built physically into the environment. In Oregon and thirteen other states, laws and regulations address nurse staffing in hospitals. Oregon's revised staffing law requires every hospital to establish a Hospital Nurse Staffing Committee charged with complying with the laws and responsibility for establishing nurse-patient ratios per specialty (Oregon Nurses Association, 2015). For instance, staffing ratios are influenced by multiple factors such as patient acuity, accreditation, regulation, and labor contract. Another example is the structure of the unit design which is hard to change. This category contains two codes that describe qualities of a unit where preceptors teach students.

The first code is called adequate staffing ratio and is defined as a nurse-to-patient ratio that staff determines to be safe for patient care and student learning. One preceptor discusses the busyness of her unit which she believes interrupts student learning.

The amount of patients and amount of staff. So if, like, we're short staffed, they're gonna – their learning's gonna suffer a little bit because we don't have that support that we normally have to – to do things. Um, if, um, it's crazy busy, everybody's super sick, they're not gonna be able to focus on – the things – the learning that they were able to focus on before. They're just gonna have to kinda keep their nose down and keep going. So that doesn't promote the higher learning that we would go for (Participant 4).

Under a set staffing ratio, preceptors know and have a voice to increase staffing for patient safety if necessary. The staffing ratio is not a main focus of concern. They are able to express their desire to have more staff to be able to focus on teaching students and provide safe patient care. This is one of the factors affecting an optimal CLE most preceptors talked about.

I think it would be nice to have, um, you know, in, in some cases, it would be nice to have, you know, the patients are one to one, so you have more time to spend with a student and more time to spend with a patient, but there's always pressures from the hospital to control the number of staff because it costs money to have more people (Participant 11).

The next code is called unit design and is defined as the physical structure, function, or workings of a unit. This is a fixed condition that is difficult to change. However, preceptors are capable of adapting to the fixed, unchangeable environment to create a good learning environment. Also, a fixed condition does not always imply negative consequence for learning – many examples have a positive impact. For example, one preceptor provides a positive example with her work place, where medical supplies and equipment are set up in a convenient way for patient care.

And then, oh, in terms of just ah, equipment resources, we have everything we need. We call it an L Cart, it's in our room, and it has IV supplies um, lab dry equipment, different kinds of sponges and dressings um, sealing flushes, everything is stocked in the room. So that minimizes the need to go outside and acquire supplies because we have a lot of it there um, which also allows the student to have as much interaction with the patient as possible (Participant 1).

Learning in a well-designed floor is ideal for students. However, there are also units that may not function as well as expected. The next example is a negative experience with a unit design that one preceptor experienced. She shared feelings of isolation from her peers and sympathized with students' feelings about the unit.

“... everyone else has been updated but you’re kind of s – unless you’re in the front pods um, you’re kind of isolated. And particularly if you’re in the back of the unit, you don’t – have no idea what’s going on up front (Participant 5).

In multiple interviews, it was apparent that a negative or positive CLE may depend on how receptive preceptors are to the situation and how creative they are in utilizing the CLE.

Unit characteristics are the keys to understanding how and what kind of learning opportunities students obtain and how their learning is supported by staff members who work in the CLEs. Unit characteristics also illustrate how unit system and physical environment affect student learning as the CLE. The next section discusses preceptors’ characteristics.

Preceptor Characteristics

Preceptors shared their perspectives on how their own characteristics influence the clinical learning environment (CLE) and student learning. The second theme, preceptor characteristics, is defined as preceptors’ ways of approaching students and teaching and their capacity to manage stress. These perceptions are coded as preceptors’ empathy for students, remembering what it’s like to be a novice, passion for teaching, and preceptors’ stress. All of these factors can influence the learning environment and the students’ experience. Preceptors noted that empathy for students helps them better understand the challenges the students are facing in the CLE. Being able to understand and remember what it is like to be a student (very similar to empathy) is also a quality that preceptors felt made for a more positive learning environment. Enthusiasm for teaching is positive for both the students and the preceptors who enjoy teaching, and has a positive impact on the unit. Several preceptors were concerned their stress could have negatively impacted student learning and the CLE. Each code and definition will be discussed below.

Some preceptors showed understanding and empathy for what students were experiencing on the floor and how the experience affected the students mentally. This code is named empathy for students and is defined as preceptors trying to understand and share students' feelings. One preceptor explained that not only students or new nurses, but also experienced nurses get overwhelmed in acute care settings.

People can get very stressed out by some of the things that we see, and when you put yourself in the role of the student, it gets worse because not only is it stuff that you've never seen before that can be morally distressing for experienced nurses, it's also that you're trying to be on the front foot and do really well and those sorts of things (Participant 9).

When preceptors showed empathy to students, they noticed students felt understood and more relaxed. Preceptors felt students responded this way because they felt like the preceptor cared for them and believed in their success. This empathy becomes integral to the role modeling phase of teaching and learning by facilitating trust and inspiring confidence. One preceptor's advocacy of the benefit of this interpersonal aspect of teaching is evident in his description of feedback received from a student.

They've just said that I've been supportive and helpful in their learning and they've liked that part, and I really care about their, like, psychological, social well-being while they're doing clinicals (Participant 6).

Preceptors develop empathy towards students because they work closely with them, often see their struggles, and are able to understand these struggles in the CLE. Also, preceptors may have had experiences similar to what their students are going through. The next code describes

preceptors' recall of their own experiences as students and how they develop empathy by remembering those experiences.

Most preceptors recalled their own student experience when they were discussing what caused them to feel vulnerable or uncomfortable versus supported in their clinical education. This code, remembering what it's like to be a novice, is defined as remembering one's experience of being a nursing student and feeling empathy toward students who are in a situation that a preceptor has earlier experienced or witnessed as a student. One preceptor explained how her experiences help her understand her students during their development under her mentorship.

And I remember walking through there and just looking in the rooms and seeing the ventilators and seeing the monitors, and the patients who were sedated, and just thinking, wow, what did I get myself into? So I try and remember that as students come to me because I was once in their shoes and I know how overwhelming it can be. Um, so just try and take it really slow (Participant 1).

Another preceptor shared similar insights gleaned from experiences that she had when she was a nursing student. This remembrance and reflection provided insights that contributed to teachable moments. Preceptors were able to positively influence clinical learning by drawing upon personal experiences related to distractions students encounter while learning in clinical settings.

I just feel like as a student—I experienced this because actually I was a student here and went to the XXXX, and my first day was in the middle of, you know, just so much going on, and it was, um, very overwhelming. And I think when you're in an overwhelming situation like that where there's a lot going on, it's very distracting—a lot

of noise, a lot of what you don't understand yet. You know because when the students come in they don't understand like, you know, two-thirds of what they're seeing. They don't know what's happening, it's just a lot, and um, that's not, um, the optimum learning environment, I think you know (Participant 2).

Most preceptors interviewed recall overwhelming experiences in clinical settings when they were nursing students. Their positive clinical experiences motivate them to create and provide a better learning environment for their students.

I mean I feel really fortunate because I had good clinicals, you know, when I was a student and I hope to create that for them. I don't, I, uh, I don't know what are the barriers and what are the barriers in other places (Participant 6).

Negative and positive clinical experiences as a student both play roles in determining how preceptors teach students and to what degree they understand what they are going through during their clinical practicum.

Several preceptors noted that they love teaching students and credit their love of teaching for influencing their students positively. The code known as passion for teaching is defined as a strong feeling of enthusiasm for teaching students. A preceptor said that this passion-driven participation in precepting not only helps the current students, but actually stimulates the preceptors themselves to continually improve themselves, as well as future students and their profession. Because the importance of this contribution matters to them, it permeates their teaching so that not only the skills, but also the passion for nursing becomes part of the lesson to be learned, absorbed, and taken forward into practice.

“Well, I, I think the people that, um, do precept, at least in my unit, are people that, uh, are interested in doing it and they're selected for that. I think it's, they, sort of, select

themselves for precepting—is that they want to do it because, um, they felt it was important in their growth in the profession and so they want to give back to that. They want to, um, be able to help somebody else learn and then to develop their own practice.” (Participant 11)

When nurses who love teaching gather at work, they create a unit culture that welcomes students, helps them learn, and positively impacts the CLE. One preceptor described how eagerly a floor where she works accepts students

We are a teaching unit, and we love the students, and we love to teach. So, it’s just the culture on our floor. And, um, all the nurses love it, and, um, you know, there’s just so many different learning opportunities on our, on our unit with our patient population. So, um, so yeah, we just have been very welcoming toward students, and we just love to teach (Participant 7).

As mentioned earlier, a welcoming unit atmosphere reduces students’ anxiety towards their clinical practicum and helps their learning. Preceptors’ passion for teaching plays an important role to promote a positive unit atmosphere and also to incorporate students into a team in a unit.

Many preceptors shared that their own stress levels could be a possible barrier to students’ learning. The code, preceptor stress, is defined as issues deriving from or contributing to burnout. For example, one preceptor’s explanation of how preceptors burn out in the CLE concerned the stress of losing control over their own nursing practices due to the burden of unrelenting preceptor responsibility.

I think that in a perfect world, it would be so great to have every single nurse on our unit go through preceptor training. And we do try that, but it’s hard to get them all

through, with the demand, I mean, we have way more people we need to precept than we have preceptors. At times it feels that way, and so we get nurses who have preceptor burnout, where they're tired of having students, because it, you know, if they have, like, a student for, you know, three months, and they turn around and get another one, they don't get that control over their practice. You know? So a lot of them like to take breaks (from precepting) (Participant 7).

Others concurred, noting that preceptor burnout is a major contributor to preceptor shortages on their floors. Additionally, several noted that they can feel impatient when their assigned patients' conditions rapidly declined because they found it challenging to wait for a student to complete care for a patient whose condition is unstable. While some preceptors admit to sometimes feeling sorry for students because they may lose an opportunity to learn and practice critical thinking skills in real world acute situations, the preceptors' first responsibility is to the patient, so it becomes a challenge to know when to step up or step back. Their focus is to save their patients first and teach students as a second priority. Any situation that causes stress on preceptors could negatively affect their teaching of students in the CLE and thus hinder students' learning.

Faculty Characteristics

The third theme, faculty characteristics, characterizes the working relationships between nursing faculty and preceptors that influence student learning in the CLE. Most preceptors mentioned how nursing faculty supported student learning based on both their positive and negative experiences with faculty members. This theme consists of two codes, clear expectations and faculty involvement, and will be described below.

Clear expectations are defined as the students' goals for their clinical practicum that are clearly explained or given to preceptors. Some preceptors stated that they teach students from different programs. Therefore, knowing what goals each program sets for their students is essential for preceptors to guide a student in their clinical practicum. The following preceptor perceived his role as getting to know his students and their goals before precepting.

My job is to figure out where the student is at, figure out what their goals are for the learning. ... then within the context of what they want to do and how far they want to go and what their foundation starts off as I keep my patients safe and guide them through until the end (Participant 9).

One preceptor noted how she communicated with a faculty about her student through emails. However, this preceptor did not get enough information on the program goals of her student and stated it was a challenge.

Um, she sent me a couple of emails and checks in based on that, and so I have written up responses and typed to her, and she hasn't come in to see the student and myself in the clinical environment. ...yeah, that does present some challenges too because you don't really know what their expectations of the student are. I'm just assuming that the expectation would be that they can learn as much as they can; and, hopefully, try and acquire the skills to be hired at the end of their rotation (Participant 1).

Even without knowing specific program goals for a student, she assumed what the student's goals were and managed precepting her student using those assumptions. Another preceptor shared his negative experience with a faculty who contacted him at the last minute before starting precepting his student.

I actually thought it was not well done at all. I hadn't heard anything from my student or from the school regarding my student until the night before he wanted to work. So, I didn't really know anything about him until very late in the process. I don't know where along the lines things got dropped. It seems like there was some miscommunication between my unit and the school, as well, that maybe led to that (Participant 3).

Although these preceptors wanted their students' information about the program goals prior to precepting them, they either did not receive it or it was provided in a way that was not helpful or timely. Both preceptors waited for the faculty to contact them. It was not clear why they did not initiate contact with the faculty to get the students' learning expectations related to the program goals. However, not all preceptors expected to get the students' program goals from the faculty. As stated in the comment below, one preceptor said that she obtained the students' learning goals and needs directly from her students:

I feel that they – that the school of nursing wouldn't place them there if they didn't feel that they could handle it. So, I don't feel like I need to know anything more about their readiness, because that's kind of what I assess when I first meet them is their goals and their plans, and their learning needs, and how they learn, and...that's kind of what I assess...before we start working together – by one-on-one communication (Participant 8).

This preceptor believes that getting the students' learning goals information is a part of the preceptors' role and she does not wait for or request the faculty to contact her for this. She seems confident in precepting students, and therefore felt that she needed less information from the faculty and or the school about the students before they come to the clinical setting. It may be because she has almost 30 years of experience as a nurse and 10 years of precepting

students. For those preceptors who did not get contacted by faculty, most of them expected faculty to communicate directly with them. The next code addresses the level of faculty involvement.

Faculty involvement is defined as communicating and cooperating with faculty to teach students. Having faculty involved in teaching students in the clinical setting provides several benefits. One preceptor said that having the faculty present helps calm the students in the clinical setting.

I think, um, I can see the students visibly relax when their instructor comes in onto the floor. Like their shoulders, ah, and they drop and, like, they're like, "Oh, I'm so happy to see you." So I think, um, something that would be beneficial is if their instructor could spend a little more time with them on the floor (Participant 4).

Some preceptors stated that working with faculty is not only beneficial to the student's learning, but also facilitates preceptors' learning. The next quote is an example of how a faculty's advice helped a preceptor when the preceptor was still new to her teaching role.

And oftentimes the faculty will have suggestions for how to precept the student, which I found very valuable in my first rotation precepting a student with XXX... So having that feedback was really nice. Um, it does make it more difficult when the clinical faculty isn't as involved (Participant 1).

Another preceptor said that feedback from faculty helps them tailor their teaching.

...If they're not getting that, they have something they can go to their instructor and say, 'I'm not getting good goal setting with my preceptor.' And then that can facilitate that conversation to kind of, you know, align that a little bit better (Participant 7).

It also supports them in their precepting role, as supported by the statement below:

I met with my nursing student's advisor several times, she would come check – you know, at 11:00 at night, come and sit with us and talk. And – and it was – it was great. I felt like I – you know, I could have called her at any time if there were any issues (Participant 5).

Preceptors expressed appreciation for faculty who were good about checking in and were clear in their communication:

I felt like the advisor who was working with the students was very good about checking in and making sure um the student was progressing all right, and that all their needs were getting met, and I felt like it was a pretty open conversation about what they – the students needed from their preceptors and what they were expecting of us. So, I think it was pretty good communication (Participant 13).

In summary, a faculty presence in the clinical setting helped students allay anxiety, provided feedback and support to the preceptor, and helped preceptors understand what was expected of the students more clearly.

Student Characteristics

Characteristics students bring with them to the clinical setting can greatly influence how well they can maximize the learning opportunities in a given CLE. The fourth theme, student characteristics, is defined in this study as students' traits, including their attitudes and fears, organizational skills, their ability to engage and to take feedback, and the amount and kind of preparation they have prior to coming to the clinical setting as the influencing features of the CLE. Preceptors talked about the following six codes: feeling vulnerable, integrating life-work-schooling, students' behaviors that hinder learning, students' readiness for IP,

students' willingness to learn, and time management skills. Table 3, as stated below, defines these codes:

Table 3

Student Characteristics: Codes and Definitions

| Codes | Definitions |
|---|---|
| Feeling vulnerable. | Students feeling anxious, scared, or stressed in their clinical practicum. |
| Integrating life-work-schooling. | Students trying to integrate their private, work, and school life. |
| Students' behaviors that hinder learning. | Students' negative attitudes influencing or minimizing their learning. Student behaviors that hinder learning can inhibit a student's ability to make the most of the learning situation. |
| Students' readiness for clinical practicum. | Students' preparation and learning level for their clinical practicum. |
| Students' willingness to learn. | Students' motivation and preparation to learn in the clinical setting. |

Feeling vulnerable is defined as students feeling anxious, scared, stressed, and/or pressured in their clinical practicum for a variety of reasons. Patients are often in a clinically unstable condition in acute care settings. Preceptors noted that for many students who are new to these settings, the fear of not knowing what to do and being unfamiliar with these kinds of situations creates a feeling of vulnerability that is very stressful and interferes with learning. Further, Students who have never seen critically ill patients often become anxious about taking care of sick patients. One preceptor talked about students who were new to acute care settings.

I've had people who have never been in the hospital before or haven't really taken care of patients ever in the hospital and that can definitely pose as a significant barrier to whether or not – if they're not prepared to adjust when, when the reality of the unit hits

them and they're trying to practice but they don't know what they're doing (Participant 9).

This preceptor added that students who are used to being successful in other settings and domains of their life can lose their confidence depending on what happens during their clinical experiences. Experiences where students don't feel confident can lead students to feel vulnerable, too.

...when you get somebody who's used to succeeding who comes in and does a lot of failing it can be devastating to their confidence. And when their confidence is destroyed their learning falls way back; if you can keep showing them within the context of whatever day that they're practicing that they maybe have done some things that they need to improve or need to switch but they've also done a lot of things that are very good it helps them a lot (Participant 9).

Pressure to avoid making errors may cause students to feel insecure and more vulnerable. Another preceptor described the impact of this kind of pressure on students in the clinical setting.

I think primarily they have pressure in two places. They have pressure to learn new things and they have pressure about worrying that they're gonna do something wrong that's gonna hurt somebody and so that's the part where I think the preceptor, if they're right there all the time, can take that part away. Then they can... they can either make the pressure to learn more intense or... or just reinforce and teach the things that they need to depending on how they respond to that kind of pressure (Participant 12).

This preceptor mentioned how he tries to reduce the students' vulnerability due to pressure to perform well or to help them channel this pressure in a positive way in the CLE. Many preceptors were aware of what causes students to feel vulnerable during their clinical practicum and had

more strategies to help students overcome such feelings. The strategies preceptors use will be described in the next theme.

Integrating life-work- schooling is defined as students' ability to balance their private life, work, and school schedule to facilitate their learning. As preceptors noted, students' skill in integrating their life, work, and school can greatly influence their ability to focus on learning. A preceptor noted working night shifts can make it hard for some students to balance their schedules and still meet their learning goals.

I think um, every student that I've had on night shift has done very well. Um, but in terms of juggling that with class and extracurricular and family life, and all that stuff, I think that's difficult. Because you're still expected to perform during the day when you're in class um, and that's just a, it's a different life when you work nights

(Participant 1).

While students may not have a choice in the shift they are assigned, and working various shifts may be beneficial to student learning, preceptors noted and were concerned that doing these various shifts could produce a situation where students lose their ability to manage their life and school schedule to the detriment of their learning.

Students' behaviors that hinder learning is defined as students' attitudes which influence or minimize their learning. Students' behaviors that hinder learning include being reticent, overconfident, or reluctant to take feedback. These behaviors can interfere with students' ability to make the most of the learning situation. This preceptor also shared another example of one student who was over confident about his knowledge in nursing and therefore was not open to learning opportunities in clinical:

There have been some difficulties with him because he thinks he knows a lot of the information that he needs to know to be a nurse. . . .so it's been a challenge to teach him certain things because he thinks he knows the information; he'll be like, oh, I already know that. And even if he does say that he knows something, he'll kind of brush me off and then later on I come to find out that he doesn't really know what we were talking about.

(Participant 1)

To be safe for patients and obtain the most learning in clinical, preceptors recommend that students need to be open for any learning opportunity and feedback.

Students' readiness for clinical practicum is defined as students' preparation and learning level for their practicum. Students' readiness for IP or the culminating clinical practicum in the program includes both their assimilation of content up to that point in the program and other needed skills for that setting (e.g., ACLS). Obtaining the ACLS certification is not required for students to do clinical practicum. However, one preceptor suggested that having the certification would help students learn better in their practicum.

I think they come better prepared. Most of them already come with, uh, their ACLS certification. Uh, you know, they're all really bright because, you know, they've been going to school here and it's a hard school to get into and it's a hard program to get into.

I think they just seem better prepared all around (Participant 11).

Another preceptor noted how the student's academic program may affect their readiness for clinical. He talked about knowledge differences between students in a traditional and an accelerated program.

When they – when they – XXX (name of nursing school) started having the short, the accelerated program, RN Program... I noticed that the students weren't retaining as

much of their pathophysiology classes, nor were they able to absorb all of the information that they were being provided during their clinical environment. They weren't able to absorb it because too much of it came too fast and it was much easier for the nursing students who were in a longer term program because they would have more time to absorb the information. It could be presented a little slower (Participant 12).

He believes that having a solid grounding in pathophysiology is a key to success their clinical practicum and he had concerns about students who do not have enough time for studying because their program is designed to be much shorter than a traditional format.

Students' willingness to learn is defined as students' motivation and preparation to learn in the clinical setting. Students' motivation for learning influences the degree of preparation they do for each clinical experience. A preceptor stated what she expects from her students in terms of their attitude towards learning: "I think that for me, having a successful clinical learning environment is also dependent on what the student brings to it. And so outside research and self-directed learning, as well as being responsive to prompting" (Participant 3). In light of this response, it could be said that this preceptor expects her students to be an intentional learner who independently seeks information and learns to get prepared for their clinical practicum.

Further, another preceptor noticed that students nowadays are more mature than before and are eager for learning: "Most of them are working on a second degree, sometimes a third degree, so they're a little older. And, you know, they kind of know what they want and they work hard. I think just, just a more mature student now than it was 20 years ago" (Participant 11).

According to this preceptor, students who already have some other life or work experiences may have clearer goals for their future and thus work harder than younger or less

mature students. No matter what age or life experience students have, their positive learning attitudes are expected to be a part of the optimal CLE. The next theme to be described is the strategies preceptors use to facilitate student learning.

Strategies

The last theme, strategies, characterizes a method or a plan that preceptors use to guide students toward their most efficient/effective learning. This method or plan is also used to modify or overcome barriers found in the CLE. This was the largest theme identified in the data, with every participant describing more than two strategies they used to facilitate student learning. Every participant provided numerous examples of strategies. Through a constant comparative analysis of these examples, it became evident that these strategies aligned with several categories described by the cognitive apprenticeship model. The cognitive apprenticeship model is a teaching method originally introduced by Collins, Brown, and Newman (1989) and focuses on the process where an expert teaches a novice to master skills. Cognitive apprenticeships are effective when skills and concepts are taught together in an authentic learning situation (Brown, Collins & Duguid, 1989). Under the Strategy theme, there are five categories: 1) Modeling; 2) Coaching; 3) Scaffolding; 4) Articulation; and 5) Reflection. Data from the interviews did not link to the sixth category in the cognitive apprenticeship model: exploration. However, many of the codes for this theme linked to Modeling, Coaching, and Scaffolding. These three categories were mentioned repeatedly by every preceptor interviewed.

Modeling, coaching, and scaffolding are the core strategies of cognitive apprenticeship to help with students' cognitive and metacognitive development (Collins et al., 1987). These three themes were very prominent in the interview data, with many preceptors talking

extensively how they used these strategies to help students learn. Articulation and reflection are the teaching skills to improve students' awareness of problem-solving strategies, and exploration is the last step to guide students to developing independence and the ability to solve and identify problems (Collins et al., 1987). Though a few preceptors talked about using articulation and reflections, exploration did not emerge as a theme in this analysis. Each category will be defined and discussed with codes below.

Modeling. Modeling is the first category of this theme and is defined as establishing self as a role model and demonstrating expertise. There are three codes that describe modeling (see Table 4). One preceptor mentioned about how she established herself to be a role model for students. "I was lucky enough to have really experienced people and that's kind of how I try to model myself" (Participant 5). Under this category, there are three codes describing how preceptors demonstrate their expertise and act as a role model to their students.

Table 4

Modeling Codes and Definitions

| Modeling Codes | Definitions |
|---|---|
| Role modeling professional ethical interaction between patient, family, and staff | Learning the ethical and professional boundaries of the profession. |
| Building a bond with patient and family | Helping students to communicate and create a good relationship with patients and family members. |
| Doing things together | Preceptors perform aspects of care with students in order to role model patient care or to evaluate student competency. |

The first code—role modeling professional ethical interaction between patient, family, and staff—is defined as learning the ethical and professional boundaries of the profession between

patient, family, and staff. One preceptor brought up a current issue regarding popular social networking services.

Some of [the issues] are boundaries that I don't actually think are professional or therapeutic, but you know, are you going to be Facebook friends with your patient's family? Are you going to give them your phone number? You know, are you going to tell them personal things about yourself? (Participant 6).

This preceptor guided students about where to keep the professional lines between them and patients and family. Here, the preceptor was acting as a role model to establish the student's professional identity.

The second code of modeling is building a bond with patient and family and is defined as helping a student to communicate and create a good relationship with patients and family members.

I typically do pretty well with family members and I've been able to use that to sort of get into the room, establish really good rapport – uh, with the patient's family – and then use that to bridge to the student's competency (Participant 9).

In this example, the preceptor acted as a role model to show her student how to build a professional relationship with the patient and family.

The third code of Modeling is doing things together, which is defined as preceptors performing aspects of care with students in order to role model patient care or to evaluate student competency. This is using social modeling (doing it together) as a specific type of coaching strategy.

If they say they want to be XXX nurses. ‘You know, you really need to learn that, let's do it together.’ So I think just being more open to kind of what's going on with them, what are their reflections on the experience and what they need (Participant 2).

When a preceptor says, “let’s do it together”, in this instance, the preceptor is modeling how to do a particular skill or competency. The preceptor talked about how she modeled how to do something that she might not be an expert in, but was something they could do together to help the student learn, as illustrated by the following quote: “...not necessarily something that I was an expert at either but we would go figure it out together. And I think it was a good learning experience for us both” (Participant 5).

In this case, the preceptor was learning a new skill or competency in partnership with the student. So, the preceptor modeled how to approach a new situation where they too are learning the new skill.

Coaching. Coaching is the second category of strategy and is defined as observing a student providing clinical care and offering hints, feedback, and reminders to improve learner competency. Table 5 lists the codes associated with the coaching strategy and provides their definitions.

Table 5

Coaching Codes and Definitions

| Coaching Codes | Definitions |
|-----------------------------|---|
| Being present with students | Being with students when they need knowledge, skill or emotional support from a preceptor. |
| Checking in with students | Communicating with students regularly. |
| Connecting prior learning | Preceptors trying to bridge students’ previous knowledge learned in class or other clinical settings into current practice. |

| Coaching Codes | Definitions |
|---|---|
| Demonstrating patience with students | Being able to wait for students to make decisions and/or complete tasks without being annoyed as long as patient safety is confirmed. |
| Fostering clinical reasoning and learning | Promoting the students' thinking process for assessing a patient's conditions through the various aspects of the patient's care. |
| Guidance | Direction, information, or cueing provided to help students think, understand, and/or solve a problem or challenge. |

Being present with student is defined as being with students when they need knowledge, skill, or emotional support from a preceptor, *as defined by the following quote*: "I just try and um, make sure that they know that they're not alone and ask them what they hope to get out of it" (Participant 1).

Being present helps the students feel supported and sends them a clear message that the preceptor will be there for them. Also, being present is essential for preceptors to be able to observe the learner to evaluate their competency and offer coaching, as supported by this participant:

I find that if you're right there over their shoulder, sometimes you'll see something that will trigger a teaching point where if you're kind of giving them space to do their own thing, you miss these opportunities (Participant 12).

Being present also ensures that learning opportunities are not missed because the preceptor is in close proximity and is therefore likely to spot opportunities to provide enriched experiences.

Checking in with students is defined as communicating with students regularly. Several preceptors stated the importance of communication with their students.

Every hour you have to scale what you're doing with them because things can change so drastically in the air so quickly. So like, you know, you may start a day in which they've

got three moderate patients and they're doing really well with that. You may end the day where they've had one, and they've only had that one for several hours because they were either sicker, or just the rest of the team was too busy for them to be able to handle that level of work (Participant 4).

Frequent communication in this preceptor's example facilitates making modifications in the plan for the day as things change. "Checking in with them that they're reaching those goals throughout the day, and if they're struggling to reach those goals, giving them suggestions on, you know, what they can do" (Participant 7).

Making sure that students stay on target to meet the day's learning goals is a critical function of regularly checking in. It means that opportunities to shape and make needed changes in the plan for the day are not missed. Checking in with students helps preceptors to see whether students are developing their skills and knowledge so they can coach them further to reach their goals.

Connecting prior learning is defined as preceptors trying to bridge students' previous knowledge learned in class or other clinical settings into current practice. This technique is important to assess students' knowledge in order to use coaching to fill in gaps in their learning, as supported by the following quote:

"Usually I'll try to take the time before um we start the day with the students, before we pick patients assignments to kind of see what their goals are for the day. And if I've worked with them before, I kind of will have an idea of what their skills are and what they need help kind of advancing" (Participant 13).

Thus, this preceptor assesses what skills they have currently, what they need to learn today, and then based on that assessment of their prior learning and development, builds a plan for the day.

Demonstrating patience with students is defined as being able to wait for students to make decisions and/or complete tasks without being annoyed as long as patient safety is confirmed. This technique is necessary for students to be able to apply their knowledge in practice within a safe environment for both patients and students. Thus, this skill supports preceptors to assess students' learning needs and also offer coaching. One preceptor talked about her inner thoughts when she was with her student.

I have become accustomed to doing things, sometimes without having to explain them or being able to do things quickly if I'm busy and learning how to be patient and let them do it has been – it's okay, but that is a challenging part for me, um, and that certainly gets better as the term goes on and they develop more skills, um, but I definitely have to be very mindful about, like, about being patient and not showing my impatience, like keeping that to myself (Participant 6).

This preceptor knew she could have become impatient with her students, but she resisted this, as she also knew it would have helped her students learn better if she could give them enough time to do the patient care themselves as long as the patient was safe. By being patient with her students, this preceptor provided a supportive situation for them to practice independence and improve their competency.

Fostering clinical reasoning and learning is defined as promoting the students' thinking process for assessing a patient's conditions through the various aspects of the patient's care.

I think the best thing that – in my opinion – the best thing that a preceptor can do is to focus less on the tasks and getting their student up to speed and more on their clinical judgment, critical thinking skills (Participant 10).

Focusing less on tasks, and more on thinking, is a high priority for this preceptor. Fostering clinical reasoning and learning is coaching students to think like a nurse and be able to justify their clinical reasoning.

Mostly, it's a way for them to build their clinical thinking skills because there's so much going on. There's no recipe for care. There's not, like, oh, they came out of surgery, we do this and we do this and then we do this. It's all very sort of, um, contemplative and build a plan and implement the plan. And if the plan doesn't work, then we come up with another plan (Participant 11).

This preceptor's observation shows how a focus on clinical reasoning helps the students develop flexible responses to changes in the patient's condition.

Guidance is defined as direction, information, or cueing provided to help students think, understand, and/or solve a problem or challenge. This technique is important to direct students to the right resources or cues to action in a timely way. This is the just-in-time aspect of coaching by using cues and pointing out resources.

My role is just to, kind of be a guide and an educator with regard to their – their experience nursing patients in the XXX setting (Participant 8).

This preceptor pointed out that one of their main roles was leading or pointing the way for students to meet their goals. The next preceptor talked about how often students need to be pointed toward the most effective way to get needed resources or information.

I think the biggest thing that I found was the ability to point my student to the right resources. He hadn't come in with as much knowledge regarding the quickest way to find answers or anything like that. And so just pointing him to the most appropriate resources and the easiest to digest resources (Participant 3).

By helping the student sort through the many options for resources, they were acting as a guide to facilitate learning.

Scaffolding. Scaffolding is defined as supporting students according to their developmental level, organizing activities to assist them to progress to the next level, and eventually fostering their independence. A preceptor talked about a case where he took over patient care from his student due to the situation.

So, if you have a sick patient that takes a very bad turn for the worse and it's not appropriate for the student to take complete care of that patient, you have to jump in and, kind of, put them to the side and then take over the care of the patient because the student is in over their head and they don't know what to do (Participant 11).

Preceptors assist students by taking over a situation from them when needed. Preceptors do this by carefully assessing the students' knowledge and skills as a way to build their independence in practice to cope with the task situation. Table 6 lists the codes and definitions for scaffolding.

Table 6

Scaffolding Codes and Definitions

| Scaffolding Codes | Definitions |
|---|--|
| Knowing your student | The preceptor assessing student strengths and weaknesses, learning type, and/or personality to structure appropriate learning opportunities. |
| Acknowledging students' strengths | Providing positive reinforcements for students and making them feel empowered and safe to ask questions while in a clinical situation. |
| Being an advocate for students | Supporting and standing up for students when they face challenges. |
| Fostering Independence | Encouraging students to practice nursing skills independently under their preceptor's supervision. |
| Picking adequate assignments for students | Selecting patients with conditions that suit the student's learning level. |

| Scaffolding Codes | Definitions |
|-------------------------------------|---|
| Construct a shift | Creating a plan and setting goals for a shift to provide the most learning for students and address patient safety. |
| Facilitating learning opportunities | Providing students opportunities that they can learn particular knowledge or skills in clinical. |
| Developmental learning | Process of how students interact with their environment to develop their critical thinking and/or hands-on skills. |

Knowing your student is defined as the preceptor assessing student strengths and weaknesses, learning type, and/or personality to structure appropriate learning opportunities. This technique is essential to assess a student's developmental level. In the interview, many preceptors discussed the importance of getting to know their students' learning level and preferred style of learning (e.g., visual, kinesthetic, auditory, etc.). One preceptor described that knowing her student was one of her roles as a preceptor: "My role is to identify with the student where their learning needs are and how they learn best, and then try to incorporate that into our everyday" (Participant 8). The next preceptor even makes an extra effort to know her students, as she tries to meet her students before their clinical practicum starts.

Well, I try to always meet with the students before the term starts because I like to know what their learning style is and how they like to learn and how they like to communicate and so I like to learn that from students (Participant 6).

By knowing her students, she can pick an appropriate patient for her student to facilitate their learning more effectively.

Acknowledging students' strength is defined as providing positive reinforcements for students and making them feel empowered and safe to ask questions while in a clinical situation. This helps students progress from one level to the next by helping them feel

empowered and good about what they have achieved already. A preceptor shared how he encouraged his students to feel empowered and safe during practicum in their CLE.

“I think it's like I said before, kind of encourage them to think critically, and to not be afraid to ask questions. I think it's – and to never just make assumptions, so to always – always ask questions and always ask for help if they need it, to not shy away from that. I think that will overall enhance their experience, as well as their nurse practice and make them a safer better nurse.” (Participant 10)

Another preceptor emphasized the importance of focusing on positive things when giving students' feedback:

I always try and end with; what are a couple of the things that you did really well today, because I think too often in our profession nurses are always focused on the things that they didn't do or the things they didn't get quite right but we always forget about things that we're doing great (Participant 9).

The preceptor further noted how experienced professionals often focus and reflect on negative things about their performance in order to improve their care. However, preceptors shared that focusing on the negative aspects of their performance may hurt students' feelings or cause students to lose their confidence in practice. Thus, they prefer to give their students positive reinforcements as a better means to support their growth.

Being an advocate for students is defined as supporting and standing up for students when they face challenges. This technique is fundamental to supporting students to move to the next level in their learning. One preceptor explained a situation when other staff members were not receptive to her student and how she advocated for her student.

It can be difficult because of people just kind of wanting to do their own thing and not wanting to get involved with a student. And you know, like I just want to get this done, I don't want – you know, I don't want to have a student help me. What I tried to do was be an advocate for my student. And – because people aren't necessarily going to say, no to me. So you know, I – I would just go up and say, oh yeah, she's going to help you do this, okay? Hey, great, you know. And there were people that um, maybe were not open to precepting who now are, so. Um, because they had a good experience with my student (Participant 5).

This preceptor stood up for her student, talked to her peer nurse, who was not interested in teaching students, and was able to get support from her. This teaching experience was beneficial for her peer nurse, and eventually, this nurse became a preceptor. Advocating for her student helped her student and also motivated her peer nurse to be involved teaching students.

Fostering independence is defined as encouraging students to practice nursing skills independently under their preceptor's supervision. One preceptor stated that students usually appreciate having independence: "The students always want to do things on their own and it's really important to be able to try things on their own" (Participant 9). This preceptor also values fostering the student's independence as important part of teaching. The next preceptor described how she facilitated her students learning independently under her supervision:

I try and be at a point as hands-off as possible um, still being there the guiding them but letting them do the care that they can for themselves um, even though I'm still present and obviously always there. Um, it takes longer a lot of the time, but I think it's important to be patient and let them try things out. Um, so I think that would impact their experience as well and then how well they get along with me, too (Participant 1).

Giving students some independence helps them think on their own and build a good relationship with their preceptor, because then students feel they are trusted. Fostering independence allows students to practice as independently as possible, with the preceptor still being there to guide them.

Picking adequate assignments for students is defined as selecting patients with conditions that suit the student's learning level. During the interview, most preceptors mentioned that they are the one to pick students' assignments at the beginning of the shift.

I think making sure that the patients that the students are taking care of are appropriate for that um intern's goal or the preceptee's goals for the day. So, making sure that the patients aren't too sick when the student is new so that the student has time to kind of spend with the patient and doesn't get overwhelmed um and kind of in over their heads. So, just kinda judging, I guess what the student's learning needs are and then making sure that you choose the appropriate environment for them (Participant 13).

This preceptor picks her students' assignment in terms of their learning goals and for the patients' safety. Picking adequate assignments for students is critical to make sure students are working at the level that matches their current competency.

Construct a shift is defined as creating a plan and setting goals for a shift to provide the most learning for students and address patient safety. This technique implies how students can practice their time management and prioritization skills with preceptor guidance, as illustrated by the following quote: "So, a lot of what I'm doing with my student now is asking him how he would construct his shift in terms of organization, if we happen to have two patients because usually we do when there are students" (Participant 1).

This preceptor gives her student time to think and plan the shift for her learning goals: “I think, again, just, um, sitting down with the student at the beginning of each shift and asking what they wanna see that day or what they wanna learn – that goal setting, like I talked about” (Participant 7).

Another preceptor also mentioned that she gives students the opportunity to plan their shift because the preceptor knows that this would help students learn organization skills. She reassures her students that they do not need to do everything by themselves when they cannot handle tasks.

Facilitating learning opportunities is defined as providing students opportunities so that they can learn particular knowledge or skills in clinical. All preceptors noted that they always try to find as many opportunities as possible for their students to learn during their clinical practicum.

I think we hold everyone to a really high standard on our unit, so it’s expected of you as nurses, and it’s just, it’s expected of the nurses who are teaching, like, if I’m having a student, or if I’m overseeing another nurse who has a student, that they are exposed to as many opportunities as possible (Participant 7).

The above preceptor described her unit as working as a team to provide students many learning opportunities.

We have a good unit for learning. There’s a lot of good opportunities, like good talks and lectures for students to go to. So I feel like there’s a lot of good opportunities for them for learning (Participant 6).

Facilitating learning opportunities seeks out additional learning activities to meet a student’s competency need so students are continually making progress or moving to the next level.

Developmental learning is defined as a process of how students interact with their environment to develop their critical thinking and/or hands-on skills: “Try to start them with the less acute ah, babies. And then we kind of move forward, and we try to focus on one and discuss one um, not try to overwhelm them with too much information at one time” (Participant 2). In other words, the preceptor has the student moving up to progressively more difficult patients in the setting to build their skills in an intentional way. What the students learned from taking care of easier patients helps them cope with more complex care patients in the future. In this way, they gradually withdraw support and the students learn more and more how to manage on their own: “We start with having them take one patient and then as they go through their term, working up to see if they can handle a full team. Most of them can't quite handle a full team by the time they're leaving but some really can” (Participant 4).

This was another illustration of guiding the student through the process of gradually getting more independent in providing care. The students are encouraged to explore what they need to do to be able to handle more in the setting. By the end of this process, the students are becoming independent. Developmental learning helps students move to the next level.

Articulation. The third strategy category, Articulation, is defined as fostering (or articulating) students’ knowledge, reasoning, or problem-solving processes by asking students to make explicit what they are doing or observing and why. This category has two codes and they are listed in Table 7.

Table 7

Articulation Codes and Definitions

| Articulation Codes | Definitions |
|------------------------------|--|
| Learning through observation | Learning by watching what and how healthcare providers perform in clinical situations. |

| Articulation Codes | Definitions |
|--------------------|---|
| Questioning | Asking particular questions to guide or lead a student to think critically. |

The first code, learning through observation, is defined as learning by watching what and how healthcare providers perform in clinical situations. This is a technique that helps students, in partnership with the preceptor, to think out loud about the reasoning behind care. A preceptor described how she articulates students' learning through observations.

A lot of times I'll just have them kind of in the room working with me and I'll talk out loud what I'm doing and why I'm doing it, and if for whatever reason that doesn't work, I'll stay later and after the shift, and we'll kind of talk over what happened and why and if they have any questions or concerns or kind of debrief the day and the patient and what happened (Participant 13).

She shows her students her thinking process when she does patient care and lets her students observe her. This provides her students with the opportunity to learn how nurses think critically during their observation of the preceptor's care.

The second code, questioning, is defined as asking particular questions to guide or lead a student to think critically. Questioning students helps them to think deeper, guides them to think critically, and is a key to fostering students' clinical reasoning skills. For example, one preceptor said that he first has his student assess a patient. Then, he assesses his student's thinking process by asking questions: "Having them go in and assess a patient and come out. And then me asking what they think? What's in the differential diagnosis list, etc.?" (Participant 10)

The next preceptor mentioned that she does not expect her students to always get the right answers when being asked questions, but she expects her students to know the way to seek the

answers: “I ask a lot of questions and I expect them – I don’t expect them to always know the answers, but I expect them to know how to find the answers and, uh, and to ask me questions, too” (Participant 6).

This preceptor thinks that having the students find the answers themselves supports students to be active learners.

Reflection. Reflection is defined as supporting students to think critically about their own performance and problem-solving processes and to compare these with those of experts. Under this category, there is only one code. Facilitating reflection on practice is defined as promoting a student’s reflection of learning in clinical to enhance student learning. Students are asked to reflect on and to compare their performance with the preceptor’s guidance.

At the end of the day having time to reflect on what went well, and maybe what they felt they could've done better, or asking them what they needed from me that day, if they needed something different that I didn't provide. That type of thing” (Participant 2).

The above preceptor has the student think back about the clinical day—in this way, the student identifies areas for further practice, the need for gathering more information, and other strategies to facilitate their further growth and development.

“I think that it helps them quite a bit and I’ve gotten feedback from them that it helps them quite a bit that we help them to reflect on things that they’re doing right as opposed to always focusing on things they need to improve” (Participant 9).

This preceptor’s comments also are consistent with the strategy of acknowledging a student’s strengths. Also, this quote shows how reflection can be used to acknowledge student’s strengths.

Summary of Findings

Preceptors perceived five characteristics of the CLE as essential to creating an optimal CLE. Those five are 1) unit characteristics, 2) preceptor characteristics, 3) faculty characteristics, 4) student characteristics, and 5) strategies. A major finding of this study is that preceptors play an important role as a part of the CLE and the strategies preceptors use to teach students are vital to enhance student learning within the setting. The preceptors indicated multiple barriers for student learning within the CLE that were part of the unit, preceptor, faculty, and student characteristics. Preceptors described in detail how they dealt with these barriers using strategies. Through constant comparative analysis of the data, it became evident that the theme, strategy, aligned with the categories developed in the cognitive apprenticeship model with an exception of exploration. In the next chapter, I will discuss the implications of these findings and opportunities for future research.

CHAPTER V

In this chapter, relevant findings from the extant literature will be used to compare and contrast the findings of this study. In particular, the findings from other studies of preceptors' views will be examined in order to explore how they are supported by the findings from this study, how they may conflict with these findings, and how this study contributes to the body of knowledge. Next, linkages to the educational theoretical literature will be explored. Following this, implications for supporting preceptors will be presented. Also, this chapter provides a discussion of how this study's findings can be applied to clinical nursing education and preceptor training. The ramifications of this study's limitations and recommendations for further research will also be discussed. The conclusion of this chapter summarizes the findings.

Comparison to the Existing Literature

The purpose of this study was to describe preceptors' perceptions of what is needed to create an optimal hospital-based CLE. Findings from this study illustrate that preceptors did identify as important some of the same features of an optimal CLE as students, faculty, and nursing staff have identified in prior research. Various unit, preceptor, faculty, and student characteristics were identified by preceptors as shaping the CLE in this study. Each of these four themes will be discussed by comparing the current findings with the relevant CLE literature. Following this discussion, the last theme, strategies, from this study will be compared and contrasted with the existing research and theoretical literature.

Unit Characteristics

The first theme, unit characteristics, describes various features of clinical units promoting student learning both negatively and positively within the setting. This theme consisted of the following three main categories: the learning opportunities available on the

unit; staff factors, such as a supportive staff and a positive unit atmosphere; and fixed factors, such as the built environment. Most of these features discussed by preceptors in this study were supported by the existing literature focused on clinical education and the CLE for undergraduate nursing students.

As Houghton (2014) pointed out, a lack of learning opportunities in the CLE can be problematic for students' learning and satisfaction. Preceptors in this current study were aware of the importance of providing students with various learning opportunities as a means to help students master nursing skills and knowledge. Several of the codes from this current study that describe learning opportunities are similar to either features described in prior studies or items from CLE measures. For example, providing exposure to real world practice as a means to close the theory practice gap was identified by both nursing students and faculty in the US and nursing students in Japan (Hosoda, Negishi, & Gubrud, 2013), and in the Carnegie study of clinical nursing education by Benner et al. (2010) as authentic learning. Providing resources for learning, such as textbooks, procedure descriptions, manuals, or other sources of information was identified in previous studies as the availability of needed resources at the site in several studies (Chuan & Barnett, 2012; Hosoda et al., 2013; Sand-Jecklin, 2009). Providing students with valuable experiences was similar to the items comprising the "wide range of learning opportunities available" in the SECEE Inventory (Sand-Jecklin (2009), in addition to the item "provide interesting and productive ward experiences" in the CLEI (Chan (2002). High patient acuity, which can be challenging but also a great learning opportunity, as identified in this current study, was similar to "facing challenges with assignments", as identified in the study by Hosoda and colleagues (2013). Hegenbarth and colleagues found that the patient population (similar to the code *variety of patients*) is an important influencing factor in the CLE

(Hegenbarth, Rawe, Murray, Arnaert, & Chambers-Evans, 2015). All of these many examples illustrate how often learning opportunities have been described as an important feature of the CLE in other studies.

Preceptors in this current study also identified the impact of several staff-related factors on the CLE. For instance, the importance of providing interprofessional experiences pointed out by the preceptors in this current study was identified by both students and faculty in the study by Hosoda and colleagues (2013) and by students in the study by McNelis and colleagues' (2014). Interestingly, interprofessional experiences have not been reflected in any of the measures of the CLE in the past. Team-based interprofessional learning has been known as critical in clinical nursing education and has an effect on improving student outcomes and satisfaction (Wong et al., 2017). Thus, including the interprofessional learning component to the CLE measurement would be beneficial to evaluating an optimal CLE. Currently developed teaching methods for interprofessional education recommend developing more planned joint clinical experiences (Reeves et al., 2010).

Other findings under the staff related factors category were unit atmosphere and staff support presence. Both features, which impact students' experience in the setting and consist of physical and non-physical factors in the CLE were also identified in several previous studies of the CLE (Hosoda, 2006a; Saarikoski & Leino-Kilpi, 2002; Chan, 2001; Dunn & Burnett, 1995; McNelis et al., 2014; Young et al., 2014; Hegenbarth et al., 2015).

Unit design, which is identified as part of the fixed factors that contribute to the CLE, has also been described as an important feature by Hosoda et al. (2012) in their study of students' views of the CLE. In their study, the built environment, including spaces, resources, and equipment, were included in the context of when some of these features were not optimal

or missing. In this current study, preceptors talked about how important unit design can be in managing opportunities for students and influencing the ease of precepting.

Preceptor Characteristics

Preceptor characteristics that include ways of approaching and teaching students and their capacity to manage stress have been identified as an important factor in other preceptor studies. Empathy towards students, in this current study, emphasized the importance of understanding and sharing students' feelings. Newton, Billett, Jolly, and Ockerby (2011) pointed out that having empathy towards students can help preceptors to develop a trust relationship with their students and facilitate students' learning. Also, in other studies, the students performed better when the preceptor had the positive qualities of compassion, care, and empathy (Zilembo & Monterosso, 2008). Remembering what it's like to be a novice was one of the ways preceptors described in this current study as to how they were able to show empathy for students. According to Newton et al. understanding the students' difficulties and dilemmas they face in clinical helps them feel safe to ask "silly" questions. Further, the importance of this kind of empathy was also noted in other studies (Charleston & Happell, 2006; Henderson et al., 2006).

Having a passion for teaching, as identified by the preceptors in this current study, has been noted in other studies as an important factor to facilitate student learning (Broadbent et al., 2014; Byrd et al., 1997; Happell, 2009; Paton, 2010). Preceptors' ability to "give criticism" and "address clinical competence" were important characteristics of preceptors, as identified by Byrd et al. However, in this study, these preceptor descriptive factors were not categorized under preceptor characteristics; rather, they were part of the coaching strategies identified as observing clinical care and providing hints, feedback, and reminders to improve learner

competency. McClure and Black's (2013) integrative review identified busyness on the unit and a lack of time to precept as a source of role strain for preceptors, which were similar to the findings from this study in regard to the issues that cause preceptor stress. Also, Hall (2016) mentioned about her participants describing their struggles to find time to act as a preceptor sounded similar to preceptor stress in this current study.

Faculty Characteristics

The third theme, faculty characteristics, describes the working relationship between nursing faculty and preceptors influencing student learning in the CLE. Part of the faculty's role in clinical is to share students' expected outcomes with preceptors, to collaborate with preceptors to support student learning, and to evaluate both students and preceptors (OCNE, 2008). *Having clear expectations*, according to preceptors in this current study, means having a shared understanding of what the students' learning goals are. Prior studies have identified that it is critical for preceptors to understand the students' learning goals and competency as outlined by nursing faculty in order to be effective in the CLE (Broadbent et al., 2014; Charleston & Happell, 2006; Duteau, 2012; Hosoda, 2006b; Hosoda et al., 2013; McClure & Black, 2013).

Faculty involvement, as described in this current study, included the importance of having good communication and collaboration with faculty in order to effectively teach students. In other studies, dual involvement in creating carefully delineated role descriptions, in addition to access to support and feedback by faculty were important factors in achieving positive student outcomes (Bourbonnais & Kerr, 2007; Broadbent et al., 2014; Carlson, Pilhammar & Wann-Hansson, 2010; Duteau, 2012; Luhanga et al., 2010). Preceptors also had expectations of faculty being on the unit with students (Martin, Brewer & Barr, 2011). As

described in the OCNE model, the faculty's role is essential to supporting students and preceptors in clinical.

Faculty involvement and clear expectations were the only two faculty factors mentioned by preceptors in this current study. It was surprising that faculty and their role in the CLE did not figure more prominently in preceptors' responses in the current study. It is possible that the preceptors in this study may not have described more about the role of faculty in the CLE because those preceptors were mainly teaching senior students who needed minimal help from faculty. Also, as the preceptor interview questions focused on what and how they managed to create an optimal CLE; hence, their answer focused mainly on what they did instead of what they did with faculty.

Student Characteristics

The fourth theme, student characteristics, includes student's attitudes and fears, organizational skills, their ability to engage and to receive feedback, and their preparedness prior to coming to the clinical setting. Preceptors in this current study were very astute in describing the multiple factors that affect how students influence their own CLE because of the multiple skills and traits they bring to the setting. Preceptors in previous studies identified as optimal when students understood their role and were motivated for learning in the CLE (Broadbent et al., 2014) and also actively engaged in learning (Hall, 2016). In the study by Hosoda et al. (2013), undergraduate nursing students and faculty also found it positive when students were learning intentionally in the CLE. Findings from these three studies (Broadbent et al., 2014; Hall, 2016; Hosoda et al., 2013) were similar to the code, student willingness to learn, in this current study under this theme. In contrast to these positive features of what students bring to the CLE, preceptors in prior studies have described students' problematic

behaviors that may have obstructed their learning. For example, students who were over confident and not receptive to learning (Hall, 2016) and/or who were hiding from preceptors (Young et al., 2014) were examples of when student attitudes and fears limited their learning. A CLE study of the views of undergraduate nursing students and faculty also found it negative when students lacked self-confidence or self-management skills (Hosoda et al., 2013). In this current study, preceptors also identified such similar students' behaviors as problematic, which was coded as students' behaviors hindering their learning.

Many preceptors in this current study viewed student behavior and attitudes as having an influence on student learning. In addition, preceptors reported that when students become anxious and vulnerable (feeling vulnerable), or struggle to manage the life-work-school balance (Integrating life-work-schooling), this consequently affects their learning in the CLE. Moreover, preceptors in this current study pointed out the importance of knowing the students' readiness for clinical practicum to be more effective in teaching. The findings of this current study suggest that students should be more involved in co-creating an optimal CLE as learners.

Summary of Unit, Preceptor, Faculty, Student Characteristics

Unit, preceptor, faculty, and student characteristics have been identified in previous studies by faculty and students as important features of the CLE. Also, various aspects of these four themes have been used in CLE measurements. Most of the findings from this current study are very similar to what has already been described in the literature as important factors affecting the CLE. The fifth theme, Strategies includes techniques that preceptors used to optimize the CLE. A few strategies used by preceptors to enhance student learning have been identified in prior studies about CLEs; however, this current study found considerably more variety and depth in the strategies preceptors were using than had previously been reported.

Strategies

There are many prior studies about preceptors and their importance for educating students. However, these studies have not focused on the preceptors' view of the CLE. The focus of these prior studies has been upon their roles and what preceptors need to do their job (Martin et al., 2011; Raines, 2012). Additionally, some studies have reported on the strategies preceptors use with students, though not in the context of creating an optimal CLE. In this current study, the depth and thoughtfulness of the preceptors' contribution to student learning was revealed in a way that no prior study has identified. The following section will compare findings from this current study on the preceptors' use of five strategies to enhance student learning with prior research. The theme, strategies, was defined as a method or plan that preceptors use to guide students towards mastering the most effective learning techniques, and to modify barriers in the CLE.

As data analysis progressed, this researcher noted the fit of the theme and strategies with the cognitive apprenticeship model originally introduced by Collins, Brown, and Newman (1987). Under this theme, preceptors identified modeling, coaching, scaffolding, articulation, and reflection as the ways or methods they used to teach students and to optimize the CLE. Before describing these five categories, the cognitive apprenticeship will be explained briefly.

Cognitive apprenticeship model. The building blocks of cognitive apprenticeship include content, methods, sequence, and sociology. Of these four building blocks, the method lists the teaching strategies for developing expertise. The method building block describes six component ways or methods that experts may teach a novice how to master skills, these include modeling, coaching, scaffolding, articulation, reflection, and exploration. Based on these principles, cognitive apprenticeships are effective when skills and concepts are taught

together in an authentic learning situation (Brown et al., 1989). This model, in principle, is similar to situated coaching as was called for by Benner and colleagues in *Educating Nurses: A call for radical transformation* (2010).

Method teaching strategy descriptions in the cognitive apprenticeship model (Woolly & Jarvis, 2006) closely paralleled the definitions developed for each of the categories in the strategies theme. Modeling involves letting the expert demonstrate to the novice by letting students shadow or observe how a preceptor performs nursing care or interacts with other staff members. Modeling shows students a cognitive process of what nurses do in decision making for patient care and how they collaborate with other staff members. With coaching, the expert observes the student performing nursing care or interacting with other staff members while they offer hints, feedback, and reminders or other cues aimed at bringing performance in line with a standard. During scaffolding, experts provide students with supports to be able to perform as independently as possible. The amount of support preceptors provide depends on students' levels of skill and knowledge. The key to this is knowing exactly what supports are needed. This is similar to understanding and using Vygotsky's "zone of proximal development" (Lewis, 1998), which is a concept of the gap between the actual and the potential level of his/her development. According to Lewis, it is the expert that gauges the level of assistance that is needed. Scaffolding includes fading preceptors' support to foster students' independence when appropriate. Articulation involves methods to get students to clearly express their cognitive process. Effective questioning means to give students cues to make them think about the reasons why they made such decisions in their nursing care in clinical. Reflection enables students to think back on performance and compare their process with the

experts. Exploration involves getting students to solve a problem on their own and perform nursing care independently.

Modeling. The first category, modeling, in this current study, was defined as establishing the self as a role model and demonstrating expertise. In the cognitive apprenticeship model, modeling is used to help with students' cognitive and metacognitive development (Collins et al., 1987). With modeling, a preceptor demonstrates something explicitly while helping students to understand what they are doing. Modeling was a frequently-used strategy among the preceptors interviewed in this current study, with seven out of 13 reporting it as a strategy they used. Preceptors who nurture practical wisdom do so by modeling to students their own process of authentic nursing practice, according to a grounded theory study of 12 preceptors by Myrick et al. (2010). Connecting students to patients, family, and staff was an important preceptor strategy identified by students and faculty in studies by Hosoda et al. (2012) and Schumacher (2007). This is similar to this current study's code of building a bond with patient and family under modeling. Hall's (2016) focus group study of nine preceptors identified "socializer" as an important role function and described how preceptors could support students to develop their professional identity by using "let me" to show students what to do. Hence, Hall's preceptor's role function as a "socializer" is similar to the modeling category and is the first step in working with students. It is also important to note that the preceptors in this current study used modeling to make explicit the usually internal cognitive processes of professional ethical interaction and building relationships with families. This is similar to the third category of apprenticeship of ethical comportment and formation by Benner et al. (2010). This current study's findings suggest that expert preceptors are using

modeling in a variety of complex ways to help students build conceptual models of their professional and ethical obligations.

Coaching. The second category, coaching, was defined as observing a student providing clinical care and offering hints, feedback, and reminders to improve learner competency. Feedback and hints are given to the student while they engage in practice. In Hosoda's instrument pilot study (2006b), preceptors shared a couple of perceptions about what they thought was helpful for students that were similar to the coaching strategies preceptors described in this current study, such as being present and checking in with students. Coaching is one of the three beginning methods used in cognitive apprenticeship (Collins et al., 1989). As Paton (2010) noted in her focus group interviews of Canadian preceptors, coaching tends to happen more at the beginning of precepting when students are apprehensive and preceptors need to spend more time guiding students nearby. Various coaching strategy codes were identified by all of the preceptors in this current study, including one preceptor that used every code in the Coaching category as part of her repertoire of working with students. This particular preceptor had 20 years of experience as a preceptor. Findings from this current study indicate that coaching is a common and frequently used strategy among preceptors to guide students as they practice in the CLE.

Scaffolding. The third category, scaffolding, is defined as supporting students according to their developmental level, organizing activities to assist them to progress to the next level and eventually fostering their independence. Several prior studies, though not using the term scaffolding, have reported a use of approaches that could be considered similar. For example, 14 preceptors interviewed for a CLE instrument development pilot in Japan (Hosoda, 2006b) reported how they tailored students' learning in the CLE. Preceptors in this pilot and

this current study also related how important it is to evaluate and plan experiences based upon accurate assessment of student learning needs, which is fundamental to using the scaffolding strategy. In three other studies, students rated “personalization” or constructing learning activities based upon the current competence level of the student and or getting to know the student personally, as the most important feature of the CLE (Chan & IP, 2005; Henderson et al., 2006; Perli & Brugnolli, 2009). This is similar to knowing your student, which was a strategy under the scaffolding category that preceptors reported using in this study.

Welcoming, being supportive, and advocating for students was a key factor explored in four studies (Heffernan et al., 2009; Hosoda et al., 2012; Levett-Jones et al., 2007; Schumacher, 2007). This is similar to being an advocate for students as identified in this study. Situation-specific pedagogies to foster learning during down time was identified as a key problem in the CLE by McNelis and colleagues (2014). Preceptors who are skilled in scaffolding address this difficulty by seeking out and facilitating learning opportunities. Scaffolding was used by every preceptor in this current study. Compared to other studies, this study supports these findings and greatly expands upon the depth and number of scaffolding strategies used by preceptors.

Articulation. The fourth category, articulation, is defined as fostering their students’ knowledge, reasoning, or problem solving processes by asking students to think out loud about what they are doing or observing. A qualitative descriptive study by Raber (2013) found that questioning and coaching were the main (or common) strategies clinical faculty used to facilitate students’ development of clinical reasoning. Raber added that clinical faculty often felt challenged to ask students the deeper questions and their questions often missed intention to connect student learning to clinical reasoning. Ironside and McNelis (2010) have also noted that faculty struggle to ask deep questions. Compared to clinical faculty, the preceptors in this

study spent considerably more time with the students and therefore may have had more opportunities to ask students deeper questions about their individual practice decisions in their role as expert nurses. They asked deeper questions to get the student to think about the patient situation and helped them to describe their reasoning process.

Reflection. The fifth category, reflection, is defined as supporting students to think critically to think about their own performance and problem-solving process, and to compare with those of experts. In the cognitive apprenticeship model, articulation and reflection is used to help students with awareness of problem-solving strategies. According to Benner, Tanner and Chesla (2009), reflection and reflective practice are some of the most effective ways to close the theory-practice gap. In the study by Hosoda et al. (2013), faculty mentioned reflection as a strategy they used to support students' learning. The code, facilitating reflection on practice, is where students are asked to reflect on and to compare their performance with the preceptor's guidance. Although there was only one code for this strategy, six of the preceptors reported using this strategy. The preceptors in this current study used reflection as a way for students to look back and analyze their performance.

Summary of Strategies

Most of the coded data on strategies focused on modeling, coaching, and scaffolding. This may be because these three ways or methods are the core of the cognitive apprenticeship model. These strategies are designed to support students to obtain cognitive and metacognitive skills through these three processes of observation, guidance, and supported practice, according to Collins et al. (1989). These first three strategies are used by preceptors during the beginning of skill acquisition. Then, articulation and reflection may be more likely to come during or after

these three methods with students after gaining some skills and knowledge from modeling, coaching, and scaffolding.

Scaffolding had the most codes among all of the documented strategies preceptors reported using. It may be that scaffolding had the most codes among these three categories because study participants were mostly talking about senior nursing students they precepted, who were ready to move to the next level on many of their clinical skills. Scaffolding is used not only to support students based on their levels of skills and knowledge at a base level, but also to assist the learner to progress to higher levels. The amount of support is gradually reduced until the learner is able to accomplish the skill alone (Collins et al., 1989). Senior students were in their last year of the program and must have had more skills and knowledge than juniors, sophomores, and freshmen; therefore, they were ready to integrate their knowledge and experiences. As a result, senior students were the ones that preceptors often used a “scaffolding” technique (or method) as their teaching strategy. Further, the integrated practicum was the longest—six months— and the last clinical practicum senior nursing students take before completing their program. Thus, those preceptors may have had vivid memories about their students compared to other undergrad students in a different course in their program.

Articulation and reflection had far fewer codes than the first three categories of modeling, coaching, and scaffolding. The purpose of articulation is to support students to express clearly their cognitive processes. Reflection encourages students to think critically about their own performance. While there are many ways to do scaffolding and scaffolding was commonly being used, with articulation and reflection, the preceptors reported using only a few approaches. Therefore, there were only two codes under articulation, and only one code under

reflection. The reason why more approaches under articulation and reflection were not described is not clear and could be explored in further research.

There was no category identified for exploration as no data was coded with that strategy. Exploration is an approach to foster students' independence and ability to solve problems by themselves. The time taken to apply this strategy (exploration) varies depending on students' levels of knowledge and skills in nursing, however, it takes time for students as novices to integrate all of their knowledge, skills, and experiences enough to gain their independence during their clinical practicum. Even new and hired nurses generally need to be precepted within at least the first two weeks of starting their jobs.

The next section, discusses the barriers, even though this was not a category of codes identified in this study. In this study, when preceptors talked about barriers it was always in the context of how they applied to other themes in the study or how they used strategies to overcome them.

Barriers

Barriers were identified under unit, preceptor, student, and faculty characteristics themes. Barriers were seen more as challenges to be overcome with various strategies. Some examples are provided. Under unit characteristics, the following were codes identified that could be considered barriers: lack of choices for assignments, high acuity as challenge, distressing experiences, and ineffective ward design. For example, distressing experiences was identified both as a barrier for learning and a learning opportunity by the preceptors in this study. Those expert preceptors reported it was important to know how to facilitate such a difficult experience in order to turn it into a learning experience for students by using coaching. High acuity as a challenge was also identified as a possible barrier for student learning because

preceptors may be challenged to balance teaching and patient care. They reported using the modeling strategy to allow a student to observe when no suitable patient was available for the student assignment.

Preceptor stress under preceptor characteristics can be a barrier when they are too busy or distressed to teach students. When there are unclear expectations or a lack of involvement from faculty, this can be a barrier to the preceptor working more effectively with students. Students who are feeling vulnerable, or student behaviors that hinder learning, are codes under the theme of student characteristics that may inhibit or prevent students from learning. Hence, the challenges that are present in the CLE due to unit, preceptor, faculty, and student constraints are addressed by the strategies preceptors use to meet them.

Linkages to Educational Theoretical Literature

Because nursing is a practice discipline, the concept of apprenticeship is not new. However, the definition of apprenticeship and its applicability to nursing education has evolved. The Carnegie Foundation studies on professional education, as reported by Benner et al. (2010) in *Educating Nurses: A call for radical transformation*, were based on an understanding of what the researchers called “professional apprenticeships” that should underlie any complex practice discipline. This is not the type of apprenticeship from nursing education’s past method of “learning by doing”, but rather a method of skillful practice learning that helps students develop their clinical reasoning in an authentic environment. Benner described learning to think like a nurse, developing skilled know how, and incorporating ethical comportment and professional values as foundational to a three-fold apprenticeship to promote quality learning (Day, Benner, Sutphen, & Leonard, 2009). As noted by Day and colleagues, the best teaching practices integrate learning across the

apprenticeships. Exemplars have been created showing how to intertwine the three apprenticeships into a topic in nursing education using learning activities like case studies, discussion, and reflection (Noone, 2009).

Although the preceptors in this study did not speak about the three-fold apprenticeship, as specifically described by Benner, they did describe strategies in-depth that seem to closely tie to the cognitive apprenticeship model, as outlined originally by Collins et al. (1989). The cognitive apprenticeship model has a long history of application to professional education (Lyons, McLaughlin, Khanova, & Roth, 2015). The strategies described by the preceptors in this study fit well with the method or ways to promote the development of expertise through cognitive apprenticeship. These ways include modeling (demonstrating for student), coaching (talking student through it), scaffolding (pushing student performance to next level), articulation (student verbalizing knowledge and thinking), and reflection (student comparing their performance with others). Exploration, the sixth method or way to promote development of expertise, did not emerge in this study as a strategy the preceptors used. In this next section, the cognitive apprenticeship model will be described and its relationship to findings from this study will be discussed.

Implications for Supporting Preceptors

The findings from this study demonstrated that expert preceptors can do several things to overcome common challenges to learning for students in the clinical setting. There are four or five essential strategies that preceptors can use to help create an optimal CLE, as described by these experts. The strategies the preceptors reported using were clearly above and beyond what they received in basic preceptor training. It appears that the expert preceptors who had participated in this study figured out those strategies on their own. This indicates that other

preceptors who are not as experienced could also have the capacity to greatly enhance student learning in the CLE. In addition, creating augmented preceptor training programs that teach new preceptors about the cognitive apprenticeship model strategies could help new preceptors bridge the gap between being a novice and an expert preceptor. Horton and her colleagues (2012) pointed out excellent nurses are automatically capable of functioning, however, every preceptor needs a solid training and support because clinical teaching is a skill that should not be assumed by preceptors' knowledge and expertise. So, creating additional content for preceptor training based on the findings of this study could really help to speed up preceptor development and improve student satisfaction (DeBourgh, 2001; Durak, Çertuğ, Calişkan, & Dalen, 2006). One of the key recommendations from this study is that the strategies described can be included in future preceptor training, including the use of the cognitive apprenticeship model as useful clinical teaching skills.

Another recommendation is for faculty to have regular communication with preceptors to support the use of beginning strategies and later articulation and reflection skills, especially for novice preceptors who may need support to fully utilize all of the six processes of the cognitive apprenticeship model. This presupposes that faculty are familiar with these strategies. A recommendation for clinical nursing education, as described below, is that the use of the cognitive apprenticeship model should be part of new faculty development.

Implications for Clinical Nursing Education

The findings from this study indicate that preceptors are fully capable of using a number of varied and complex teaching strategies. Given the increasing reliance on preceptors as part of nursing education, their ability to make this contribution should be recognized and

supported by providing training in these strategies to preceptors, and to include them in planning and evaluating the CLE.

Faculty should also look for ways to have more planned time to collaborate with preceptors about the progress of students. Many preceptors are busy with their patient care duties, along with the precepting role, and therefore, they are not readily available to conference with faculty when they visit the units. Moreover, it may be beneficial to structure time when that collaboration can occur so that the preceptors are supported by more faculty involvement and there can be dialog about expectations as the term progresses.

Findings from this study indicate that preceptors share the views reported in many prior studies about unit, preceptor, faculty, and student characteristics that affect the quality of the learning environment. Using that knowledge, a recommendation from this study would be that preceptors be involved in evaluating and providing input about how well a given clinical practicum is working. They could be recruited as partners to improve and help co-create a better CLE. In this way, the preceptors could, at the end of every practicum, not only provide feedback about student performance, but also unit characteristics that have either helped or hindered learning, the gaps noted in preceptor preparation for a given practicum experience, comments about what faculty could do to better to support them, and observations about the students' preparation and readiness for the experience or what the students were missing in terms of knowledge prior to coming to the site.

Another recommendation is to think about ways to structure student learning in the clinical setting. Just as the cognitive apprenticeship model can inform preceptor training, it can also be used to think about ways for faculty to structure student clinical learning. Thus, not only preceptor training but also faculty development could benefit from further education in

terms of the use of the strategies identified in this study. In particular, new faculty need to be educated in the modeling, coaching, and scaffolding strategies, as well as how they can expand their skills in these areas. If faculty become proficient in the articulation and reflection strategies, they can then assist preceptors in using these teaching approaches as well.

Limitations

First, there may be some degree of concern regarding the limitations of this study because of the small sample size and a potentially insufficient sample range of preceptor experiences. While there was a range of preceptor years as a nurse, as well as years as a preceptor, the workplace settings were limited to one geographic area and one acute-care tertiary facility only. Using faculty to identify preceptors for interviews limited the variety of preceptors approached for inclusion; however, this was a deliberate choice to select preceptors viewed as skilled in working with students in the CLE. In addition, the study participants were self-selected due to the recruitment method. Therefore, what we did not learn from participants who may not have wanted to volunteer because of the time commitment to be interviewed and the lack of other incentives to participate (Dickert & Grady, 1999) might be important and substantial.

Second, there may be concerns about the insufficient triangulation of data in this study because of the single data collection strategy (interviewing) and not obtaining multiple perspectives from participants who were involved in the same clinical rotation at the same time. However, given the goals of the study, using observation as a data collection technique did not seem necessary because the focus of the study is on the internally-constructed views of the participants. Doing case analysis at the level of the participant rather than the setting also

seemed the better strategy for this study because the focus is on the individual participant's coherent picture of what is important for an optimal CLE for student learning.

Third, member checking was not done, as per the original plan. Hence, participants were not given the opportunity to challenge and or add to the interpretation of the findings from this current study. Hence, the report of the findings of this current study may be missing these possible member contributions.

Recommendations for Further Research

In-depth research from the preceptors' perspective on how they work to create an optimal CLE has been limited. This is the first study to describe the richness and depth of the approaches preceptors use while teaching students. Recommendations for further research are as follows.

As this study did not explore preceptors' views in community or international settings, there is an additional need for research in this domain. Practice in a community setting is very different to that in an acute care setting. In some ways, it could be that the preceptor's ability to guide the student from novice to expert is even more critical since practitioners in these settings often work in isolation from other nurses. Also, the skills are quite different, with a greater emphasis on coordination, long-term planning, and the ability to work with other disciplines and groups. Clinical learning environments in international settings may differ from CLEs in this study. Also, interviewing preceptors in these settings may reveal new nuances on the use of the strategies described in this study.

Strategies preceptors use to teach students and overcome learning barriers in the CLE need to be further studied to understand why articulation and reflection seem limited to only a few approaches, and also why exploration was not reported as being used. One

recommendation would be to further examine preceptors' recollections about their teaching related to articulation and reflection in order to explore whether preceptors are practicing additional strategies under these three methods. In addition, preceptors' thoughts about students' readiness for their clinical practicum and clinical learning experiences could be examined to explore whether students are advanced enough in their practice knowledge for the preceptors to use exploration. An intervention study assessing whether these methods are more likely to be used after intentional training of preceptors of the cognitive apprenticeship model is also warranted.

Another recommendation for future research is to consider modifying and updating the Student Evaluation of Clinical Education Environment (SECEE) instrument developed by Sand-Jecklin (2009). As described in chapter 2, the SECEE was developed to evaluate the CLE for undergraduate nursing students in the US. Sand-Jecklin (2009) used the cognitive apprenticeship model as a framework to develop the SECEE. The Preceptor Facilitation of Learning Scale in the SECEE can be expanded to capture the richness, in addition to the numerous ways in which preceptors can facilitate the knowledge gained from this study. Additionally, some of the unit and preceptor characteristics described can be used to add to other subscales in the SECEE. The revised SECEE could be piloted, evaluated for reliability and validity, and then used as a means of evaluating the CLE.

Conclusion

This study explored a virtually unexplored viewpoint—the preceptors' views of how to create an optimal CLE. The clinical practicum is an essential part of nursing education for nursing students and requires a quality CLE for students to learn effectively. The findings from this study yielded new and unique information about the many contributions preceptors are

making in clinical education with their use of a rich array of clinical teaching strategies. This knowledge can inform further development of preceptor training programs and faculty-preceptor collaboration.

The aims of this study were to explore preceptors' thoughts of what constitutes an optimal CLE, to describe the facilitators or barriers to optimal student learning, and to describe the strategies preceptors use to create an optimal CLE for undergraduate nursing students. The aims were met through the analysis of rich interviews from 13 expert preceptors. For the first two aims, the preceptors described a variety of features as affecting the quality of the CLE. Several of these features have been described before in other CLE studies. What was most unique about the findings from this study was the number and depth of strategies similar to those outlined in the cognitive apprenticeship model used by the preceptors and how they used these strategies to maximize facilitators and to overcome barriers to learning in the CLE. The findings provide foundational material for further development of preceptor training. This study contributes to and extends how the cognitive apprenticeship model can be used to frame how preceptors can optimize the CLE in collaboration with faculty.

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Appendix A: Request for Assistance Email to Faculty

Email: Faculty Name

Subject: Request for Assistance

Dear Faculty Name,

My name is Mayumi Negishi. I am a doctoral student at the School of Nursing (SON), Oregon Health & Science University (OHSU). I am currently conducting a study for my dissertation research. If you know any Clinical Teaching Associates (CTAs) that you can identify as an expert, could you please refer those CTAs for this study and provide me their contact information?

The purpose of this study is to identify preceptors' assumptions of what is needed to create an optimal hospital-based CLE, to describe preceptors' views of what facilitates and/or hinders learning in the CLE, and to describe what they do to facilitate optimal hospital-based clinical learning environment. In this study, the term *Preceptor* is used in lieu of CTAs because it is widely known and accepted in nursing literatures.

I plan on recruiting up to 20 participants and interviewing them individually for between 30 to 60 minutes.

The details of CTAs I am looking for are as follows:

- 1) CTAs (Participants) who
 - a) have completed the OCNE CTA training;
 - b) are identified by nursing faculty as an expert CTA; and
 - c) have precepted senior undergraduate nursing students in the previous two years or less, so that their experiences are relatively current.

Each study participant will receive a \$10 gift card upon completion of the interview. This study has been approved by the OHSU Institutional Review Board. Participation is voluntary and confidential.

If you have any questions about this research, please feel free to contact me. I would appreciate it if you could support me finding expert CTAs. Thank you very much.

Sincerely,

Mayumi Negishi, RN, BS, MPH

PhD student, School of Nursing Oregon Health & Science University

Cell: (971)200-6396

Email: negishim@ohsu.edu

Appendix B: Recruitment Flyer for Preceptors

Request for Research Participants

Title: *Preceptors' Assumptions of the Clinical Learning Environment for Baccalaureate Students' Learning

The purpose of the study: To identify preceptors' assumptions of what is needed to create an optimal hospital-based CLE; to describe preceptors' views of what facilitates and or hinders learning in the CLE; and to describe what they do to facilitate optimal hospital-based clinical learning environment.

I would like to conduct an individual survey of CTAs who are currently working in a hospital that provides clinical sites for School of Nursing, Oregon Health & Science University (OHSU). The details are as follows:

- 2) CTAs (Participants) who
 - d) have completed the OCNE CTA training;
 - e) are identified by nursing faculty as an expert CT; and
 - f) have precepted senior undergraduate nursing students in the previous two years or less, so that their experiences are relatively current.
- 3) Method: digitally-recorded individual interview with self-report demographic questionnaire
 - a. Date/Time: Your preference
 - b. Place: In a private room (located at either in a hospital or School of Nursing Portland campus)
 - c. Length of an Interview: about 30-60 minutes
 - d. Note: All data will be de-identified in the process of analysis
 - e. Appreciation: A \$10 gift card upon completion of the interview

This study has been approved by the OHSU Institutional Review Board. Participation is voluntary and confidential. For those who wish to receive a summary of the study results, a report will be sent out following completion of the study.

Please contact me if you are able to participate in this study. If you have any questions about this study, please feel free to contact me. Your participation is greatly appreciated as you are the expert CTA identified by the OHSU faculty!

Thank you very much.

Mayumi Negishi, RN, BS, MPH

PhD student, School of Nursing Oregon Health & Science University

Cell: (971) 200-6396

Email: negishim@ohsu.edu

Appendix C: Participant Recruitment Email

Dear Preceptor's Name,

My name is Mayumi Negishi, a PhD student at School of Nursing (SON), Oregon Health & Science University (OHSU). I am conducting a study about the Clinical Learning Environment (CLE) for nursing students and would like to know expert preceptors' (Clinical Teaching Associates' – CTAs') viewpoints about it.

Your name was provided to me by a clinical faculty, Faculty's Name, who identified you as an expert CTA for student learning. **If you are able to participate in this study, please contact me directly.** The details are as follows.

- 1) **Interview method:** Digitally recorded individual interview
- 2) **A short survey:** A self-report demographic questionnaire
- 3) **Date/Time:** Your preference
- 4) **Place:** In a private room (located at either in a hospital or School of Nursing Portland campus)
- 5) **Length of an Interview:** about 30-60 minutes
- 6) **Appreciation:** A \$10 gift card upon completion of the interview

Interview will be conducted by me, the researcher. All data will be de-identified in the process of analysis.

If you have any questions about this study, please feel free to contact me. Your participation is greatly appreciated. Thank you very much.

Sincerely,

Mayumi Negishi, RN, BS, MPH
Doctoral student, School of Nursing Oregon Health & Science University
Cell: (971)200-6396
Email: negishim@ohsu.edu

Appendix D Telephone Script for Preceptors

My name is Mayumi Negishi and I am conducting a study about “Creating an Optimal Clinical Learning Environment (CLE): Preceptors Views” at Oregon Health & Science University (OHSU). The purpose of the proposed study is to identify preceptors’ assumptions of what is needed to create an optimal CLE; to describe preceptors’ views of what facilitates and or hinders learning in the CLE; and to describe what they do to facilitate creating an optimal clinical learning environment. The CLE has been defined as the interactive network of forces in the clinical setting that impacts on nursing students’ learning. The CLE includes the direct or indirect interactions with every person involved in a clinical setting, together with its built environment and institutional systems that shape students’ learning. I aim to interview preceptors who have precepted senior undergraduate nursing students within the past 2 years. The goal is to improve clinical nursing education by getting the views of our preceptors about how we can improve the clinical learning environment. Participation is confidential and participants will be given a small gift for their time. Do you think you would be interested in being part of the study?

- If he or she says no, ask, “Would it help if I told you more about what we are doing?”
- If he or she says no again, say “Well, thank you so much for your time. If you do change your mind or if you have questions about what we are doing, please feel free to contact me at negishim@oohsu.edu (email) or (971) 200-6396 (cell).
- If the potential participant says yes, begin with, “As I mentioned, my name is Mayumi. I am a PhD student at School of Nursing OHSU, and I am currently studying preceptors’ views of how to create an optimal clinical learning environment.

Most importantly, you are not obligated in any way to participate in our study; it is totally your choice whether or not you talk with me. Also, it is not an all or nothing situation—you can stop the conversation at any point if you don’t want to continue or don’t want to answer a particular question.

If you do agree to participate, I will compensate you for your time, I would like to give you a gift certificate worth \$10.

Do you have any questions for me? Are you willing to participate? When can I schedule an interview? Let me know that you are happy to set up the interview at a time that is convenient for them.

- a) If after explaining the study the participant says no, say, “Well, thank you so much for your time. If you do change your mind or if you have questions about what I am doing, please feel free to contact me at negishim@oohsu.edu (email) or (971) 200-6396 (cell).”

Appendix E Email Responses to Anticipated Questions

Email to Potential Participants

Thanks so much for your inquiry about the “Creating an Optimal Clinical Learning Environment (CLE): Preceptors Views” Study. The purpose of the proposed study is to identify preceptors’ assumptions of what is needed to create an optimal CLE; to describe preceptors’ views of what facilitates and or hinders learning in the CLE; and to describe what they do to facilitate creating an optimal clinical learning environment. The CLE has been defined as the interactive network of forces in the clinical setting that impacts on nursing students’ learning. The CLE includes the direct or indirect interactions with every person involved in a clinical setting along with its built environment and institutional systems that shape students’ learning. The study involves an interview that lasts 30 to 60 minutes hours or less. Duration of participation will not exceed this 1 hour time frame.

Answering Questions from Potential Participants

Question: Who wants this information?

Answer: My name is Mayumi Negishi, a PhD student at School of Nursing, Oregon Health & Science University (OHSU). I am conducting a study about the Clinical Learning Environment (CLE) for nursing students and would like to know expert preceptors’ (Clinical Teaching Associates’ – CTAs’) viewpoints about it.

Question: What is it all about?

Answer: The information will be used to help developing the knowledge around how we can better shape clinical learning for undergraduate students.

Question: Why me?

Answer: Your name was provided to me by a clinical faculty, Faculty's Name, who identified you as an expert CTA for student learning.

Question: Can my answers be used against me?

Answer: No. The answers are completely private and confidential. No information will be provided to any person or agency – not your institution, nurse manager, peers or other healthcare providers, faculty or students at OHSU, or any other person. Your answers, together with those from all participants that I am contacting will be grouped together and presented as summaries only. Your name will not be on the audiotape or transcript and will not be on any form that we use for the interview.

Question: How do I know that you're not selling something?

Answer: You are welcome to contact me at negishim@ohsu.edu (email) or (971) 200-6396 (cell) or my chair for the study, Dr. Deborah Messecar, at OHSU (503) 494-3573 and or you may want to keep the information sheet I give you before the interview if you have future questions about the study.

Question: What if I don't want to participate?

Answer: Participation is voluntary and you may refuse if you wish. You are not obligated in any way to participate in our study; it is totally your choice whether or not

you talk with me. Also, it is not an all or nothing situation, you can stop the conversation at any point if you don't want to continue or don't want to answer a particular question. I hope that you can join this study. It is because preceptors' views are very important to create an optimal clinical learning environment for undergraduate students.

Question: What happens to the information?

Answer: As soon as I finish the interview, the digital records and forms I've completed with only an identifying number will be placed in a locked cabinet in a Doctoral center at School of Nursing, the Oregon Health & Science University. When the data is analyzed, your answers will be combined with everyone else's so that no individual answers can ever be identified.

Question: May I have the results from the study?

Answer: Yes, of course. The results of the study will be available in approximately two years. To get the results you would need to contact me, at negishim@ohsu.edu (email) or (971) 200-6396 (cell), and let me know how would you like to get the results (ex. email, mail, etc.).

Can you let me know if you can join the study? Or may I call you to arrange for your participation in an interview?

Appendix F Interview Guide

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| <p>Ice breaker Question</p> | <ul style="list-style-type: none"> • Tell me about your role as a preceptor (CTA) for students in clinical? |
| <p>Aims</p> | <p>Interview questions</p> |
| <p>Explore preceptors' assumptions of what constitutes an optimal CLE for undergraduate nursing students</p> | <ul style="list-style-type: none"> • Tell me about the CLE of your unit: <ul style="list-style-type: none"> ○ Probe: Tell me about the characteristics of the unit where you work. Describe your unit as if you were orienting me to work here and this is the introduction to how things work here. ○ Probe: What are the characteristics/features that are different from other units? What makes it harder to work here, what makes it easier? ○ Probe: What have students said about their experience on this particular unit? ○ Probe: How has the clinical learning environment changed over time? • Tell me about how the CLE of your floor or unit influences how students learn? How you teach? <ul style="list-style-type: none"> ○ Probe: Tell me about your experiences seeing interactions between student and other staff (including RNs, managers and other healthcare providers). ○ Probe: What effect do interactions with other staff have on student learning? • Tell me about how the CLE on this unit influences how you teach students. • In your opinion, what are the students' views of what makes an optimal clinical learning environment? • What was the biggest challenge for you in the clinical learning environment? • What was the biggest challenge for students in the clinical learning environment? |
| <p>Describe what factors preceptors view as facilitators or barriers to optimal student learning</p> | <p>4. What are the factors you think facilitate student learning in your clinical setting?</p> <ul style="list-style-type: none"> • Reflecting on what you have described about your unit, what factors (or features) make it easier for students to learn here? • Probe: Examples of factors or features that might be relevant: 1) the attitudes of the staff, 2) the types of |

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| | <p>patients on the unit, 3) the atmosphere, 4) things about the built environments, 5) resources on the unit, unique learning opportunities, etc.)</p> <ol style="list-style-type: none"> 5. What are the barriers to student learning in your clinical setting? <ul style="list-style-type: none"> • Can you share your example if you have? 6. Tell me about your experiences dealing with difficulties on your floor when precepting a student? <ul style="list-style-type: none"> • What effect do these difficulties have on student learning? 7. Tell me about your experiences dealing with difficulties on your floor (when precepting a student)? <ul style="list-style-type: none"> • Probe: What are the big challenges for students in your clinical setting that interfere with their learning? <ul style="list-style-type: none"> • Some examples: <ul style="list-style-type: none"> • Patient acuity & census, • RN patient ratio, • staffing, • your (hospital's) relationship with SON, • relationships between you & student, • relationships between other staff & students. <ol style="list-style-type: none"> a. What makes working with staff easier for students? b. What makes working with staff harder for students? c. What do you think staff should do when students are on your floor? • Floor design <ol style="list-style-type: none"> a. what features of your unit floor design makes it easier for students? b. What features makes it harder for students? c. What do you think you as a preceptor (CTA) can intervene or do with such floor design/building issues for students? 8. Were there any CLE changes that caused negative effects on student learning? 9. Were there any CLE changes that caused positive effects on student learning? |
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| <p>Describe strategies that preceptors identify to create an optimal CLE</p> | <ul style="list-style-type: none"> • Thinking back about what you told me about your roles as a preceptor (CTA) for students in clinical: <ul style="list-style-type: none"> ○ Probe: What makes it difficult to work as a preceptor (CTA)? And what have you have you tried to remedy that? ○ Probe: What makes it easier? Was there something you specifically you changed or tried? ○ Probe: Tell me about how the CLE influences how you teach students. ○ Probe: What have you done as a preceptor (CTA) for students who have had difficulties on your unit? Can you give me an example? • What can preceptors do to improve clinical learning environments for students? <ul style="list-style-type: none"> ○ Probe: What do you do as a preceptor (CTA) do about students' issue with staff? ○ Probe: Or, how do you help students who have hard time dealing with other staff? ○ Probe: What do you think you as a preceptor (CTA) can do to help students have positive interdisciplinary team experiences? ○ Probe: • What do you think you as a preceptor (CTA) can intervene or do with such floor design/building issues for students? I ○ Probe: If you could design an optimal clinical learning environment for students, what would it look like? • If you could change your unit's CLE to optimize student learning, where, what and how you would like to change? |
| | <p>Summary</p> <p>Would you like to add anything to the questions you answered today?</p> <p>The long-term goal is to design and develop clinical learning environment for nursing students that reflect an understanding of the perceptions and shared values of preceptors as key stakeholders in the CLE.</p> <p>Do you have any comments, ideas or suggestions for this study?</p> |

Closing

This is the end of this interview. Please let me know if you have any question or concern for this interview.

Thank you very much for your participation in this study. If you would like, I will send you the results of this study when I complete data analysis. Thank you very much again for your time and insights to this study.