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The Effects of a Preceptor Coaching Intervention on Use of Clinical Judgment by New Graduate Nurses

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THE EFFECTS OF A PRECEPTOR COACHING INTERVENTION ON USE OF

CLINICAL JUDGMENT BY NEW GRADUATE NURSES

By

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Dissertation Overview

This document is a report of the work completed through the years of my PhD studies. I have been involved in education in an academic setting and most recently as director of an Education Department in an acute care setting. I have worked with many new graduate nurses and am very concerned with the issues involved with their transitioning to practice, particularly their ability to critically think and provide quality safe patient care. My professional goal is to bridge that gap and improve the new graduates' transition and ultimately patient care and outcomes.

Much of the literature I reviewed talked about preceptor education, various orientation and transitioning programs but measured success by the preceptor satisfaction and new graduate satisfaction and retention. There was limited information about specific preceptor interventions and their effects on critical thinking/clinical judgment.   As I delved into the literature, it became more apparent that there is no standard approach to orientation and no gold standard for assessing critical thinking or clinical judgment.

After consultation with my advisor and discussion with my supervisory committee, the decision was made to submit the dissertation option manuscript format. This document includes the committee-approved research proposal, three manuscripts that complete a body of work on preceptor interventions on clinical judgment, summary discussion, implications, and future research trajectory.

This work attempts to evaluate a preceptor intervention on the development of critical thinking/clinical judgment from the new graduate's point of view as well as from the preceptor's point of view.   Each manuscript builds upon this body of knowledge.

Manuscript 1 is a systematic review of the literature related to preceptor's interventions and its effect on clinical judgment. Manuscript 2 describes the results of focus group interviews of preceptors and the viewpoint on clinical judgment and related concepts. Results of a pilot study: The effects of a preceptors coaching on new graduates clinical judgement, is reported in Manuscript 3. Each section includes an overview of each manuscript, a description of what the manuscript adds to the body of knowledge, and how it fits into the overall dissertation document. Each manuscript is written according to the requirements of the targeted journal and is a standalone document.   Manuscript specific tables, figures, and references follow their respective manuscripts.   An all-inclusive list of references is included at the conclusion of the document.

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List of Abbreviations

PCI   Preceptor Coaching Intervention

PBDS   Performance Based Development System

CTSAT   Critical Thinking Self-Assessment Tool

LCJR   Lasater Clinical Judgment Rubric

NGN   New Graduate Nurse

5MP   Five-Minute Preceptor

NPD   Nursing Professional Development

Introduction

Patient safety lapses and errors can often be directly attributed to the critical thinking

ability of a nurse (del Bueno D. , 2005; Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2009).

There were 764 sentinel events voluntarily reported in 2014 to The Joint Commission with

multiple root causes, including human factors, communication, and assessment competency

(The Joint Commission, 2015). Healthcare has become more complex, and with increasing

patient acuity, complexity of care requires higher-order thinking skills. There is a gap between

theory and practice for newly hired graduate nurses (Benner, Sutphen, Leonard, & Day, 2010;

Institute of Medicine of the National Academies, 2011; National Council State Boards of Nursing,

2014; Nursing Executive Center, 2008; Scully, 2011). In a survey conducted by The Nursing

Executive Center (2008), subjects responded to the following statement: "Overall, new

graduate nurses are fully prepared to provide safe and effective care in a hospital setting."   The

results were polarized; nursing school leaders agreed 89.9 % with the statement and hospital

nurse executives agreed 10.4% (Nursing Executive Center, 2008). This disparity illustrates the

gap between the academic world and the practice world.

The new graduate nurse learns in particular ways, engages in concrete thinking, is

focused on mastering technology, and often has difficulties in making distinctions in clinical

situations and setting priorities in a complex system (Benner, 1984; Orsolini-Hain & Malone,

2007). Orsolini-Hain and Malone (2007) describe multiple factors that contribute to a perfect

storm of "expertise gap." These include an increasing number in retiring experienced nurses, an

increase in the ratio of new graduate nurses to experienced nurses, a shortage of experienced

nursing educators, and insufficient research to determine best practices in nursing education.

With multiple factors creating an expertise gap, this pilot study focuses on solutions that can

improve the expertise of new graduate nurses. Developing optimal transition interventions for

these new graduates has the potential for narrowing the critical experience gap in clinical

practice. Transition to nursing practice involves the process of guiding the new nurse through

the novice to expert process (Benner, 1984; Benner, Hughes, & Sutphen, 2008; Benner, Sutphen,

Leonard, & Day, 2010). A key component of this transformation for the new nurse is the

development of making appropriate decisions related to managing the patient's complex

condition. The Institute of Medicine (2010) stated, "Nurses come out of school with a solid

theoretical foundation, but they need to be able to apply that knowledge and develop their

situational decision making" (p. 26).

Critical thinking, clinical reasoning, decision-making, and clinical judgment are terms

used to describe the thought processes nurses use to provide care of patients.   These terms are

often used interchangeably. There are many different strategies used to develop nurses'

thinking. The literature from nursing education has provided a foundation of strategies in

developing critical thinking by nursing students, but the clinical practice arena needs to examine

the evidence and incorporate the best practice strategies. The usual method of transitioning

the new graduate nurse into the workforce utilizes a preceptor model. Typically, preceptors are

clinical experts but not education experts. The fast-paced clinical setting requires evidence-

based strategies to promote and develop critical thinking that can be easily implemented by the

preceptor.   Therefore, the overall goal of this pilot study is to examine the impact of a

Preceptor Coaching intervention (PCI) on use of clinical judgment by new graduate nurses.

Review of Literature

Clinical Judgment and Interrelated Concepts

For thousands of years man has attempted to define critical thinking. Socrates, Plato

and Aristotle (Paul, Elder, & Bartell, 1997) all emphasized that only the trained mind is prepared

to see through the way things look on the surface. Socrates defined thinking as the ability to question, examine, and reflect on ideas and values. Florence Nightingale (1860) observed:

> It is extraordinary that, whereas the laws of motions of the heavenly bodies, far removed as they are from us, are perfectly well understood, the laws of the human mind, which are under our observation all day and every day, are no better understood than they were two thousand years ago. (p. 4)

Although critical thinking has been difficult to define over the ages, it remains one of the true essences of the professional nurse. Riddell (2007) stated, "Even the gurus of critical thinking, such as Brookfield, Mezirow, and Paul, do not reduce it to a singular definition, but rather describe it in terms of components and central features, phases, and characteristics by which it might be recognized."

Critical thinking began to emerge as a key concept in nursing research during the 1980s, driven, in part, by the American Philosophical Association's Delphi Research Project, which outlined a conceptual definition of the ideal or paradigm critical thinker (Boychuk Dutchscher, 1999). Philosophically, critical thinking has been examined from both the phenomenological aspect and the critical social theory. Boychuk Dutchscher (1999) conceptualized critical thinking as providing a framework for the practice of social theory. Critical thinking, however, is not discipline specific, and clinical reasoning was found to be more specific to practice-based disciplines. More specifically, clinical reasoning is the application of critical thinking to a clinical situation (Victor-Chmil, 2013).

The term clinical reasoning was introduced in the 1980s and is influenced by the fields of philosophy, psychology, education, medicine and nursing (Simmons, 2010). Benner, Sutphen,

Leonard, and Day (2010) described a shift from an emphasis on critical thinking to an emphasis

on clinical reasoning and multiple ways of thinking that include critical thinking. Clinical

reasoning is defined as "the ability to gather and interpret clinical data, identify and prioritize

interventions and identify appropriate consultations" (Wolfensperger Bashford, Shaffer, &

Young, 2012, p. 63). Tanner (2006) defines clinical reasoning as:

> …the processes by which nurses and other clinicians make their judgments and includes
>
> both the deliberate process or generating alternatives, weighing them against the
>
> evidence and choosing the most appropriate and those patterns that might be
>
> characterized as engaged, practical reasoning (e.g. recognition of a pattern, an intuitive
>
> clinical grasp, a response without evident forethought). (p. 204-205)

Tanner (2006) defined clinical judgment as the "interpretation or conclusion about the

patient's needs, concern, or health problems, and/or the decision to take action (or not), use or

modify standard approaches, or improvise new ones as deemed appropriate by the patient's

response" (p. 204). Benner, Tanner, and Chesla (2009) describe astute clinical judgment as "a

caring practice that represents a synthesis of sound theoretical knowledge, a grasp of the clinical

situation and skillful ethical comportment" (p. 387).   The result of poor clinical judgment may

lead to detrimental patient outcomes exemplified by "failure to rescue" behavior (del Bueno,

2005).   Further research of strategies to improve clinical judgment used by new graduate nurses

is needed to prevent this scenario from occurring. Further development of clinical judgment in

the new graduate nurse during the clinical orientation and on boarding processes is critical for

the new nurses.

Preceptor Model

Hospitals hire large numbers of new graduate nurses and are challenged with the

orientation of new nurses, specifically how to prepare these new nurses to meet the needs of an

ever increasingly complex patient population (Kaddoura M. A., 2013; Spector, 2010). Currently,

the use of the preceptor model is considered best practice for bringing on new nurses. The

preceptor is responsible for guiding and developing the new graduate nurse in clinical skills,

interpersonal communication, and clinical judgment. Many times these preceptors have not

been formally prepared for their role and are not experienced in educational strategies to assist

the new graduate nurse in the development of clinical judgment. New graduate nurses want

feedback (Spiva et al., 2013) and are anxious to learn but need the tools to enhance the

experience of clinical judgment. We must equip these preceptors with the skills needed to

develop our next generation of nurses.

Research has shown preceptor education and structured orientation programs, based

on the needs of the new graduate nurse, decrease turnover rates, decrease vacancy rates,

decrease orientation costs, provide a positive clinical experience, and improve new graduate

satisfaction with orientation (Bullock, Paris & Terhaar, 2011; Ryan & Tatum, 2013; McClure &

Black, 2013; Figueroa, Bulos, Forges, & Judkins-Cohn, 2013; Myrick, Luhanga, Billay, Foley &

Yonge, 2012). There is limited research on preceptor educational strategies for improving

clinical judgment. Foy, Carlson, and White (2013) surveyed 245 RN preceptors, asking the

preceptors what their highest ranked education needs were. "How to teach critical thinking"

was among the top topics identified. Logically, if the preceptor model is the model for

orientation of the new graduate nurse, then preceptors need education on the use of strategies

to promote development and use of clinical judgment by the new graduate nurse.

Current Educational Strategies

A number of educational strategies have been studied for their effect on developing clinical judgment of nursing students. Reported strategies include the use of questioning, reflection, self-evaluation, role modeling, concept mapping, concept-based learning, problem-based learning, thinking in action, computer simulation, and high fidelity simulation (Banning, 2007; Glynn, 2012; Johnson, et al., 2012; Lasater, 2011; Lasater & Nielson, 2009a, 2009b; Riddell, 2007; Simmons, 2010; Sorensen & Yankech, 2008; Weatherspoon & Wyatt, 2012). Much of the current literature reflects studies conducted in the educational setting and does not reflect the education strategies that have been used in hospitals to provide transition for new graduate nurses into the clinical setting.

Prior research on development of critical thinking has been conducted on nursing students (Brunt, 2005a). Effective strategies for problem solving are essential for continued development of the practicing clinician, and although there are many different strategies for enhancing development, the one thing they do have in common is a humanistic approach in which the learners take an active part in the process to foster new learning.

The research conducted with nursing students does not take into consideration the limitations that exist in the practice environment.   Many faculty members have been educated on learning theories and the development of clinical judgment. However, nurse preceptors in clinical settings (e.g., hospital, acute care) perceive that they are neither prepared for nor educated about the educator role they are responsible for during orientation. They also experience lack of role clarity, inconsistent preceptor education, and overwhelming workloads that can lead to burn out (Delfino, Williams, Wegener, & Homel, 2014; Haggerty, Holloway, & Wilson, 2012). When preceptors receive education, they feel better prepared to assist the new orientee in developing critical thinking (Forneris & Peden-McAlpine, 2009; Horton, DePaoli,

Hertach, & Bower, 2012; Myrick, Luhanga, Billay, Foley, & Yonge, 2012; Sorensen & Yankech,

2008). Other factors also confront the development of clinical judgment for the new graduate

nurse. These include a sense of being overwhelmed, lack of confidence (situational paralysis),

self-doubt, control of patient care by the preceptor, inconsistency in experiences and

personality types, struggling with the pace of reasoning, transition shock, and the realization the

new graduate nurse is professionally accountable (Kaddoura, 2013; Price, 2013; Wiles, Simko, &

Schoessler, 2013). Future research should examine the effects of evidence based educational

strategies on critical thinking and the development of valid and reliable tools for preceptors to

use in evaluating critical thinking of the new graduate nurse.

Preliminary Studies

 Perceptions of Preceptors. A pilot study was conducted with a convenience sample of

current nurse preceptors at a midwestern community hospital. Ten preceptors that had worked

with new graduate nurses within the last year participated in two focus groups. The preceptors

were asked probing questions regarding how they determined if the new graduate nurse

possessed sound clinical judgment, what interventions were most effective in teaching clinical

judgment, and what barriers were encountered that prevent the development of clinical

judgment.   The interview transcripts were reviewed and categorized by themes.

 Strategies used by preceptors to assess clinical judgment primarily included direct

observation. Preceptors identified the need for better tools to assess clinical judgment at the

focus group interviews. The preceptors discussed assessing clinical judgment from observations

and the limitations of basing evaluation of clinical judgment on observations. One nurse stated

"it's one thing to know it, another thing to take the action" which she assessed from the action

taken by the new graduate. The preceptor couldn't tell what the new graduate was thinking

unless the action was taken to observe.

Teaching through questioning and role modeling were the primary strategies reported to guide development of clinical judgment of new graduate nurses. Examples of these strategies included questioning techniques such as: "Why would this patients pressure be low? What would you be concerned about? What is your first priority? What should you chart?" Preceptors used questioning techniques to drive and promote problem solving. One preceptor stated, "It's eye opening sometimes where they don't even realize with the meningitis diagnosis that you would document neurological." Role modeling discussion not only focused on the preceptor role-modeling, but the preceptors also observed the new graduates' identified role models among other nursing staff on the unit. As reflected by one preceptor, "It didn't take long for the new graduate to identify who on the area was a nurse they would want to approach and who was one they didn't."

Lack of resources for preceptors was the dominant theme concerning barriers to developing clinical judgment. This included lack of time, lack of preparation provided to the preceptors, and lack of support. Specific lack of support included staffing related barriers associated with increased workload and not having resources available to help with clinical judgment. When talking about support, a preceptor stated:

> It is important that the preceptor has someone to go to for, not even management
>
> support, but the support of what else can I do. Because I had that when one of them
>
> came to me crying, and I can't get them to do this right. I don't know what to do. I have
>
> [shown] them 10 times, I asked questions, I encouraged them. Is it a lost cause?

Related to the barrier of too little time to develop clinical judgment, one preceptor said the "time constraints were scary" and that it was "important to have someone to go to that knew how to teach clinical judgment". Another theme identified as a barrier was the new graduate

themselves; this included conflict with the new graduate. Preceptors expressed they felt poorly

about discussing performance with the orientee, such as: "Well they get angry with you…so

then it becomes kind of hard to keep teaching them" or "people don't want you to tell them

that they are doing something wrong and sometimes you just have to say we have to have that

conversation." Perceptions of self-confidence by the new graduate was another challenge for

the preceptor, as self-confidence in clinical judgment by the new graduate nurse ranged from

lack of self-confidence/fear of making a mistake to the "know it all's".

Focus group interview findings support the need for time efficient effective strategies to

develop and facilitate clinical judgment of new graduate nurses that can be delivered by

preceptors without significant interruption of care and workloads. The proposed Preceptor

Coaching intervention (PCI) may be useful to improve clinical judgment by new graduate nurses.

Educational Interventions to Promote Critical Thinking. A systematic review was

conducted to examine preceptor-based educational interventions used to promote critical

thinking in the new graduate nurse transitioning to professional practice. The specific aims of

this systematic review were: a) to determine the interventions/strategies used by preceptors to

promote critical thinking of new graduate nurses, and b) to examine the critical thinking

outcomes demonstrated by new graduate nurses. The literature documents the need for further

development of critical thinking in the new graduate nurse. A literature search was completed

and included the Cumulative Index of Nursing and Allied Health literature (CINAHL) and PubMed

/Medline. The computer searches and hand search produced 602 abstracts. Abstracts were

reviewed independently by two reviewers, and 57 full text articles evaluated, of which 9 were

selected for review. The studies were reviewed and synthesized using an approach based on

Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA). Articles were

examined for preceptor, educational strategies, critical thinking outcomes and measurements.

Preceptor education was a key component in the studies. Themes included learning principles,

feedback/evaluation, and critical thinking (See Table 1). The articles reviewed demonstrated

experiential learning, feedback, coaching, and evaluation would appear to be best practice in

developing critical thinking (See Table 2). The studies reflected a lack of experimental design

with inclusion of control groups that would show true difference versus developmental

differences in critical thinking.   There was also a wide variation of measurement tools making it

is difficult to compare specific outcomes.

Table 1 Preceptor Educational Concepts

Concept	Specific Content
Communication	Communication (Klein)
Socialization	Nurturing (Klein)
	Horizontal & Vertical Incivility(Wahl & Thompson)
Feedback/Evaluation	Feedback (Klein)
	Clinical competencies of new hires (Klein)
	Evaluation of new nurse (Klein)
	Competency and performance Evaluation (Marcum & West)
Learning Styles	Generational Differences in learning styles/preferences (Wahl & Thompson)
	Learning Styles (Wahl & Thompson)
	Cultural Learning (Wahl & Thompson)
Preceptor Roles and Responsibilities	Preceptor Roles and Responsibilities(Klein)
	Rewards and Benefits preceptors desire (Sorensen & Yankech)
	Goals of the Unit (Marcum & West)
	Workflow (Marcum & West)
	Preceptor expectations (Marcum & West)
Learning Theories	Adult Learning Principles (Wahl & Thompson)
	Theoretical background on human learning (Sorensen & Yankech)
	Educational theories on information processing and Vgotsky (Sorensen & Yankech)
	Profile of the new graduates (Marcum & West)
Tools	Concept Mapping (Wahl & Thompson)
	Narrative practice story (Forneris & Peden-McAlpine)
Critical Thinking	Engaging Critical Conversation about critical thinking attributes (Forneris & Peden-McAlpine)
	Reflection and reflective practice (Forneris & Peden-McAlpine)
	Evaluating critical reflective thinking (Forneris & Peden-McAlpine)
	Definitions of critical thinking (Sorensen & Yankech)
	Methods to facilitates critical thinking in other nurses (Sorensen & Yankech)

Table 2 Educational Strategies

Educational Category	Strategies Identified
Web-based Education	Essentials of Critical Care Orientation (ECCO)Program
	Pediatric Web-based tutorial
Activity Interaction	Problem Based Learning Case Study
	Concept Mapping
	Discussion Groups
Experiential Feedback	Coaching
	Reflective Questioning
	Floating Preceptor
	Married State Preceptorship Model
	Paired Assignments

Although the preceptors, interventions, and critical thinking measurements varied across studies, there were common concepts that emerged. In all of the studies, preceptors were provided with specific educational strategies. It was not assumed the preceptors had the skills required but that development was needed.

The major variance found in the literature was the variance in the educational concepts and strategies used in preceptor education. Although the concepts were varied, the overall emphasis was on learning principles, feedback to orientee, evaluation of orientee, and promoting critical thinking (See Table 2).

Another key component for preceptors was the need to master interactive communication. This included such concepts as reflective journaling, customized feedback, questioning techniques, and coaching (Celia & Gordon, 2001; Figueroa, Bulos, Forges, & Judkins-Cohn, 2013; Forneris & Peden-McAlpine, 2009; Klein, 2009; Marcum & West, 2004; Ryan & Tatum, 2013; Sorensen & Yankech, 2008; Wahl & Thompson, 2013). New graduate nurses have a desire to grow and want feedback on their performance. For example, when the educational intervention was delivered online and not delivered by the preceptor as in Kaddoura (2010), the new nurses still desired their input and feedback, and educator involvement and discussion

were seen as important ways to improve the educational intervention.   There was a clear

benefit and improved outcomes when orientation for the newly hired nurse could be

individualized and customized (Marcum & West, 2004; Ryan & Tatum, 2013; Sorensen &

Yankech, 2008).

      Findings from this systematic review demonstrated use of experiential learning,

coaching, feedback, and evaluation of clinical performance promoted critical thinking

development of new graduate nurses. However, due to the lack of studies that use these

recommended interventions and lack of studies that used experimental and usual practice

designs, further research is urgently needed. Future areas for research to further this body of

knowledge should include examining the effects of evidence-based educational strategies on

critical thinking and the development of valid and reliable tools for preceptors to use in

evaluating the decision-making skills of the new graduate nurse. How new nurses are developed

and nurtured to increase their level of critical thinking is a key element in patient safety,

retention, turnover costs, the well-being of the new nurse themselves, and our healthcare

system.

Conceptual Framework

      A review of the literature by Tanner (2006) led to the development of a research-based

model of clinical judgment in nursing. Tanner's research based Model of Clinical Judgment was

used as the framework for this pilot study (See Figure 1). Tanner (2006) defined clinical

judgment as the "interpretation or conclusion about the patient's needs, concern, or health

problems, and/or the decision to take action (or not), use or modify standard approaches, or

improvise new ones as deemed appropriate by the patient's response" (p. 204).

Tanner described clinical judgment as having four components: **noticing, interpreting, responding, and reflecting.** *Noticing* is a perceptual grasp of the situation at hand (Tanner, 2006) and includes the concepts of context, background, relationship, expectations, and initial grasp. Effective noticing involves focused observation, recognizing deviations from expected patterns, and information seeking (Lasater, 2011, 2007a, 2007b). *Interpreting* is determining the meaning of the data and the appropriate course of action. Research has shown at least three
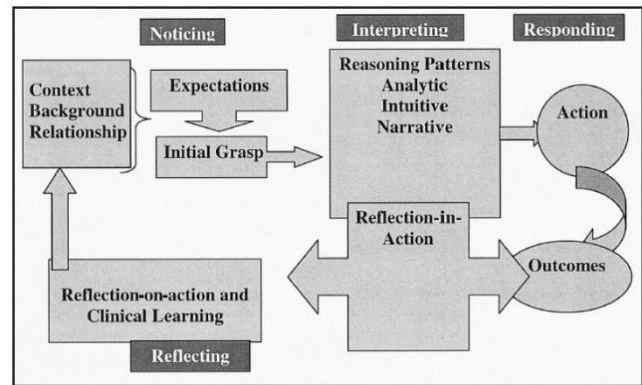
Figure 1. Tanner Clinical Judgment Model

interrelated reasoning patterns used by experienced nurses' in decision-making: analytic patterns, intuition, and narrative thinking (Tanner, 2006). *Responding* is the action component, and *reflecting* is "reading" how the patient is responding to the nursing intervention, and adjusting the interventions based on that assessment. There is also reflection-on-action and subsequent clinical learning that completes the cycle (Tanner, 2006).

Lasater (2011) stated that the development of clinical judgment is the marriage of knowledge and practical experience. Clinical judgment is complex and requires not only the knowledge of pathophysiology but also understanding of the illness experience of the patient. Clinical judgment is imperative in situations that are ambiguous.

There is a need for a structure to provide guidance in the directed reflective questioning while the new graduate nurse is caring for the patient. Coaching and reflective questioning from an educated preceptor allows the nurse to learn in the real world. There are many influences in the patient arena that do not exist in simulation or didactic education. There is an increase in clinical reasoning through reflection and questioning in the "real care" arena versus the

simulated arena due to the influence of the patients' context. Durning, Artino, Pangaro, van der

Vleuten, and Schuwirth (2011) found that contextual factors can interact and influence clinical

reasoning and that experts seem to be aware of this. The tendency to change one's leading

diagnosis based on an incorrect suggestion occurs more frequently among less expert

individuals, and views of given contextual factors are complex. The "less expert" nurse needs to

practice within contextual factors while under the supervision of a trained questioning

coach/preceptor. The new graduate nurse is easily influenced, both positively and negatively.

Only by linking reflection directly to activities designed to improve performance, ideally in

situations that allow deliberate practice, will reflection lead to clear, reproducible performance

improvements (Ericsson, Whyte, & Ward, 2007).

Therefore, the purpose of this pilot study is to examine the benefits of a Preceptor Coaching

intervention (PCI) on the development of clinical judgment of new graduate nurses.

The following research aims are examined in this proposed pilot study:

1. To examine the effectiveness of a Preceptor Coaching intervention (PCI) individualized
   to the new graduate nurses' learning needs on the development of clinical judgment.

2. To examine the relationship between clinical judgment competency assessment
   measures using simulated experiences, self-assessment and preceptor direct
   observation assessment measures.

3. To explore the usefulness and financial implications of the Preceptor Coaching
   intervention (PCI) on preceptor preparation to promote the use of clinical judgment by
   the new graduate nurse .

Methodology

Sample and Setting

The proposed pilot study was be conducted in the context of nurse orientation of new graduate nurses in a midwestern health system. Subjects were recruited from newly hired graduate nurses within the health system. This health system hires approximately 200-300 nurses annually who have graduated from a nursing program within the prior 12 months. New graduate nurses included all ages of newly hired nurses, and both males and females.

Design. A prospective sequential design was used. Data was collected during two phases. Phase I included data collection during a baseline period of time with no specific intervention other than established usual practice within the health system. Data collected served as baseline data for comparison from both new graduate nurses and preceptors. Phase II consisted of implementation of the Preceptor Coaching Intervention (PCI) and follow-up data collection.

Inclusion Criteria. Study inclusion criteria included: a) a newly hired employee of the health system, b) no prior registered nurse work experience, and c) graduation from a registered nurse (RN) nursing program within past 12 months.

Sample. As a pilot study, this study is underpowered for statistical hypothesis testing, and analyses focused on descriptive statistics, estimation of effect sizes, and hypothesis generation. A total sample of 40 participant dyads (new graduate nurse and preceptor) were to be enrolled. This included 20 new graduate nurses and their respective preceptors for both Phase 1 & Phase II. The sample of 40 provides two groups of 20 dyads for both the comparison and intervention (PCI) groups. This meets the pilot study guideline of at least 10% of a fully

powered trial (i.e., 16 =10% sample with 4 additional dyads per group to account for attrition)

and remains realistic in terms of time and cost (Hertzog, 2008). The sample for this pilot study

was based on a statistical power analysis performed for sample size estimation using data from

Adamson, Gubrud, Sideras, and Lasater (2012). This article summarized findings from three

different approaches examining the Lasater Clinical Judgment Rubric (LCJR) for reliability and

validity using patient simulation with nursing students. Effect sizes ranged from 0.76 on the

Noticing subscale to 0.94 on the Interpreting subscale. With an alpha = .05 and power = 0.76,

the analysis was completed with G*Power 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007); the

projected sample size needed with this effect size is N =78. The same analysis with the effect

size of 0.94 yielded a sample size of 52 for the simplest between group comparisons.

Phase I. Phase I of this pilot study included collecting baseline data to measure

outcomes of usual practice for orientation by preceptors of new graduate nurses. The new

graduate nurses' clinical judgment was assessed utilizing the Performance Based Development

System (PBDS) (see Appendix A) within 1 week of hire and at 6 weeks if they did not successfully

meet at one week. The new graduate nurse also completed a critical thinking self-assessment

tool (CTSAT) at 1 and 6 weeks (see Appendix B). Preceptors provided the usual customary

orientation and assessed the new graduate nurses' clinical judgment, completing assessments at

1 week and 6 weeks using the Lasater Clinical Judgment Rubric (see Appendix C). Preceptors also

completed a weekly preceptor coaching assessment regarding the orientation experience (see

Appendix D).   Please refer to the measurement section for a description of tools.

Phase II. During Phase II, the preceptor was provided with Preceptor Coaching

Intervention (PCI) education (see Appendix E), with use of preceptor coaching skills validated

through competency assessment and observation of preceptor skill use in the clinical setting

(see Appendix F). The preceptors participating in Phase II provided the new graduate nurse in

the dyad with needs-based preceptor coaching throughout the 6 weeks of orientation and

assessed the new graduate nurses' clinical judgment by completing assessments of the new

graduate nurses' clinical judgment within 1 week of hire and at 6 weeks. The new graduate

nurse completed a critical thinking self-assessment tool (CTSAT) at 1 and 6 weeks, and the PBDS

at week 1 and also week 6 if they did not meet on initial assessment, replicating the timeline in

Phase I. Preceptors also completed the Weekly Preceptor Coaching Assessment regarding the

orientation experience. Please refer to the measurement section for a description of tools.

Comparison group

During Phase I of the study, data was collected based on usual practice for preceptor

orientation of the new graduate nurse by preceptors. Usual practice as defined for this study is

defined as current practice used for orientation of new graduate nurses to the hiring institution.

This included administration of the Performance Based Development System (PBDS) assessment

in the first week of clinical, with feedback of PBDS results reported to new graduate nurse and

preceptor. Orientation was provided in the dyad of the orientee and preceptor with feedback

and evaluation using the institutions routine procedures. In addition to the usual practice, the

new graduate nurse was asked to complete the Critical Thinking Self-Assessment tool (CTSAT)

twice, at the time he/she takes the PBDS assessment and at the completion of 6 week

orientation.   The new graduate nurse was also given the PBDS reassessment if he/she did not

meet criteria for competency on the initial assessment. Preceptors were provided with

education on use of the Lasater Clinical Judgment Rubric (LCJR) and demonstrated competency

in use of the LCJR, refer to measurement section below.

Intervention group

The preceptor intervention group in Phase II of the study received the Preceptor

Coaching Intervention (PCI). The intervention consists of the PCI Educational module, PCI

coaching materials, and NGN Individualized Education Plan.

PCI Educational Module. The PCI Educational Module was be developed by the PI. The

PCI curriculum incorporates two major coaching concepts: *Five Minute Preceptor* (5MP) steps

(Bott, Mohide, & Lawlor, 2011) and strategies to lead to questioning based on Tanner's model

(2006) targeting the individualized education plan for the new graduate nurse. These evidence-

based coaching models provide the framework to encourage experiential learning, allowing the

new graduate nurse to learn through the process of thinking. The 5MP provides a structure for

the preceptor and new graduate nurse to use for interaction. The 5 steps include: 1) having the

nurse take a stand on an observation; 2) the preceptor/coach probing for supporting evidence;

3) teaching general rules (usually a maximum of three points, the most important "pearls"); 4)

then reinforcing the positives, strengths, and competencies; and 5) finally correcting errors and

misinterpretations (Bott, Mohide, & Lawlor, 2011).

The coaching technique based on the Tanner model allows for individualizing the

questions as the preceptor uses with the 5MP. Also included in the educational module and

post-assessment is education on scoring the LCJR and general communication techniques.

Content for the educational module is explicated in Appendix A. Content was be presented in

didactic format and include recorded role-playing of scenarios between a preceptor and

orientee.   The preceptor intervention is an educational module with learning validated through

scenario-based post-assessment and preceptor observation assessment.

PCI Coaching Materials. Preceptors were be provided handouts of PCI educational

video content, an article for reference (Bott, Mohide, & Lawlor, 2011), and pocket cue card (See

Appendix G and H) that can be used by preceptors in the clinical setting. The pocket cue card

contains the 5MP figure with instructions on one side and sample questions to be used for

identified learning needs on the other side. These learning aids provided reinforcement of the

coaching strategies.

New Graduate Nurse Individualized Education Plan. In current practice, preceptors

receive information regarding the results of the PBDS assessment for orientees; however,

preceptors have not been aided in developing an educational plan based on the new graduate

nurses' needs. During Phase II the investigator obtained results from the PBDS assessment,

CTSAT, and LCJR score and develop a coaching plan based on the needs of the new graduate

nurse. Each of the tools was evaluated for the learning needs identified. These needs, as well as

examples of appropriate coaching using the 5MP, were developed into an educational plan. See

Figure 2 for the educational plan process.

| Critical Thinking Self Assessment Tool scores evaluated by PI | Lasater Clinical Judgment Rubric scores evalauted by PI | PBDS Results Needs reported by national rater and sent to PI | PI compiles education plan and provides plan to designated individual | Educational Plan shared with preceptor by designated individual |

Figure 2. Educational Plan Development
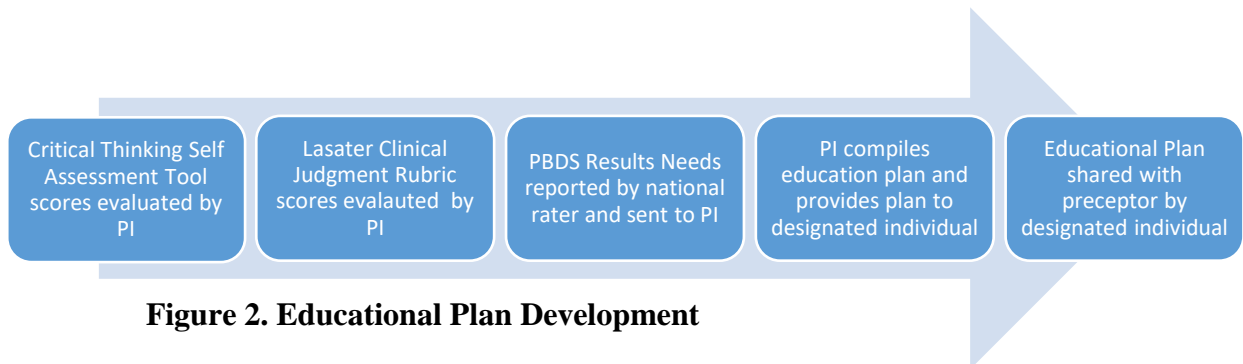
As mentioned previously, results of the PBDS assessment are communicated to the new

graduate nurse and the preceptor by a designated staff member as is the usual practice. In the

intervention group the designated staff member first met with the preceptor with the education

plan results and then was joined by the new graduate nurse to review the PBDS results per

policy of the health system where the pilot study was conducted.

During the meeting with the designated person and preceptor, a preceptor coaching

intervention plan was discussed.   For example, if the results from the PBDS assessment

summary identifies the new graduate nurse has difficulty identifying the problem, the preceptor

has rated the new graduate low on the concept *making sense of data,* and the new graduate

rated herself/himself high on *accurately recognize changes in patient status,* then the preceptor

would coach using the 5MP to focus on noticing. This assisted the new graduate nurse in

developing his/her clinical judgment based on clinical concepts the new graduate nurse may not

previously have been aware needed further development. The designated person reviewed the

results of the assessments with the preceptor to develop the ability of the preceptor to use the

data from clinical judgment measures of orientees to enable the preceptor to individualize

coaching interventions independently in the future.

Measurements
        Demographic Tools.

        New Graduate Nurse Demographic Tool. New graduate nurses completed a

demographic questionnaire to obtain the following information: age, gender, education level,

and previous work experience (see Appendix I).

        Preceptor Demographic Tool. Preceptors completed a demographic questionnaire to

obtain the following information: age, gender, years of total experience, years of experience in

current specialty, years of employment in the unit, education level, general preceptor

education, and number of years as a preceptor (see Appendix J).

        Clinical Judgment Tools.

        Performance Based Development System (PBDS).   PBDS is an assessment tool based on

a conceptual framework consisting of three dimensions of competency: Critical Thinking,

Interpersonal Skills, and Technical Skills. For this study the investigator used the clinical

judgment videos and online response components of the PBDS program. The clinical judgment

video component included 12 scenarios with videotaped actors portraying patients with

common diagnosis and complications that the nurse will encounter in her/his practice. The

online response component required the nurse to identify the problem, provide action for care,

and rationale for the actions. The responses are timed, and the nurse is only allowed a specified

amount of time (7 minutes).

        This assessment measured the skill of Risk/Problem Recognition, (the ability to

recognize a problem or a deviation from the norm); Problem/Risk Management, (actions to

manage the problem to at least keep the patient safe and reduce risk); Differentiation of

Urgency, (a sense of urgency with which actions are taken); and Rationale (the ability to give a

reason for actions taken). Once the online response component was completed, data is

interpreted by national raters. Inter-rater reliability of the national raters is conducted through

cross rating of assessments across the United States within the parent healthcare system. In

FY14, the raters responsible for scoring the PBDS results for the health system to be used in this

pilot study rated 3,039 total assessments, 2,952 of these assessments were RNs. Thus far, for

FY15 (through the end of March 2015), they rated 2,866 total, with 2,794 RNs (P. Ford, personal

communication, June 3, 2015). Reliability estimates for simulations obtained by using an

equivalence approach averaged 94% for individuals tested with parallel simulations. Anecdotal

evidence also supported the simulations' reliability to differentiate between and among

individuals (del Bueno D., 2005; del Bueno D. 1994; del Bueno D., 1990). There is limited

reliability and validity testing reported due to the PBDS being proprietary.

        Lasater Clinical Judgment Rubric (LCJR) (Lasater, 2011). The LCJR is an evidence-based

clinical judgment rubric that presents dimensions of clinical judgment as trajectories for nurses'

development. It provides a rubric that evaluates noticing, interpreting, responding, and

reflection. It evaluates these concepts on four levels: beginning, developing, accomplished and

exemplary. There are eleven sub-concepts and 4 levels of measurement are scored, each cell is

scored with one point.   The range of scoring on the tool is 11-44 points. Using simulation, inter-

rater reliability was calculated to be 0.889. Using percent of agreement the inter-rater reliability

ranged from 92% - 96%, and for agreement for reliability analysis results ranged from 57%-100%

(Adamson, Gubrud, Sideras, & Lasater, 2012). Validity evidence has been documented through

intraclass correlations of known differences and evidence based on relationships with measures

of other variables the intended levels of scenarios. Scores were consistent with known group

differences (Adamson, Gubrud, Sideras, & Lasater, 2012).

The LCJR tool was originally developed and used for student nurses. There have not

been published studies using the LCJR in clinical practice settings. To determine if the use of this

tool in the practice setting would be feasible, the PI conducted a small feasibility study.

Preceptors working in a midwestern acute care hospital and orienting new graduate nurses

were recruited to participate in a study to determine the usability and effectiveness of the LCJR.

An aim of this study was to examine the feasibility of preceptors using the tool to measure the

new graduate nurses' clinical judgment during orientation. The sample size consisted of 10 new

graduate nurses and 10 preceptors. New graduate nurses were assessed the second week of

hire using the LCJR by the preceptor. The preceptor also evaluated the LCJR completing a survey

rating each question on a Likert scale of 1-5 (strongly disagree to strongly agree). Preceptors

were also given the opportunity to write open comments. The findings demonstrated that the

preceptors felt the tool measured clinical judgment, and the tool was easy to understand and

use, (Refer to Table 3). Respondents did have concerns on scoring and indicated if the tool were

used to measure clinical judgment in the future, further education would be needed.

Preceptors were interested in how the tool correlated to the written assessment the new

graduates used (PBDS), there were no significant correlations found between the tools with the

limitation of a very small sample size.

Table 3 Lasater Evaluation Results

Question	Mean Score
The LCJR tool measured the new orientee's clinical judgment.	4
The LCJR was easily understood.	4.3
The LCJR was easy to score.	3.7
The LCJR training was useful	4.5
How many minutes did it take to score the LCJR	12.5 (Range of 5-30) minutes
Other comments from preceptors: Confused how to score, it would be useful to have numbers in the boxes to help with scoring. I may have a better understanding of how useful this could be if I knew how to score it. Based on score does it say how well orientee is catching on? Would this be more beneficial if these questions from assessment were not so early in orientation? I really like this tool and think it would be very helpful during orientation. Would be interested as the preceptor to know how my selections compared to the PBDS results. There were some assessments where I felt like she could have fallen between 2 options. There seemed to be a big jump between "accomplished" and "developing". Where I felt the orientee was somewhere in between these areas. Interpreting was the easiest to score, where noticing was more difficult as the orientee often fell between accomplished and developing. I had a hard time choosing one category/choice for some of the questions- felt this person fit a few of the choices. Was also hard not being able to give examples or reasons for my decisions. Would be interested as the preceptor to know how my selections compared to the PBDS results. Clear communication was hard to score, my orientee was not exemplary, so I picked accomplished yet I believe she has a good rapport with patients and other nursing staff- more so with patients!	

Establishing LCJR Reliability. Preceptors participating in both Phase I and II completed an

educational module on use of the LCJR. This is necessary to verify reliability of preceptors'

assessment when using the LCJR to assess new graduate nurses. Preceptors demonstrated

competency in use of the LCJR by evaluating case scenarios using the LCJR tool. Multiple

application scenarios were available for repeated attempts in the use of the LCJR until the

preceptor demonstrated competency with 90% agreement on scoring.

      Critical Thinking Self-Assessment Tool (CTSAT). The Critical Thinking Self-Assessment

Tool is a self-assessment of critical thinking consisting of 25 core competencies of critical

thinking grouped in the following categories: problem recognition, clinical decision making,

prioritization, clinical implementation and reflection (Berkow, Virkstis, Aronson, & Donohue,

2011) from the Nurse Executive Board of the Advisory Board Company. Each core competency

is scored on a 5 point Likert scale rating from strongly disagree to strongly agree. New graduates

are also asked to write supporting examples when rating themselves. Reported Cronbach α

coefficients for each scale within the survey were .976 for all survey items, .910 for problem

recognition, .882 for clinical decision-making, .932 for prioritization, .919 for clinical

implementation and .922 for reflection. A split-half reliability on the entire instrument yielded a

0.930 correlation between halves and 0.961 for the Guttman split-half coefficient (Berkow,

Virkstis, Aronson, & Donohue, 2011). Refer to Appendix B.

      Preceptor Coaching Intervention Tools

      Preceptor Post-Assessment. At the completion of the PCI educational video module, the

preceptor was asked to complete a post-assessment utilizing video scenario based on

application questions to demonstrate competency in the use of preceptor coaching strategies.

A post-assessment consisted of 10 scenario-based questions that preceptors answered after

watching the educational video.   A minimum competency score of 80% was required for the

preceptor to participate in Phase II of the pilot study. Preceptor participants who do not initially

meet the 80% competency were
allowed one additional opportunity
to review the video and retake the
post-assessment. See the
exemplar of a post assessment
question in Figure 3. Preceptors
were also required to rate a
recorded scenario using the LCJR
and achieve a 90% consistency in
rating compared to PI rating using
the LCJR.

Figure 3. Exemplar Scenario and Post Assessment Question

A new nurse is assessing a patient with shortness of breath. She listens to lung sounds, but doesn't notice the oximeter numbers are decreasing, then he/she receives ABG results showing respiratory acidosis but mumbles under her breath " I'm over whelmed and don't understand all these numbers." When asked by the preceptor if she has any questions about what else to assess, she says she listened to the patients lungs and they sounded "crackley" so there really isn't any more to do. When the preceptor asks if she has any questions in general, the new nurse sets the ABG results down and doesn't seek any help. She/he does not ask the patient or family about any respiratory history. She then gets the patient water and a pain pill.

How would you score this nurse on noticing?

A. Focused Observation: 1, Recognizing Deviations from Expected Patterns: 1, Information Seeking: 1

B. Focused Observation: 1, Recognizing Deviations from Expected Patterns: 3, Information Seeking: 3

C. Focused Observation: 3, Recognizing Deviations from Expected Patterns: 3, Information Seeking: 3

D. Focused Observation: 4, Recognizing Deviations from Expected Patterns: 3, Information Seeking: 4

Preceptor Coaching Observation. Preceptor participants in Phase II were observed

implementing preceptor coaching of the new graduate nurse by the primary investigator (PI) in

the clinical setting during the second week of the clinical orientation. The PI utilized a Preceptor

Observation Assessment to record the use of coaching techniques and strategies used by the

preceptor study participant. Refer to Appendix F.

Weekly Preceptor Coaching Assessment. After the first week of participation, a

questionnaire (Weekly Preceptor Coaching Assessment) regarding techniques used by the

preceptor (including time of implementation) to coach for NGN clinical judgment development

was sent weekly from week 2 to 6 of the NGN orientation using a Survey Monkey®.   Refer to

Appendix D.

Human Resource Data. New graduate turnover and time in orientation was tracked by the primary investigator.

Procedure

Phase I.

1. Investigator recruited and obtained consent from the new graduate nurse to use the results of the Critical Thinking Self-Assessment Tool, PBDS assessments, demographic data, and preceptor tools including the Lasater Clinical Judgment Rubric (LCJR).

2. Facility staff administered the PBDS assessment per the company web site.

3. New graduate was given Critical Thinking Self-Assessment Tool and New Graduate Nurse Demographic Tool to complete.

4. Preceptor assigned to recruited new graduate nurse was recruited to participate in the pilot study and consent obtained.

5. Preceptor was given the educational module on LCJR and completed the post assessment and Preceptor Demographic Tool.

6. Preceptor completed the initial LCJR by the second week of employment and before the results of the PBDS assessment are reported.

7. Tools were collected and placed in a confidential envelope, and the primary investigator entered the data into a computer password protected database.

8. PBDS results reported to primary investigator and entered into the password protected database.

9. At six weeks the new graduate nurse completed the Critical Thinking Self-Assessment Tool and placed it in a confidential envelope, and returned it to the primary investigator.

10. The preceptor sent the Weekly Preceptor Coaching Assessment to be completed regarding the coaching skills to develop critical thinking each week on Monday.

11. At 6 weeks the preceptor completes the LCJR, places in a confidential envelope, and

     returns it to the primary investigator.

12. New graduate nurses who did not meet minimal acceptable results on the PBDS were

     reassessed at 6 weeks

13. All data was completed and confidentially entered into the database.

Phase II.

1. Investigator recruited and obtained consent from the new graduate nurse to use the

    results of the new graduate Critical Thinking Self-Assessment Tool, PBDS assessments,

    New Graduate Nurse Demographic Tool, and preceptor tools including the Lasater

    Clinical Judgment Rubric (LCJR).

2. Facility staff administered the PBDS assessment per the company web site.

3. New graduate was given the Critical Thinking Self-Assessment and New Graduate Nurse

    Demographic Tool to complete.

4. Preceptor assigned to recruited new graduate nurse was recruited to participate in the

    pilot study and consent obtained.

5. Preceptor completed preceptor coaching intervention module and post assessment.

6. Preceptor was assessed for preceptor coaching intervention competency by the

    investigator in the clinical setting.

7. Preceptor completed the LCJR the second week of clinical and before the results of the

    PBDS assessment are reported.

8. Tools were placed in a confidential envelope, and the primary investigator entered the

    data into a computer password protected database.

9. PBDS results reported to primary investigator and entered into the password protected

    database.

10. The primary investigator met with the preceptor when PBDS results are available and

    individualized coaching plan shared.

11. The preceptor was sent the Weekly Preceptor Coaching Assessment to be completed

    regarding the coaching skills to develop critical thinking each week on Monday.

12. If the preceptor does not participate in the survey within 4 days of receiving the email,

    the investigator contacted the preceptor to remind the subject to complete the survey.

13. If there is more than one preceptor involved, the subsequent (with a maximum of three)

    preceptors was approached for consent and participated in the module and skills

    testing.

14. The new graduate nurse completed the critical thinking self-assessment tool at 6 weeks,

    placed it in a confidential envelope, and returned it to the primary investigator.

15. The preceptor completed the LCJR at 6 weeks.

16. New graduate nurses who did not meet minimal acceptable results on the PBDS were

    reassessed at 6 weeks.

Data Management Plan and Timeline

Data Management/Analysis. A prospective sequential design was used in this pilot study.

Before the analysis of the study aims, summary statistics were used to describe the study

sample. This included the variables data collected from the New Graduate and Preceptor

Demographic Tools. Reliability (internal consistency) of each tool was estimated using

Cronbach's alpha ($\alpha = .80$).

Aim 1: *To examine the effectiveness of a Preceptor Coaching Intervention (PCI)*

individualized to the new graduate nurses' learning needs on the development of clinical

judgment. A *t* test analysis was used to compare differences between groups in Phase I and II on

PBDS, LCJR, and CTSAT scores to examine the effectiveness of a Preceptor Coaching intervention

(PCI) intervention individualized to the new graduate nurses' learning needs for development of

clinical judgment. Group differences were examined.

Aim 2*: To examine the relationship between clinical judgment competency*

assessment measures using simulated experiences, self-assessment, and preceptor direct

observation assessment measures. Correlational analyses was used to explore the correlation

of the individual new graduate nurse scores from the PBDS, CTSAT, and LCJR scores. Pearson

correlation analysis was used to examine relationships between clinical judgment measures

PBDS, CTSAT, and LCJR. Subsets of each tool were explored comparing each tools' subset of

noticing, interpreting, responding, and reflecting. The subset analysis examined the concept

construct based on Tanner's model of clinical judgment. A crosswalk of the concept construct is

provided for the tools (PBDS, LCJR, CTSAT) as they relate to the Tanner model, (see Appendix K).

Subsets of each tool were compared using the concepts of noticing, interperting, responding,

and reflecting.

Aim 3: *Explore the usefulness and financial implications of the Preceptor Coaching*

Intervention (PCI) on preceptor preparation to promote the use of clinical judgment by the

new graduate nurse. Descriptive statistics were used to evaluate post-assessment scores and

coaching of the intervention group and weekly preceptor coaching assessment scores between

preceptor groups to explore the usefulness of preceptor education in equipping the preceptor

with clinical judgment coaching skills. Financial impact was explored utilizing time of PCI

education and implementation, current wages, and also new graduate retention and time spent

in orientation.

Timeline. See Table 4 for proposed timeline for study.

Potential Risks and Benefits

Potential risk for the new graduate nurses would be a breach of confidential information

gathered through the assessment process. This is protected by computer sign-on passwords.

Results of the assessments are secured within the health care institution's informatics security

system. Benefits for the subjects are the validation and receipt of effective educational

intervention to assist the new graduate nurse in developing clinical judgment. Participation in

the study by preceptors may potentially improve job satisfaction and confidence in precepting

new graduate nurses.

Table 4 Proposed Study Timeline

Activity	Y1Q3	Y1Q4	Y2Q1	Y2Q2
Prepare educational video and load into Learn Management system (actor preparation, videographer)	▓			
Phase I Data Collection Usual Practice (Preceptor and Orientee dyad)				

• Recruit and enroll Preceptor and Orientee (new graduate nurse) dyad
• Collect demographic data
• Preceptors complete LCJR training and post-assessment
• Collect usual practice data from new graduate nurses and preceptor dyads :
    ○ PBDS
    ○ CTSAT
    ○ LCJR
    ○ Weekly preceptor coaching assessment
	▓	▓		

Phase II Data Collection PCI Intervention Group (Preceptor and Orientee dyad)				

• Recruit and enroll Preceptor and Orientee (new graduate nurse) dyad
• Collect demographic data
• Preceptors complete LCJR training and post-assessment
• Preceptors complete PCI educational module and PCI post-assessment
• Collect usual practice data from new graduate nurses and preceptor dyads :
    ○ PBDS
    ○ CTSAT
    ○ LCJR
    ○ Weekly preceptor coaching assessment
       Preceptors complete PCI educational module and PCI post-assessment
		▓	▓	

Data analysis and preparation of final report				▓

Modification to Initial Proposal

The critical thinking assessment tool, the Performance Based Development System was discontinued at the institution during Phase I of the study. This tool was proprietary property and would not be purchased in the future; for this reason, the tool was not used in the study. Before the tool was officially discontinued, The University of Nebraska Medical Center Institutional Review Board (IRB) was informed of the protocol change. The change in protocol, evaluating learning needs with the CTSAT and LCJR, was approved by the IRB.

Due to the time constraints and challenges in recruitment of new graduates, the goal of 16 dyads of subjects in the control and the intervention group was not obtained. Final study samples were N=16 in control group and N=10 in the intervention group.

Systematic Review: Manuscript 1 Introduction

A systematic review of literature was conducted to determine the current state of the science related to preceptor interventions and its effects on the outcome of critical thinking. The manuscript was submitted and accepted for publication in *The Journal for Nursing Professional Development*.

SUMMARY STATEMENT

What is already known about this topic

- Preceptor model is widely used across the health care system.

- Preceptor education has been described in the literature but content and outcomes

  measured have varied.

What this paper adds

- Review of current literature that focuses on the outcome measure of critical

  thinking/clinical judgment.

- Identifies a gap in the literature related to preceptor interventions on the outcome

  measure critical thinking/clinical judgment research.

- The current literature is difficult to compare as there is a lack of standard measurement

  tools.

Implications for practice and/or policy

- More rigorous research is needed in the area of evidence based preceptor intervention

  to develop critical thinking/clinical judgment in the new graduate nurse.

- Research related to critical thinking/clinical judgment tools reliability and validity.

Manuscript 1: Interventions used by nurse preceptors to develop critical thinking of new graduate nurses: A Systematic Review

Interventions used by nurse preceptors to develop critical thinking of new graduate nurses:

A Systematic Review

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Introduction

Many patient safety lapses and errors can be directly attributed to the critical thinking

ability of a nurse (del Bueno D. , 2005; Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2009).

There were 764 sentinel events voluntarily reported to The Joint Commission in 2014 with

multiple root causes, including human factors, communication and assessment competency

(The Joint Commission, 2015). Increasing patient acuity and complexity of care necessitates

nurses to utilize higher-order thinking skills. There is a gap between theory and practice for

newly hired graduate nurses as they acclimate from the academic setting to clinical practice

(Benner, Sutphen, Leonard, & Day, 2010; Institute of Medicine of the National Academies; 2011;

National Council State Boards of Nursing, 2014; Nursing Executive Center , 2008; Scully, 2011). In

a survey, conducted by The Nursing Executive Center (2008), only 10.4% of hospital nurse

executives agreed that new graduate nurses are fully prepared to provide safe and effective

care in a hospital setting.

Review of Literature

Orsolini-Hain and Malone (2007) describe multiple factors that contribute to this

"expertise gap". These include an increasing number of retiring experienced nurses, an increase

in the ratio of new graduate nurses to experienced nurses, a shortage of experienced nursing

faculty, and insufficient research to determine best practices in nursing education. Focusing on

the large number of new graduate nurses entering the workforce is an area that would have a

high impact on this gap. Developing optimal transition processes for new graduate nurses has

the potential for narrowing the gap.

Transition to nursing practice involves the process of guiding the new nurse through the

novice to expert process (Benner, 1984; Benner, Hughes, & Sutphen, 2008; Benner, Sutphen,

Leonard, & Day, 2010). A key component of this transformation for the new nurse is the

development of making appropriate decisions related to managing the patient's complex

condition. Nurses' thought processes used to provide care of patients includes decision making,

critical thinking, clinical reasoning, and clinical judgment. Although these thought processes

have varying definitions, the terms are often used interchangeably. The academic literature has

provided a foundation of strategies in developing critical thinking by nursing students. The

evidence in the practice setting regarding critical thinking development in the new graduate

nurse has not been as robust. The most common method of transitioning new graduate nurses

into the workforce entails the use of a preceptor model. However, while nurse preceptors are

clinical experts, they are not necessarily education experts. Therefore, there is a need for

preceptors to have education and training to implement evidence-based strategies to develop

and promote critical thinking of the new graduate nurse within the context of the fast-paced

clinical setting.

      The overall purpose of this systematic review was to examine preceptor interventions or

strategies to promote critical thinking of new graduate nurses. Specific aims were to a) identify

types of interventions or strategies used by preceptors and b) to examine the critical thinking

outcomes demonstrated by new graduate nurses.

Methods

Inclusion Criteria

    This systematic review included intervention studies focused on educational strategies used

and delivered by preceptors to improve thought process outcomes of new graduate nurses.

Studies selected met the following criteria: a) studies focused on transition of new nurses into

professional practice, b) use of evidence based teaching strategies, and c) outcome measures on

thought processes (e.g., clinical judgment, critical thinking, clinical reasoning, decision making)

of new graduate nurses. In addition, all articles included were published in English. Articles that

appear only in dissertation papers were excluded.

Search Strategy

The search strategy utilized electronic databases that included the Cumulative Index of

Nursing and Allied Health literature (CINAHL) and PubMed/Medline. The search was completed

first in the CINAHL using the following key terms, truncations, and relevant synonyms:

preceptorship, mentorship, preceptor, mentor, tutor(s), coach, trainer, trainers, advisor,

practice partner(s) AND transition readiness transitional programs, entry into practice

professional competence, critical thinking, clinical judgment, clinical reasoning, decision making,

clinical decision making, judgment AND new graduate nurses.   This search produced 261

citations. A separate search was completed in PubMed/Medline using the following key terms,

truncations and relevant synonyms: preceptorship, mentors, preceptors, precepting,

mentorships mentoring, tutor, tutoring, coach, coaches, coached, coaching, train, trainer,

training, adviser, advisers, practice partner, AND clinical judgment, clinical reasoning, critical

thinking, clinical decision making, professional competence, decision making, problem solving,

transition, transitioned transitioning readiness, professional role, nurses, new graduate, new

nurse, entry nurse, education new graduate, new graduate nurses, students, medical or

students. The multiple concepts were utilized to assure inclusion of the wide variety of

terminology that exists in the literature regarding orientation and critical thinking. This search

produced 350 abstract citations. Seventeen additional articles were identified through hand

search, for a total of 628 abstracts reviewed. Twenty-six articles were duplications, leaving 602

abstracts for review.

The abstracts were evaluated independently by two reviewers. After independent

review, 57 full text articles were reviewed. Studies that did not meet criteria were removed

from the search such as research pertaining to students or research that lacked an intervention

or outcome. Nine studies met eligibility criteria and were included in this systematic review.

Data Items

The investigators discussed and agreed upon the collection of the following

characteristics: reference information, study design, education intervention/strategy, sample,

critical thinking outcomes, and other outcome measurements. The investigators defined

education intervention/strategy as a deliberate action used with the new graduate nurse to

develop and foster critical thinking. Preceptor was defined as a nurse colleague educated and

assigned to orient new nurses (Forneris & Peden-McAlpine, 2009). Critical thinking is complex,

and the literature review reflected this complexity of definitions. For the purpose of this review,

the outcome of critical thinking is "the concept that reflects the process which nurses make

their judgments and includes both the deliberate process of generating alternatives, weighing

them against the evidence, and choosing the most appropriate action" (Tanner, 2006).

Results

Study Design

The majority of studies were single descriptive or qualitative studies with one study

reporting outcomes from an educational intervention (floating preceptor), but significant

improvement could not be validated because there was not a baseline or compare group

reported. Sample sizes of study populations ranged from 8 to 208 subjects. All study samples

were convenience samples.   Study designs varied and included qualitative/descriptive (n=3),

quasi- experimental (n=2), mixed methods (n=2), descriptive correlational (n=1), and a pilot

study (n=1) with a pre and posttest design. All nine studies were of United States origin.

Preceptors

All studies included the use of preceptors in the implementation of the interventions for

new graduate nurses. Preceptor qualifications, education, and experience varied throughout the

studies. Three articles did not mention how the preceptors were selected or their qualifications.

Qualifications and prerequisites that were identified included manager and peer

recommendations; self-identified desire; possession of the appropriate skills which included

clinical skills, communication, organization, coaching, and mentoring; excellent customer

service; and positive performance evaluation. Preceptor education level varied from Associate

Degree, Diploma, and Bachelor of Science in Nursing (BSN). Minimal years of clinical experience

reported was 1 year although not all articles included preceptor experience.

The literature reviewed revealed an overall common theme of preceptor education

acknowledging that the expert clinician needed to have preparation on educational theory and

practice. Some of the studies provided information on preceptor education. Table 1 summarizes

the concepts of preceptor education reported.

Feedback, evaluation, and approaches to facilitate critical thinking were emphasized in

the preceptor education. Specific content related to tools preceptors could use for the

development of critical thinking such as concept mapping, reflection, and specific interactions to

promote critical thinking were also components of preceptor education. Figueroa et al. (2013)

acknowledged preceptor education as important but did not include specific components of

their preceptor education.

Critical Thinking Measurement

A variety of tools to measure critical thinking were used in the studies reviewed. Measurements included: the California Critical Thinking Skills Test (CCTST), Prerequisite Exam for Pediatrics (PREP), Performance Based Development System (PBDS), Professional Judgment Rating form, Triple Jump Test, self-assessment of perceived critical thinking, changes in observed behavior, length of days to accomplish a solid performance in a task, self-reflection questionnaire, and the preceptor's perception of the new graduate's demonstration of critical thinking. Reliability and validity of these tools were not discussed in most of the articles. The instruments used included both self-assessment and objective measures. Tools included essay, multiple choice, case study presentation, individual work and group discussion, and evaluation of work by the preceptor. The preceptor had varied input that was gathered online through interviews and pen/paper evaluation tools.   The varied types of measures provided make it difficult to evaluate which interventions are most beneficial (See Table 2).

Education Strategies to Develop Critical Thinking

All of the studies identified the need for the new nurse to develop critical thinking. The educational strategies employed to develop critical thinking varied and included the Essentials of Critical Care Orientation (ECCO) Program, journaling, coaching, reflective questioning, customized education plan based on knowledge weaknesses, floating preceptor, discussion groups, web based education, married state preceptor, paired assignments with individual progress, and problem-based learning case studies. The educational strategies to develop critical thinking were summarized into three categories: online web based education, activity interaction, and experiential feedback (See Table 3).

Web based Education. Kaddoura (2010) provided Essentials of Critical Care Orientation (ECCO), an online orientation program developed by American Association of Critical Care Nurses (AACN), and subjects perceived that the Essentials of Critical Care Orientation (ECCO) played a vital role in developing critical thinking skills. However, when the new nurses were interviewed and asked about improving the learning experience, they wanted interaction with the experienced nurse (preceptor or educator) along with explanation and feedback from them. Kaddoura (2010) recommends a decrease in the length of consecutive hours of the online ECCO program and also the new graduates suggested it would be more beneficial if an educator were available to help explain the online concepts. Subjects identified that the online educational format would be improved if interaction with an educator would have been included. The authors recommended a blended approach versus a separated orientation and online program.

Activity Interaction. Strategies identified included concept mapping and problem-based learning (PBL) case studies (Celia & Gordon, 2001; Wahl & Thompson, 2013). Concept mapping (Wahl & Thompson, 2013) was introduced after all other new graduate education was completed. The new nurses completed the map on their own and then the map was reviewed by the preceptor, using reflective inquiry to further develop the map. Concept mapping empowered the nurses to be self-directed and active in their learning process. The new nurses were able to use their knowledge, develop appropriate concepts and their assessment and decision making skills to link and identify associations within the concepts. Critical thinking pre-assessment and post-assessment scores were compared, and statistically significant improvements were reported ($p \geq 0.5$) for critical thinking components of problem recognition, clinical decision making, prioritization, clinical implementation, and reflection.

Celia and Gordon (2001) reported problem-based learning case study classes were

incorporated into the new nurse orientation period. For the PBL case studies, the new nurses

worked in reiterative sequence, conducted investigations to develop decision making, and then

were able to incorporate the process and information into future learning. After completion of

this program, preceptors were surveyed and reported that the new nurses would attempt to

find answers themselves and were comfortable asking questions when they couldn't find the

answers. Directors were interviewed and stated that the novice nurses recognized what they

needed to know, asked questions, and found the learning resources needed (Celia & Gordon,

2001).

Experiential interaction. The remainder of the studies provided preceptor experiential

interaction and involved coaching, reflective questioning, customized education plan based on

knowledge weaknesses, discussion groups, married state preceptor, floating preceptor, and

paired assignments with individual progress (Figueroa, Bulos, Forges, & Judkins-Cohn, 2013;

Forneris & Peden-McAlpine, 2009: Klein, 2009; Marcum & West, 2004; Ryan & Tatum, 2013;

Sorensen & Yankech, 2008). All of these components deal with the interaction and the "just in

time" interaction of the preceptor as he/she guides the new nurse with coaching, questioning,

meaningful feedback, and evaluation based on the needs of the new nurse. Marcum & West

(2004), Figueroa et al. (2013), and Klein (2009) focused on the preceptor/new nurse dyad

(married state preceptor, floating preceptor, new graduate unit), and structure of orientation;

specifically goal oriented and organized in a step-wise system with progression based on the

needs of the new nurse. Marcum and West (2004) developed a new graduate unit, taking a

previously closed hospital unit and opening it for the purpose of training newly hired graduate

nurses. Staff on this unit were preceptors, and they were paired with new graduates. After the

first 10 clinical days of learning the hospital system, the remainder of the orientation was goal

driven. Individual experiences were designed based on the needs of the new nurses. Figueroa et al. (2013) described the married state preceptor model (MSPM) as a one-on-one preceptor guided clinical experience that promotes quality of care and safety for both new graduates and preceptors. Both the preceptor and new graduate reported an increase in the perception of safe patient care related to the preceptor always being with the new graduate validating the "why" of the task. In contrast, the floating preceptor (FP) (Klein, 2009) was an experienced nurse utilized house-wide on the night shift. The FP interacted with each new graduate nurse at least twice during his/her shift reviewing and discussing patient assignments, unfamiliar procedures, or challenging patient situations. They included discussions about prioritizations, issues that arose from patients and families, and any concerns.   Evaluations completed by the floating preceptor of the new graduates determined when the new nurse would complete orientation.

Ryan and Tatum (2013) reported positive changes in critical thinking and length of orientation when clinical education was based on the knowledge of the weaknesses identified on the pre-hire Prerequisite Exam for Pediatrics (PREP) exam. Upon hire, new nurses were given the PREP exam, and based on their results, they were then provided web-based education

In each of these studies, preceptor education regarding the strategies to be implemented for the new nurses was provided. There was no assumption that the preceptors had the skills needed to implement the strategies. Commonalities of the educational strategies used included the interactive nature of the strategies, the requirement that the new graduate nurse be participatory, and the inclusion of reflection used in the process of learning.

Other Relevant Outcomes

Although the focus of this systematic review was on the development of critical thinking, the studies did look at other relevant outcomes. Klein (2009) reported that after the implementation of the floating preceptor, the managers were increasingly willing to hire new graduate nurses rather than wait for a more experienced nurse to apply. The literature also reported evidence of a positive effect on the length of orientation, which can lead to cost savings (Ryan & Tatum, 2013), decreased turnover and new graduate anxiety, and an increase in the preceptor and new graduate's perception of safe patient care and increased retention (Figueroa et al., 2013; Marcum & West. 2004). Overall, orientation programs were perceived as positive and effective with preceptors rethinking how they perceived critical thinking and resultant changes in their approach and style to precepting (Forneris & Peden-McAlpine, 2009). Successful orientation programs also improved the workplace environment by improving the work life of health care providers (Bodenheimer & Sinsky, 2014).

Summary Findings

Evidence-based intervention components, including type of preceptor, and critical thinking outcomes varied across studies. Preceptor education was the key component in all of the studies. Regardless of the education intervention that was utilized by the preceptor, the education not only included general concepts of educational theory but also the specific components of the intervention to be implemented by the preceptor (Forneris & Peden-McAlpine, 2009; Klein, 2009; Marcum & West, 2004; Sorensen & Yankech, 2008; Wahl & Thompson, 2013). Promoting critical thinking was the prevalent component of all interventions implemented by preceptors. Evidence-based strategies used in the studies emphasized learning principles, the need for new nurses to have input and feedback, and educator involvement in discussion, feedback/evaluation, and critical thinking. Preceptors were also expected to master

interactive communication. Communication included concepts such as reflective journaling, customized feedback, questioning techniques, or coaching (Celia & Gordon, 2001; Figueroa, Bulos, Forges, & Judkins-Cohn, 2013; Forneris & Peden-McAlpine, 2009; Klein, 2009; Marcum & West, 2004; Ryan & Tatum, 2013; Sorensen & Yankech, 2008; Wahl & Thompson, 2013). The need for interactive communication by the new graduate nurse is reflected by the new nurses wanting input, feedback with educator/preceptor involvement and discussion when the educational intervention was delivered online and not delivered by the preceptor as in Kaddoura (2010). Individualization and customization of orientation and education are very beneficial to the newly hired nurse (Marcum & West, 2004; Ryan & Tatum, 2013; Sorensen & Yankech, 2008).

Implications for Nursing Professional Development

        This review provides evidence that there is a need to evaluate what interventions improve critical thinking in the new graduate nurse. Preceptor preparation is imperative to equip the preceptor with the correct skills to be able to coach the new graduate through a variety of interactive strategies. Education should not only include the educational framework of precepting but also include components on assessing and evaluating the new graduate's progress with critical thinking. This begins with the nursing professional development (NPD) practitioner planning and implementing preceptor education and then providing ongoing support for all preceptors. Also completed should be evaluation of appropriate tools to be employed to develop critical thinking. Such tools may include concept mapping, PBL, case studies, web based programs, and journaling, but the NPD practitioner needs to provide expertise and knowledge in determining which resources are most appropriate and beneficial for the new graduates in their institution. The NPD practitioner as the educational expert is also

the health care professional to help determine appropriate tools to develop critical thinking. The tools selected must meet the needs of both the preceptor and new graduate, and be appropriate to implement in a busy work environment. Special considerations regarding the length of online programs or classroom work need to be investigated to determine the best plan to implement these programs. The NPD practitioner plays a key role in the transitioning process as he/she partners with the preceptor and new graduate. Developing a needs-based program to develop critical thinking and evaluating the outcomes of the program are important for the advancement of quality transitioning programs for the new graduate and the development of critical thinking.

Limitations

It is not only difficult to come to an agreed upon definition for critical thinking due to complexity of the concept, but it is also difficult to measure critical thinking. There was no common measurement of critical thinking outcomes across the studies reviewed.   A limitation that was identified in Kaddoura (2010) was that quantitative measures were not used to evaluate critical thinking skills, and the study results were perceptions rather than objective measures of critical thinking. Furthermore, self-perceptions of using critical thinking by the new graduate nurse are limited by the lack of experience of having well developed critical thinking skills. The most important aspect of critical thinking is for the new nurse to be able to perform at the bedside and provide safe, quality patient care.   With the wide variation of measurement tools used and reported in the literature, it is difficult to compare results across studies to determine which preceptor-led interventions are most beneficial for new graduate nurses.

Conclusion

Further research is needed to determine best practices related to the development of critical thinking in the new graduate nurse. The majority of the articles reviewed demonstrated experiential learning, feedback, coaching, and evaluation reflect current best practices. There is a lack of experimental design and control and compare group studies that would show true differences versus developmental differences in critical thinking. The experiential learning should also be based on the learning needs of the individual nurse. Future areas for nursing professional development research to further this body of knowledge should include examining the effects of evidence-based educational strategies on critical thinking and the development of valid and reliable tools for preceptors to use in evaluating the decision making skills of the new graduate nurse. How new nurses are developed and coached to increase their level of critical thinking is a key element in patient safety, nurse retention, turnover costs, and the well-being of the new nurses themselves.

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Table 1. Preceptor Education

Curriculum Concept	Specific Content
Communication	Communication (Klein, 2009)
Socialization	Nurturing (Klein, 2009) Horizontal & Vertical Incivility (Wahl & Thompson, 2013)
Feedback/Evaluation	Feedback (Klein, 2009) Clinical competencies of new hires (Klein, 2009) Evaluation of new nurse (Klein, 2009) Competency and performance Evaluation (Marcum & West, 2004)
Learning Styles	Generational Differences in learning styles/preferences (Wahl & Thompson, 2013) Learning Styles (Wahl & Thompson, 2013) Cultural Learning (Wahl & Thompson, 2013)
Preceptor Roles and Responsibilities	Preceptor Roles and Responsibilities (Klein, 2009) Rewards and Benefits preceptors desire (Sorensen & Yankech, 2008) Goals of the Unit (Marcum & West, 2004) Workflow (Marcum & West, 2004) Preceptor expectations (Marcum & West, 2004)
Learning Theories	Adult Learning Principles (Wahl & Thompson, 2013) Theoretical background on human learning (Sorensen & Yankech, 2008) Educational theories on information processing and Vgotsky (Sorensen & Yankech, 2008) Profile of the new graduates (Marcum & West, 2004)
Tools	Concept Mapping (Wahl & Thompson, 2013) Narrative practice story (Forneris & Peden-McAlpine, 2009)
Critical Thinking	Engaging Critical Conversation about critical thinking attributes (Forneris & Peden-McAlpine, 2009) Reflection and reflective practice (Forneris & Peden-McAlpine, 2009) Evaluating critical reflective thinking (Forneris & Peden-McAlpine, 2009) Definitions of critical thinking (Sorensen & Yankech, 2008) Methods to facilitates critical thinking in other nurses (Sorensen & Yankech, 2008)

Table 2. Critical Thinking Tools

Type of Measure	Tool
Objective Exam	• Prerequisite Exam for Pediatrics (PREP) (Ryan &Tatum, 2013) • California Critical Thinking Skills Test (Sorenson & Yankech, 2008) • Performance Based Development System (PBDS)(Marcum & West, 2004)
New Graduate Self-Assessment	• Self-assessment after each class (Celia & Gordon, 2001) • New Graduate Survey (Celia & Gordon, 2001) • New graduate self-assessment Tool (Wahl & Thompson, 2013) • Professional Judgment Rating Form: Novice/Internship level critical thinking Abilities and Habits of Mind (Marcum & West, 2004)
Preceptor Evaluation	• Facilitator Constructive feedback on performance (Celia & Gordon, 2001) • Triple Jump exam (Celia & Gordon, 2001) • Performance Evaluation (Celia & Gordon, 2001) • Preceptor Survey (Celia & Gordon, 2001) • Preceptor Evaluation of length of time to demonstrate required competency (Ryan & Tatum, 2013) • Preceptor observations (Forneris & Peden-McAlpine, 2009) • Professional Judgment Rating Form: Novice/Internship level critical thinking Abilities and Habits of Mind (Marcum & West, 2004) • Evaluation by unit educator on 6 critical thinking skills (Klein, 2009)
Perceptions of New Graduate Nurses and Preceptors—Qualitative	• Semi structured Interview (Ryan & Tatum, 2013) • New graduate Interview (Figueroa, Bulos, Furges & Judkins-Cohn, 2013) • Preceptor observations (Forneris & Peden-McAlpine, 2009)

Table 3. Educational Strategies for Preceptors to Use with New Graduate Nurses

Educational Category	Strategies Identified
Web-based Education	Essentials of Critical Care Orientation (ECCO) Program
	Pediatric Web-based tutorial
Activity Interaction	Problem Based Learning Case Study
	Concept Mapping
	Discussion Groups
Experiential Feedback	Coaching
	Reflective Questioning
	Floating Preceptor
	Married State Preceptorship Model
	Paired assignments

Focus Group Interviews: Manuscript 2 Introduction

The preceptor model is widely used across our health care systems. The preceptor is

responsible for providing a solid transition program, which includes assessment of the new

graduates' ability to provide safe competent care. The new graduate must possess sound

clinical judgment to provide this care. Preceptors are usually selected based on their clinical

skills and not on their educational expertise. The literature reflects that many preceptors need

education about strategies to develop clinical judgment. It creates the question of what is the

preceptor's understanding of assessing clinical judgment and his/her knowledge about the

strategies to develop it. The following manuscript discusses the preceptor's perceptions of

assessing the new graduate's clinical judgment, strategies used to develop clinical judgment,

and barriers in developing clinical judgment in the new graduate nurse.

SUMMARY STATEMENT

What is already known about this topic

- Preceptor model is widely used across the health care system.

- Preceptors are responsible for the validation and development of clinical judgment.

What this paper adds

- Preceptors utilize questioning strategies but do not do so within a standard framework.

- Preceptors find conflict and conversations about poor performance difficult.

- Preceptors identify barriers that make it difficult to develop clinical judgment.

Implications for practice and/or policy

- It would be beneficial to explore a standardized tool for structured coaching to be used in the development of clinical judgment.

- Further research examining how barriers to developing clinical judgment affect the new graduate.

- Research in clinical judgment tool development would be beneficial.

Manuscript 2: Clinical Judgment: The Preceptors Viewpoint

Clinical Judgment: The Preceptors Viewpoint

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Introduction

Hospitals are hiring large numbers of new graduate nurses and continue to struggle with

the challenge of orienting new graduate nurses, specifically how to prepare these new nurses to

meet the needs of an ever increasingly complex patient population. The predominant on

boarding model used across nursing is the preceptor/orientee model. The preceptor is

responsible for guiding and developing the new graduate nurse in clinical skills, interpersonal

communication, and critical thinking/clinical judgment. Many times these preceptors have not

been formally prepared for their role and are not experienced in educational strategies to assist

the new graduate nurse in the development of clinical judgment. New graduate nurses want

feedback (Spiva et al., 2013) and are anxious to learn but need tools to enhance the experience

of clinical judgment. Preceptors must be equipped to develop our next generation of nurses.

Literature Review

Research has shown preceptor education and structured orientation programs, based

on the needs of the new graduate nurse, decrease turnover rates, decrease vacancy rates,

decrease orientation costs, provide a positive clinical experience, and improve new graduate

satisfaction with orientation (Bullock, Paris & Terhaar, 2011; Ryan & Tatum, 2013; McClure &

Black, 2013; Figueroa, Bulos, Forges, & Judkins-Cohn, 2013; Myrick, Luhanga, Billay, Foley &

Yonge, 2012). There is limited research on preceptor educational strategies improving critical

thinking/clinical judgment. A systematic review was conducted (Windey, et al., 2015) on

interventions supporting preceptor development explored preceptor education and its

respective outcomes. Twelve research studies met criteria. Only 1 study reported on the new

graduate outcome of critical thinking. A few studies reported preceptor activities related to

critical thinking, such as coaching for critical thinking. Rush et al., (2013) reported on an

integrative review of best practices of graduate nurse programs where four major themes were examined, one of which was competency/critical thinking. Of 47 articles was reported and only five were quasi experimental designs with critical thinking as an outcome.   Foy, Carlson, and White (2013) surveyed 245 RN preceptors asking the preceptors what their highest ranked education needs were. How to teach critical thinking was among the top topics identified. Raterink (2011) describes enhancers and barriers of critical thinking in the long-term care setting. Enhancers were 1) teamwork, 2) staffing patterns and 3) support. Barriers were 1) time, 2) fear, 3)stress, and 4) paperwork. Cornell et al (2011) examined workflow practices of 8 different nurses on an acute Med/Surg unit and reported that nonrepetitive workflow and interruptions causing task switching indicated nurses experience a heavy cognitive load with little uninterrupted time were barriers of critical thinking. Preceptors identify the need for education in the area of clinical judgment development, and this author found limited research pertaining to best practices of evidenced-based strategies used to promote clinical judgment in the practice setting. To gain more information on the subject of assessing clinical judgment, the development of clinical judgment and the barriers to this process, focus group interviews were conducted with preceptors who are working with the new graduate nurse. The aims of this qualitative study are:

1) Describe the preceptors' perceptions of assessing the new graduate's clinical judgment.

2) Describe the preceptors perceptions of strategies used to develop clinical judgment of the new graduate nurse.

3) Describe the preceptor's perceptions of barriers in developing clinical judgment in the new graduate nurse.

Methods

Sample. This pilot study was conducted with a purposeful convenience sample of current nurse preceptors at a midwestern community hospital. Institutional Review Board approval was obtained prior to study. An institutional distribution list of the preceptors was accessible to the researcher and utilized for recruitment. Subjects were recruited by sending a recruitment email letter to eligible participants. Inclusion criteria was: a) a nurse that was a current preceptor and b) the preceptor must have oriented at least one new graduate within the last year. The invitation outlined the purpose of the study, available interview times, interview process, and information regarding participation gift cards (See Appendix A). When the invitation was sent, subjects were instructed to call the investigator to RSVP, so focus groups could be monitored for size. The goal size for the focus groups was 4 to 12 participants, a reported appropriate size for a focus group size (Grove, Burns & Gray, 2013).

Setting. The institutional setting was a midwestern community hospital. The room where the interview was conducted was set up in a u shape with the interviewer in the front. Doors were shut during interview, two recorders were set up in the room, and the session recorded.

Design. Participants completed a demographic form just prior to starting the interview. The length of both interview groups was between 45 minutes to an hour. Interview questions included (See Appendix B for full interview):

- If you can reflect back to last few orientees you precepted, how did you determine if the new graduate nurse possessed clinical judgment skills?
- What interventions are most effective in teaching clinical judgment?

- Please describe the barriers you and the new graduate orientee encounter that prevent

   the development of clinical judgment.

- What actions as a preceptor do you take when the new graduate orientee doesn't

   progress and develop his/her clinical judgment and does not provide a safe environment

   for the patient?

Probing questions followed the leading questions to facilitate the interview conversation. The

audio tapes were kept in a locked office, no names or identifiable information were contained

on the audio tape.

Data Analysis. Recordings were transcribed by a certified transcriptionist and manuscripts

created. Analysis of data was conducted by analyzing interview notes, clustering significant

statements, meaning units, themes, codes and grouping data into clusters by the researcher and

another fellow researcher.

Results

Demographics. The preceptor sample included 2 focus groups of 5 preceptors in each

group. All participants were female and had a mean of 22 years in nursing and 15 years in their

specialty area. Five participants had received formal training on precepting, and four of the five

had received information specific on clinical judgment. Three of the preceptors were Masters

prepared, five were BSN, and two were diploma nurses. Ages ranged in the following categories

1=25-34, 2=35-44, 5=45-54, and 2=55 and over.

Interview Question Responses

New graduates clinical judgment skills. Strategies used by preceptors to assess clinical

judgment primarily included direct observation. Direct observation included watching how the

new graduate carried him or herself, how he/she answered questions, and how he/she

responded to an unfamiliar situation. *"How they carried themselves"* broke into two categories:

one was confidence, and the other was fear. The preceptors expressed it like this:

> The way they carry themselves. Their confidence in what they do. You can have
>
> the nurse that goes in and you can tell they just aren't confident in their skills.
>
> I think right the very first thing that you see is just confidence level. You know
>
> what it is. You will recognize it right away, say, do they have the urgency? Can
>
> they prioritize? If they have that blank look that very first day...
>
> When you are brand new there is such a fear that you are going to do the wrong
>
> thing and that you are going to hurt somebody and that they are going to think
>
> you are not a good new nurse. There is so much that you have got going on in
>
> your head besides taking care of this person.
>
> How do they do their first assessment? Did they go right into it, that first visual,
>
> you know is what it is. They have those nonverbals like oh, my gosh, and they
>
> have just this look on them like what did I get myself into. Because when they
>
> transition from the student to the actual R.N., they have taken care of one or
>
> two patients and now all of a sudden they know that their load is going to
>
> increase, so they are totally now in like this, like they are not frustrated, but
>
> they are like very unsure of what they actually got themselves into. So those
>
> nonverbals say a lot. There is a sense, you can see it, a sense of fear almost in
>
> their face.

The preceptors also observed interactions related to questioning. They discussed that

clinical judgment was reflected in how the new graduate nurses responded to the

preceptor's questions. For example: "I like to make them explain, what do you expect

to happen next?...What are the typical symptoms/signs ?...just make them start

thinking".

They also observed clinical judgment in the questions the new graduate asked

the preceptors. When the new graduate nurses came upon something unexpected,

they either demonstrated clinical judgment or lack thereof. The preceptors observed

the thought processes through the questioning.

> Like if something comes up unexpected… they maybe talk it out with us or ask
>
> questions, like what should I do now since this has changed, like say if there is a
>
> change in vital signs. I have noticed my vital signs have changed, what should I
>
> do now. Should I change the plan of action or something to that effect?

> She recognized that the patient was not very responsive and wasn't breathing
>
> very well, and she came right out and got me. She wasn't sure what to do, but
>
> she came right out and got me and said there is something wrong. She didn't
>
> know quite what to do, but she knew that there was something wrong and we
>
> needed to do something. She was asking questions about what actions to take.

> I have said this for years, the new nurses that come to our department, that
>
> never have questions, no, I'm good, those are the ones I worry about the most.
>
> I'm like, they are going to kill somebody because they aren't going to ask. They
>
> are just going to assume they know what to do.

Finally, observations concerning how they responded to an unfamiliar situations involved

assessment, prioritization, and problem solving. The preceptors gave examples of both good

and poor clinical judgment.

> Probably the big thing that I look at is I don't expect them to know everything textbook,
>
> but I want them to know the basics. Like, if your blood pressure is low, you better be
>
> holding that blood pressure med... And so those are the ones you worry about when it's
>
> like, oh, if that blood sugar is 32 and you are ready to give the insulin, that is concerning.

> I had one patient on insulin drip, switching to sliding scale. He read the chart. Still had
>
> the drip going, here we have gone and drawn up the insulin that we are going to give.
>
> We still have our drip going, and I make them read the chart again, read the order, D/C
>
> the drip, start the sliding scale. I asked, like are you good. Yup, OK. You go in the room
>
> and right away we are over here getting ready to go. It's like, OK, hold on just a minute,
>
> let's go over one more thing. Do we have to check out something else again, like read
>
> your order again, and it was kind of like one of those that it just didn't click, then the
>
> light came on, you know, it's like oh, my gosh, I almost did that.

> Holding the blood pressure pill because the blood pressure is low. That is something.

> Even something as simple as, for instance, the respiratory child, walking in and knowing
>
> you need to get an oximeter check. And just knowing that that is part of your whole
>
> assessment.

I do tend to say, you know, what is your first priority with this? You know, what are the

things that could go wrong with this patient? With this diagnosis? You know, what type

of care planning are you going to do with a meningitis child? What are you going to look

at so you know what to document on?   And I think its eye opening sometimes where

they don't even realize with the meningitis diagnosis that you wouldn't document on

neurological.

Preceptors identified the need for better tools to assess clinical judgment at the focus

group interviews. The preceptors discussed assessing clinical judgment from observations and

the limitations of basing evaluation of clinical judgment on observations. One nurse stated "it's

one thing to know it, another thing to take the action". The preceptor didn't perceive she could

tell what the new graduate was thinking unless the action was taken.

Clinical judgment Interventions. Teaching through questioning and role modeling were

the primary strategies reported to guide development of clinical judgment of new graduate

nurses. Questioning was identified earlier as a way to assess clinical judgment, now the

preceptors describe it as teaching tool. Examples of these strategies included questioning

techniques such as: "Why would this patients pressure be low? What would you be concerned

about? What is your first priority? What should you chart?" Preceptors used questioning

techniques to drive and promote problem solving: "Why are we doing this, what did you see

that made us think we needed to do this? If they are not getting".

I had a patient who had low oxygen saturation and she came to me and said what

should I do? I said well what do you think you should do and I just waited and then she

got it.

The preceptors felt clinical judgment was different then knowledge: "You learn the facts in a book, but to actually put it into action you have to have a patient that you are looking at" and, "You can memorize everything in a book, but until you see that person do that in a certain situation or setting, it's like, oh yeah, that really does happen".

Role modeling discussion not only focused on the preceptor role-modeling for the new graduate, but the preceptors also observed the new graduates identified role models among other nursing staff on the unit. As reflected by one preceptor "It didn't take long for the new graduate to identify who on the area was a nurse they would want to approach and who was one they didn't."

The preceptors also talked about the need to adapt to the orientee's learning style.

A new learning style, if your original approach didn't work, then you have to figure out, maybe get some assessment of them, of how they learn better and if you're teaching method doesn't match with them, then maybe you have to approach it differently and kind of ask them. Because I have had that before where I have had students that it wasn't connecting. So sometimes it was a change of preceptor.

…you would have these situations where we would go in and supposed to maybe hang an antibiotic or something and the process wasn't going, like it wasn't clicking, and so it was like, OK, so let's stop and think what's the process we need to do here, and it wasn't working, wasn't connecting, so then it was like let's examine what your learning habits are and how do you learn best. So she was like well, if I read it and then I see it, I can understand it better than if I just hear it and try to do it. So then we were pulling out lots of policies, and here, read through it first, and then I will demonstrate one and then

you demonstrate one, and so it was kind of a little different than how I normally teach,

but it seemed to work with her.

Barriers to clinical judgment. Lack of resources for preceptors was the dominant theme

concerning barriers to developing clinical judgment. This included lack of time, lack of support

to the preceptors, and lack of support from the unit. Related to the barrier of too little time to

develop clinical judgment, one preceptor said the "time constraints were scary". Another

responded:

That is a big barrier. Right now, I think that because of budget-wise, we would love to

give them more, but we actually just have to give them survival techniques to be able to

survive. That's what it is.

Preceptors also wanted support for themselves to do a good job: "It is important that

the preceptor has someone to go to for, not even management support, but the support of

what else can I do". It was also "important to have someone to go to that knew how to teach

clinical judgment".

Another theme identified as a barrier was the new graduates themselves; this included

conflict with the new graduate. Preceptors expressed they felt poorly about discussing

performance with the orientee, such as: "Well they get angry with you…so then it becomes kind

of hard to keep teaching them or "people don't want you to tell them that they are doing

something wrong and sometimes you just have to say we have to have that conversation."

Perceptions of self-confidence by the new graduate was another challenge for the

preceptor, as self-confidence in clinical judgment by the new graduate nurse ranged from lack of

self-confidence/fear of making a mistake to the "know it all's". Preceptors also discussed that

the new graduates' focus was preoccupied with tasks: "I think one of the barriers that I see is

like how much they are focused on say they didn't have a lot of clinical experience before, like

they are so focused on skills they become task oriented instead of seeing the whole picture and

what the patient is doing."

One barrier outside of the orientation process that was mentioned, was the attitudes of

other workers. After the preceptors completed orientation, coworkers would comment to the

preceptor or orientee, blocking development and communication: "How did you get through

orientation without knowing that? Did you not even try to teach them that?" and then:

And they know right away pretty much after working on the unit for a week or two who

they can go to for help, who is receptive to them and who is like, whoa, don't bug me,

you are new I don't want to deal with it.

When talking of barriers, the preceptors also talked about what enhanced clinical judgment and

experience was discussed:

Hands on. An experienced eye beside you. Like she said, explaining and showing. You

just can't learn that from a book or a classroom, and also "You learn the facts in a book,

but to actually put it into action you have to have a patient that you are looking at.

Lack of progression.   The preceptors discussed the actions they took when new grads

weren't making progress. They identified coaching, setting goals, altering the orientation

experience, and providing feedback.   Preceptors identified that "constant communication with

my director" was key. Goals should be set: "I mean, you can set goals when you are nearing the

end of this process and things aren't looking well". Also, no one should be surprised if he/she

wasn't doing well, "So, I mean, it's like, you got to use weekly goals, you have to meet them, and

it's an agreed upon thing between you, the preceptee, the director". Preceptors also talked of

extending orientation.   The preceptors were uncomfortable with conflict,

> Because people don't like conflict…. People don't want to tell them that they are doing
>
> something wrong, and so sometimes you just have to say we have to have that
>
> conversation with him or her because this is unfair to them and they need to know
>
> exactly how you are feeling.

> I know I am going to walk into this really uncomfortable conversation with the new
>
> nurse. I know that she is going to cry. I know that I still have to say those things that
>
> make me feel terrible, and then just say I am sorry if this feels hurtful, it is not meant to
>
> be.

Limitations Potential limitations of the study would include convenience sampling, the

small sample size, and single site in a midwestern locale.   Another limitation was the

interviewer was a novice and not experienced in conducting focus interviews. The sample

population was very experienced so information on novice preceptor's perceptions were not

obtained. Considering these limitations the results of this study are not generalizable, but

provide ground work for future research.

Conclusion

The preceptors all talked of questioning, appropriate answering, and direct observation

as a means to assess clinical judgment.   However, they did not use a tool that would provide an

objective measurement of clinical judgment, nor did they have a framework to the questioning

they used. The questioning was situational and based on the immediate situational need.

However, they did not describe any formal assessment of the new graduates learning needs or a

tool they used in the clinical setting. Learning styles were considered, but only mentioned when

there were issues with the current learning situation. Focus group interview findings support

the need for time efficient effective strategies to develop and facilitate clinical judgment of new

graduate nurses that can be delivered by preceptors without significant interruption of care and

workloads. Tools to assess clinical judgment in an objective manner with identified criteria are

also a need in the future.

Preceptors identified time demands and workload as barriers to clinical judgment.

Institutions need to evaluate how to enable the preceptors to have time to nurture and grow

the new graduates. Practice and academia need to continue to evaluate the best model for

preparing new graduates for the workforce.   This would include appropriate clinical

experiences and preparing the new graduate for constructive feedback. Preceptors also need

education on how to provide constructive feedback and need to be equipped on conflict

management and crucial conversations. As practice and academia share and communicate they

can contribute best practices, preceptors and educational strategies to improve both the

practice and academic worlds.

Preceptors are the key to a successful orientation and development of new graduate

nurses. Research needs to evaluate what the best interventions the preceptors can provide to

promote clinical judgment are, as well as what the optimal components in a tool designed to

assess clinical judgment are. Further research examining coaching and measurement of clinical

judgment is needed.

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Appendix A

Participant Email Invitation

IRB# 550-14-EX

My name is Sue Schuelke, and I am contacting you to invite you to participate in a focus interview group exploring your perceptions of precepting the new graduate nurse. I am a doctoral student studying the development of clinical judgment of newly hired graduate nurses. I am inviting you to participate because of your expertise as a preceptor and experience in working with new graduate nurses.   Although the study will not benefit you directly, it may provide information that may enable nursing educators to identify opportunities for growth and individualize coaching and development to enhance the orientation program for future nurses.

This study and its procedures have been approved by the appropriate review boards at the University of Nebraska Medical Center and CHI Health St. Elizabeth. There are no known inherent risks in the study. The study procedures includes a focus group interview of 4 -12 preceptors conducted by myself. The interview will take approximately 45 mins. to an hour in a meeting room at CHI Health St. Elizabeth. A Scooters gift card of $20.00 will be given to the participants at the completion of the interview process for the time you spend participating in the interview. Interview information will be kept confidential and will not be associated with your personnel record

Your participation in this study is voluntary and you are under no obligation to participate. You have the right to withdraw at any time and your orientation and relationship with your coworkers will not be affected.

The study data will be coded so they will not be linked to your name. Your identity will not be revealed while the study is being conducted or when the study is reported or published. All study data will be collected by Sue Schuelke, stored in a secure place and not shared with individuals outside of the research team.

If you are interested in participating please contact Sue Schuelke at 402-219-5122 or sschuelke@stez.org . There are times to choose between for this study   November 5th @ 11:00 and November 6th @ 0900.

Thank you for your valuable time in this study.

Sue Schuelke

Phone: 402-219-5122

Email: sschuelke@stez.org

Appendix B

INTERVIEW GUIDE

INTRODUCTION

I would like to thank you for your participating in this study and the interview today. Your participation may add valuable insight into the preceptor's role in the development of clinical judgment of the new graduate nurse. Through understanding your preceptor experiences, we may be able to continue to improve our research efforts in understanding how to provide the optimal clinical teaching strategies for orienting new graduate nurses

I will begin by giving you an idea of where we are going with this interview. Firstly, I feel it is important to let you know that you were asked to participate in this study because of your expertise as a clinical preceptor. I will be interviewing several preceptors groups, and each group will have a unique perspective on the orientation and development of the new graduate nurse. Your unique experience is what I am interested in learning more about today.

Successful: I am interested in your perspective on what you feel are the most effective teaching strategies for the development of clinical judgment.

Unsuccessful: I am interested in your perspective on what you feel are the major barriers to clinical teaching and the development of clinical judgment in the new graduate nurse.

This interview will have four parts. In the first part, I would like you to discuss how you determine if the new graduate has clinical judgment learning needs.   For the second part, I would like you to discuss what interventions you have found that work best to develop clinical judgment. Thirdly, what barriers do you encounter in developing the new graduate nurses clinical judgment? Finally, I would like to hear what suggestions you may have for the new graduate nurses that don't seem to respond to the usual preceptor strategies

PART ONE:

If you can reflect back to last few orientees you precepted, how did you determine if the new graduate nurse possessed clinical judgment skills?

> **Probes:** _These questions are intended to be used to keep participants on topic or to help the participant find a place to start or transition to. They may or may not be needed or used. The interviewer will attempt to collect information from each section underlined below; however, **the flow of the interview will determine if and/or which ones will be used.**_

Intrapersonal:

- How do you assess clinical judgment, how do your determine learning needs?
- What types of behaviors do you look for when evaluating clinical judgment?
- Tell me about a situation where a new graduate demonstrated appropriate clinical judgment?
- Describe the impact of the action?
- What components do you see in clinical judgment?

- How do you feel clinical judgment effects the work flow of the nursing unit?
- How do you feel clinical judgment effects patient outcomes?

Behaviors and environmental influences:

- How much time do you spend with the new graduate nurse before you feel you can assess their clinical judgment?
- How do you discuss clinical judgment skills with the orientee?
- What types of questions do you ask the new orientees?
- What type of resources do you have to assess the orientee's clinical judgment?

Transition from Part One to Part Two

Thank you for helping me better understand how you determine the new graduate nurse orientees clinical judgment capabilities now let talk about how you use that assessment.

PART TWO:

- What interventions are most effective in teaching clinical judgment?
  Probes: *These questions are intended to be used to keep participants on topic or to help the participant find a place to start or transition to. They may or may not be needed or used. **The flow of the interview will determine if and/or which ones will be used.***

Intrapersonal:

- Do you feel you can effectively teach clinical judgment to the new graduate nurse?
- How do you decide what interventions to use with the new graduate nurses?
- How do the new graduate nurses respond to your interventions
- Give me an example on how you approach a new orientee that thinks she knows everything but you do not feel she is safe?
- How do you handle someone that is resistive to coaching?
- Tell me about a time when you used a technique and you saw a real change in how the orientee thought through a problem and demonstrated clinical judgment.

Behaviors and environmental influences

- Describe the tools you have used to help teach clinical judgment?
- Tell me why you think they were beneficial?
- What influence on your unit were the most beneficial in providing an environment to teach clinical judgment?
- Tell me what you think the key is to developing clinical judgment?

Transition from Part Two to Part Three

Thank you for helping me better understand what you can do to develop clinical judgment now I want to know what your thoughts are on what prevents the new graduate nurse orientee from developing this skill as quickly as possible.

PART THREE:

Please describe the barriers you and the new graduate orientee encounter that prevents the development of clinical judgment.

> **Probes:** *These questions are intended to be used to keep participants on topic or to help the participant find a place to start or transition to. They may or may not be needed or used.*
>
> What support system would you like to see in place or is not currently available to you on your nursing unit?

- Tell me how you feel about any time constraints that are placed on the new graduate orientee?
- Describe any team behaviors that hinder or help support the development of clinical judgment in the new graduate orientee.
- Do you have the tools needed to provide the new graduate nurse orientee with the optimal learning experience related to clinical judgment?

Transition from Part Three to Concluding Interview

Thank you for helping me better understand what your experiences with assessing clinical judgment, teaching strategies to improve clinical judgment and the barriers encountered in this process, as a final question I want to know your feelings regarding what actions or next steps should be taken when after orienting a new graduate nurse that does not demonstrate adequate clinical judgment.

What actions as a preceptor do you take when the new graduate orientee doesn't progress and develop his/her clinical judgment and does not provide a safe environment for the patient?

Probes: *These questions are intended to be used to keep participants on topic or to help the participant find a place to start or transition to. They may or may not be needed or used.*

- *Tell me why you think it is difficult to provide feedback to the new graduate that is not developing and providing safe care?*
- *What prevents a new orientee form developing clinical judgment skills?*
- *Do you feel clinical judgment can be taught and developed?*
-

CONCLUSION

I want to encourage you to contact me either through phone or email to share *(provides a card with interviewers name and contact information)* any other thoughts or reflection you may have regarding your experience with the development of clinical judgment in the new graduate nurse.

I truly appreciate your willingness to share your experiences and I value your unique perspective. Thank you.

Research Results: Manuscript 3 Introduction

Research has shown preceptor education and structured orientation programs based on the

needs of the new graduate nurse decrease turnover rates, decrease vacancy rates, decrease

orientation costs, provide a positive clinical experience, and improve new graduate satisfaction

with orientation. There is limited research on preceptor educational strategies on the outcome

of improved clinical judgment. The following manuscript examines the benefits of a Preceptor

Coaching intervention (PCI) on the development of clinical judgment of new graduate nurses.

SUMMARY STATEMENT

What is already known about this topic

- Clinical Judgment is imperative for safe patient care.

- Preceptor coaching is a tool utilized by preceptors during the orientation period.

- There is limited research examining the relationship between preceptor coaching based on learning needs and clinical judgment.

What this paper adds

- Preceptor coaching based on learning needs has an effect on the new graduates perception of the prioritization, reflection and total critical thinking self-assessment tool scores.

- The preceptor's assessment of the new graduate's clinical judgment does not necessarily correlate with the new graduate perception.

Implications for practice and/or policy

- More rigorous research is needed in the area of evidence based preceptor intervention to develop critical thinking/clinical judgment in the new graduate nurse.

- Research related to the reliability and validity of critical thinking/clinical judgment tools.

- Coaching needs to be based on learning needs.

Manuscript 3: The Effect of Preceptor Coaching on New Graduates Clinical Judgment

The Effect of Preceptor Coaching on New Graduates Clinical Judgment

Sue Schuelke MSN RN-BC

University of Nebraska Medical Center

Introduction

John Hopkins (Makary & Daniel, 2016) recently reported, after analyzing medical death

rate data over an eight-year period, that medical errors are now the third leading cause of death

in the US. Safety experts describe how communication breakdowns, diagnostic errors, poor

judgment and inadequate skills can lead to patient harm and death. These errors are not limited

to the medical professional, but also includes the nursing profession. Nurses need to be able to

use sound clinical judgment to prevent harm to patients whether the nurse is experienced or is

a new graduate nurse. The percentage of new graduate nurses in the work force is higher now

than it's ever been. There is a documented gap between academics and practice. Transitioning

these new graduate nurses is imperative for the safety of our patients. As acuity and patient

loads increase, the capability of nurses must also increase. Transitioning programs for new

graduate nurses must provide guidance to new nurses in order to develop the critical thinking

skills to care for these complex patients in a complex health care system. Most transition

programs are anchored on the preceptor\orientee model, and preceptors must be equipped to

be able to coach and mentor new graduates. The purpose of this pilot study is to examine the

benefits of a Preceptor Coaching intervention (PCI) on the development of clinical judgment of

new graduate nurses.

Literature Review

Hospitals hire large numbers of new graduate nurses and are challenged with the

orientation of new nurses, specifically how to prepare these new nurses to meet the needs of an

ever increasingly complex patient population (Kaddoura M. A., 2013; Spector, 2010). Currently,

the use of the preceptor model is considered best practice for bringing on new nurses. The

preceptor is responsible for guiding and developing the new graduate nurse in clinical skills,

interpersonal communication, and clinical judgment. Many times these preceptors have not

been formally prepared for their role and are not experienced in educational strategies to assist

the new graduate nurse in the development of clinical judgment. New graduate nurses want

feedback (Spiva et al., 2013) and are anxious to learn but need the tools to enhance the

experience of clinical judgment.

Research has shown preceptor education and structured orientation programs, based

on the needs of the new graduate nurse, decrease turnover rates, decrease vacancy rates,

decrease orientation costs, provide a positive clinical experience, and improve new graduate

satisfaction with orientation. (Bullock, Paris & Terhaar, 2011; Ryan & Tatum, 2013; McClure &

Black, 2013; Figueroa, Bulos, Forges, & Judkins-Cohn, 2013; Myrick, Luhanga, Billay, Foley &

Yonge, 2012). There is limited research on preceptor educational strategies for improving

clinical judgment. Foy, Carlson, and White (2013) surveyed 245 RN preceptors asking the

preceptors what their highest ranked education needs were. "How to teach critical thinking"

was among the top topics identified. Logically, if the preceptor model is the model for

orientation of the new graduate nurse, then education for preceptors on the use of strategies to

promote development and use of clinical judgment by the new graduate nurse is needed.

Critical thinking began to emerge as a key concept in nursing research during the 1980s,

driven, in part, by the American Philosophical Association's Delphi Research Project, which

outlined a conceptual definition of the ideal or paradigm critical thinker (Boychuk Dutchscher,

1999). Philosophically, critical thinking has been examined from both the phenomenological

aspect and the critical social theory. Critical thinking, however, is not discipline specific, and

clinical reasoning was found to be more specific to practice-based disciplines. More specifically,

clinical reasoning is the application of critical thinking to a clinical situation (Victor-Chmil, 2013).

Benner, Sutphen, Leonard, & Day (2010) described a shift from an emphasis on critical thinking

to an emphasis on clinical reasoning and multiple ways of thinking that include critical thinking.

Tanner (2006) defines clinical reasoning as:

> the processes by which nurses and other clinicians make their judgments and includes
>
> both the deliberate process or generating alternatives, weighing them against the
>
> evidence and choosing the most appropriate and those patterns that might be
>
> characterized as engaged, practical reasoning (e.g. recognition of a pattern, an intuitive
>
> clinical grasp, a response without evident forethought). (p. 204-205)

Tanner (2006) defined clinical judgment as the "interpretation or conclusion about the

patient's needs, concern, or health problems, and/or the decision to take action (or not), use or

modify standard approaches, or improvise new ones as deemed appropriate by the patient's

response" (p. 204). The result of poor clinical judgment may lead to detrimental patient

outcomes exemplified by "failure to rescue" behavior (del Bueno, 2005).

A number of educational strategies have been studied for their effect on developing

clinical judgment of nursing students.   Reported strategies include the use of questioning,

reflection, self-evaluation, role modeling, concept mapping, concept-based learning, problem-

based learning, thinking in action, computer simulation, and high fidelity simulation (Banning,

2007; Glynn, 2012; Johnson, et al., 2012; Lasater, 2011; Lasater & Nielson, 2009a, 2009b;

Riddell, 2007; Simmons, 2010; Sorensen & Yankech, 2008; Weatherspoon & Wyatt, 2012).

Much of the current literature reflects studies conducted in the educational setting and does

not reflect the education strategies that have been used in hospitals to provide transition for

new graduate nurses into the clinical setting.

The research conducted with nursing students does not take into consideration the limitations that exist in the practice environment. Many faculty has been educated on learning theories and the development of clinical judgment. However, nurse preceptors in clinical settings (e.g., hospital, acute care) perceive that they are not prepared or educated for the educator role they are responsible for during orientation, experience lack of role clarity, inconsistent preceptor education, and overwhelming workloads that can lead to burn out (Delfino, Williams, Wegener, & Homel, 2014; Haggerty, Holloway, & Wilson, 2012). When preceptors receive education, they feel better prepared to assist the new orientee in developing critical thinking (Forneris & Peden-McAlpine, 2009; Horton, DePaoli, Hertach, & Bower, 2012; Myrick, Luhanga, Billay, Foley, & Yonge, 2012; Sorensen & Yankech, 2008).   Other factors also confront the development of clinical judgment for the new graduate nurse. These include a sense of being overwhelmed, lack of confidence (situational paralysis), self-doubt, control of patient care by the preceptor, inconsistency in experiences and personality types, struggling with the pace of reasoning, transition shock, and the realization the new graduate nurse is professionally accountable (Kaddoura, 2013; Price, 2013; Wiles, Simko, & Schoessler, 2013)**.**

Current literature reflects a lack of experimental design with inclusion of control groups that would demonstrate interventional differences versus developmental differences in critical thinking. Windey et al. (2015) completed a systematic review of preceptor development in which 462 full text articles were reviewed with only 12 articles meeting the author's research criteria, and of these, only one measured the new nurse's critical thinking as an outcome of preceptor preparation. Other studies have shown improved outcomes when orientation for the newly hired nurse was individualized and customized (Marcum & West, 2004; Ryan & Tatum, 2013; Sorensen & Yankech, 2008).

Another limitation in the literature is the lack of consistent measurement tools making it difficult to compare specific outcomes. Carter, Creedy, and Sidebotham (2015) completed a systematic review of tools used to measure critical thinking development, but this review was limited to tools used with student populations. They reported reliability and validity were not consistently reported and drew the conclusion that there is a need to have discipline specific instruments to measure critical thinking. Research in the practice setting should include testing the use of tools that have been limited to the academic setting. Nielsen, Lasater, and Stock (2016) evaluated the Lasater Clinical Judgment Rubric (LCJR) in a practice setting and convened preceptor focus groups to evaluate the process. The preceptors in the study identified that the LCJR provided a needed framework, and used it to foster clinical judgment. It also provided a process to evaluate the new graduate.

In evaluating the literature, the following questions arise: What type of preceptor intervention is effective in development of clinical judgment? How do you educate the preceptors in educational strategies? How do we measure clinical judgment in the new graduate nurse? These questions are all important because how new nurses are developed and nurtured to increase their level of clinical judgment is a key element in patient safety, retention, turnover costs, the well-being of the new nurses themselves, and our healthcare system.

Conceptual Framework. Tanner's research based Clinical Judgment Conceptual

Framework (See Figure 1) serves as the framework for this pilot study (Tanner, 2006). Tanner

describes four components of clinical judgment: **noticing, interpreting, responding, and**

reflecting. *Noticing* is a perceptual grasp

of the situation at hand (Tanner, 2006)

and includes the concepts of context,

background, relationship, expectations,

and initial grasp. Effective noticing

involves focused observation, recognizing

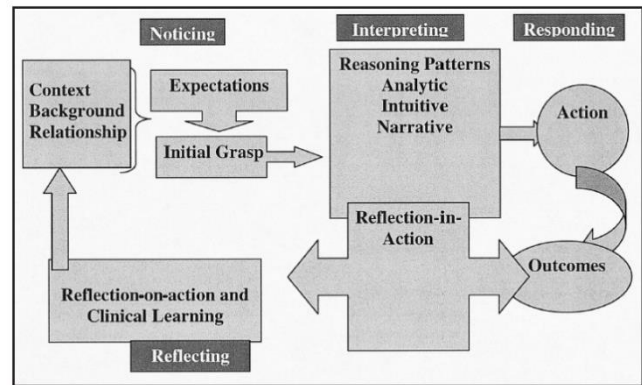deviations from expected patterns, and

Figure 1. Tanner Clinical Judgment Model

information seeking (Lasater, 2011, 2007a, 2007b). *Interpreting* is determining the meaning of

the data and the appropriate course of action. Research has shown at least three interrelated

reasoning patterns used by experienced nurses' in decision-making: analytic patterns, intuition,

and narrative thinking (Tanner, 2006). *Responding* is the action component, and *reflecting* is

"reading" how the patient is responding to the nursing intervention and adjusting the

interventions based on that assessment. There is also reflection-on-action and subsequent

clinical learning that completes the cycle (Tanner, 2006).

Lasater (2011) stated the development of clinical judgment is the marriage of

knowledge and practical experience. Clinical judgment is complex and requires not only the

knowledge of pathophysiology but also understanding of the illness experience of the patient.

Clinical judgment is imperative in situations that are ambiguous.

Research Questions. The purpose of this pilot study is to examine the benefits of a Preceptor

Coaching intervention (PCI) on the development of clinical judgment of new graduate nurses.

The following research aims were examined in this proposed pilot study.

1. To examine the effectiveness of a Preceptor Coaching intervention (PCI) individualized to the new graduate nurses' learning needs on the development of clinical judgment.

2. To examine the relationship between clinical judgment assessment measures using new graduate nurse self-assessment and preceptor direct observation assessment measures.

3. Explore the usefulness and financial implications of the Preceptor Coaching intervention (PCI) on preceptor preparation to promote the use of clinical judgment by the new graduate nurse .

Methodology

Research Design. Approval was obtained from the author's educational facility and the health system Institutional Review Board to conduct this pilot study. A prospective sequential design was used on a convenience sample of new graduate nurses and their assigned preceptor(s). Study inclusion criteria included: a) a newly hired employee of the health system, b) no prior registered nurse work experience, and c) graduation from a registered nurse (RN) nursing program within past 12 months. Data was collected during two phases, each over a period of time until the desired sample size was obtained.

Phase I. Phase I included data collection during a baseline period of time with no specific preceptor intervention other than established usual practice within the health system. Data collected during this initial period served as the Control Group data for comparison from both new graduate nurses and preceptors. The new graduate nurse completed a critical thinking self-assessment tool (CTSAT) at 1 and 6 weeks. Preceptors provided the usual customary

orientation and assessed the new graduate nurses' clinical judgment at 1 week and 6 weeks

using the Lasater Clinical Judgment Rubric. Prior to completing the LCJR, preceptors were

required to watch a an educational video, a video scenario, score the recorded scenario, and

take a post exam with a minimal pass score of 80% to validate knowledge in using the rubric (all

preceptors scored 90% or higher). Preceptors were also sent a weekly email inviting them to

journal using a series of questions related to clinical judgment via Survey Monkey

     Phase II. Phase II consisted of implementation of the Preceptor Coaching intervention

(PCI) and similar data collection from the new graduate nurse and preceptor. The interventional

group of new graduate nurses completed the demographic form and CTSAT during the first

week of didactic orientation and at week 6 of clinical. The preceptors participating in Phase II

provided the new graduate nurse in the dyad with needs-based preceptor coaching throughout

the 6 weeks of orientation. Preceptors were required to meet the same competency

requirements of the control group with the addition of watching a prerecorded video explaining

the coaching model of the 5 Minute Preceptor and needs-based education. The preceptor

intervention group in Phase II of the study received the Preceptor Coaching Intervention (PCI).

The intervention consists of the PCI Educational module, PCI coaching materials, and NGN

Individualized Education Plan. The PCI Educational Module was developed by the PI. The PCI

curriculum incorporates two major coaching concepts: *Five Minute Preceptor* (5MP) steps (Bott,

Mohide, and Lawlor 2011), and strategies to lead to questioning based on Tanner's model

targeting the individualized education plan for the new graduate nurse. These evidence-based

coaching models provide the framework to encourage experiential learning, allowing the new

graduate nurse to learn through the process of thinking. The 5MP provides a structure for the

preceptor and new graduate nurse to use for interaction. The 5 steps include: 1) having the

nurse take a stand on an observation, 2) the preceptor/coach probing for supporting evidence,

3) teaching general rules (usually a maximum of three points, the most important "pearls"), 4)

then reinforcing the positives, strengths, and competencies, and 5) finally, correcting errors and

misinterpretations (Bott, Mohide, & Lawlor, 2011). The coaching technique based on the

Tanner model allows for individualizing the questions as the preceptor uses the 5MP.

The intervention preceptors were then required to meet with the investigator and

review the new graduate nurses learning needs based on their self-assessment. Coaching was

validated and each preceptor provided with coaching handouts and a cue card with the learning

needs identified. The intervention group preceptors assessed the new graduate nurses' clinical

judgment by completing assessments of the new graduate nurses' clinical judgment their first

week of clinical orientation with the new grad and at 6 weeks. The new graduate nurse

completed a critical thinking self-assessment (CTSAT) tool at 1 and 6 weeks.

Setting The pilot study was conducted in the context of nurse orientation of new

graduate nurses in a midwestern community hospital, a member of a national health system.

Sampling Method. New graduate nurses were approached and invited to participate in

the pilot study during their first week of didactic orientation. Subjects were instructed on the

study, consented, and completed the initial Critical Thinking Self-Assessment tool and

demographic form. The new graduate nurse's preceptor was contacted via email this first week

of didactic orientation and invited to participate. When the preceptor expressed interest, the

investigator provided information regarding the study and consented the preceptor. Preceptors

received a $50.00 gift card upon completion of the study.

Measurement Methods Demographics were collected on both the new graduate nurse

and the preceptor. Preceptors completed the Lasater Clinical Judgment Rubric, and new

graduates nurse completed the Critical Thinking Self-Assessment tool initially and at 6 weeks.

Measurements

Demographic Tools.

New Graduate Nurse Demographic Tool. New graduate nurses completed a

demographic questionnaire to obtain the following information: age, gender, education level,

and previous work experience.

Preceptor Demographic Tool. Preceptors completed a demographic questionnaire to

obtain the following information: age, gender, years of total experience, years of experience in

current specialty, years of employment in the unit, education level, general preceptor

education, and number of years as a preceptor.

Clinical Judgment Tools.

Lasater Clinical Judgment Rubric (LCJR) (Lasater, 2011). The LCJR is an evidence-based

clinical judgment rubric that presents dimensions of clinical judgment as trajectories for nurses'

development. It provides a rubric that evaluates noticing, interpreting, responding, and

reflection. It evaluates these concepts on four levels: beginning, developing, accomplished, and

exemplary. There are eleven sub-concepts, and 4 levels of measurement are scored with each

cell scored with one point. The range of scoring on the tool is 11-44 points. Using simulation,

inter-rater reliability was calculated to be 0.889, using percent of agreement the inter-rater

reliability ranged from 92% - 96%, and for agreement for reliability analysis results ranged from

57%-100% (Adamson, Gubrud, Sideras, & Lasater, 2012). Validity evidence has been

documented through intraclass correlations of known differences and evidence based on

relationships with measures of other variables of the intended levels of scenarios. Scores were

consistent with known group differences (Adamson, Gubrud, Sideras, & Lasater, 2012).

Preceptors participating in both Phase I and II completed an educational module on use of the

LCJR to verify reliability of preceptors' assessment when using the LCJR to assess new graduate

nurses. Preceptors demonstrated competency in use of the LCJR by evaluating a case scenario

using the LCJR tool and completing a post-test.

   Critical Thinking Self-Assessment Tool (CTSAT). The Critical Thinking Self-Assessment

Tool is a self-assessment of critical thinking consisting of 25 core competencies of critical

thinking grouped in the following categories: problem recognition, clinical decision making,

prioritization, clinical implementation, and reflection (Berkow, Virkstis, Aronson, & Donohue,

2011) from the Nurse Executive Board of the Advisory Board Company. Each core competency

is scored on a 5 point Likert scale. The literature reported Cronbach α coefficients for each scale

within the survey were .976 for all survey items, .910 for problem recognition, and .882 for

clinical decision-making, .932 for prioritization, .919 for clinical implementation and .922 for

reflection. A split-half reliability on the entire instrument yielded a 0.930 correlation between

halves and 0.961 for the Guttman split-half coefficient (Berkow, Virkstis, Aronson, & Donohue,

2011).

Data Analysis Data Management/Analysis. Descriptive and summary statistics were analyzed

looking at frequencies, means, and ranges to describe the study sample. Missing data on

individual items were treated by using the mean of the subscale which contained the item to

replace the missing data. Reliability (internal consistency) of each tool was estimated using

Cronbach's alpha. A *t* test analysis was used to compare differences between groups in Phases I

and II on LCJR and CTSAT scores to examine the effectiveness of the Preceptor Coaching

Intervention individualized to the new graduate nurses' learning needs for development of

clinical judgment. Pearson correlation analysis examined relationships between clinical

judgment subscales of the CTSAT and LCJR. Subsets of each tool were explored, comparing each

tools' subset of noticing, interpreting, responding, and reflecting. Preceptor responses to the

Survey Monkey responses were reviewed for themes and key concepts related to clinical

judgment, responses to coaching, and barriers or opportunities for coaching.

Results

Demographics

Twenty-six new graduates (16 = control group and 10 = intervention group) and their

preceptors were included in the final data analysis. This included 5 Associate Degree new

graduates and 21 Baccalaureate Graduates. The majority of the new graduates were female

(4=male, 22=female), and all but 5 had previously worked in healthcare. The average age of the

new graduate nurse was 25.7 years with the youngest graduate 21 years old and the oldest 41.

Twenty-nine preceptors were paired with the new graduates. Of the preceptors

included, all were female, 3 were Associate Degree Nurses, 2 diploma prepared, 21

Baccalaureate and 3 Master's prepared. The mean preceptor age was 29 with a range of 23-58

years old, with a mean of 10 years of RN experience. There were 28% of the Preceptors with

two or less years of RN experience, and 55% had 2 or less years of experience precepting.

Critical Thinking Self-Assessment

Critical Thinking Self-Assessment tool (CTSAT) results were examined using paired t test.

Individual item scores, subscales, and total scores reported were analyzed. The CTSAT was

administered to measure constructs of the new graduate critical thinking. The scale had a high

level of internal consistency as determined by a Cronbach's alpha of 0.930. Individual subscales

scores for all subjects baseline and at 6 weeks showed variable reliability with Cronbach's alpha

scores ranging from .486-.877. Initial scores were similar between the control and intervention

groups with no significant differences in baseline measures. There was no effect by gender,

education (AD and BSN) or previous work experience.

Total scores. The final total CTSAT score for the control and intervention groups were

statistically different, t (24) =-2.623, *p* =.015, 95% CI [-15.32,-1.83]. See Figure 2 for an

illustration of the change in total scores.

CTSAT Subscale scores.   There were five subscales within the tool, and of these five

subscales, two subscales were statistically different between the control and intervention final

measurement. There was a statistically significant difference in the final CTSAT Prioritization

score *t (24)* =-2.679, *p* =.013, 95% CI [-4.30, -.56] and the Reflection score t (24) = -3.589, *p* =

.001 95% CI [-4.06,-1.10]. Figure 3 and 4 shows the changes between the control and

interventions groups initial and 6 week assessment. Mean scores for each subscale are shown in
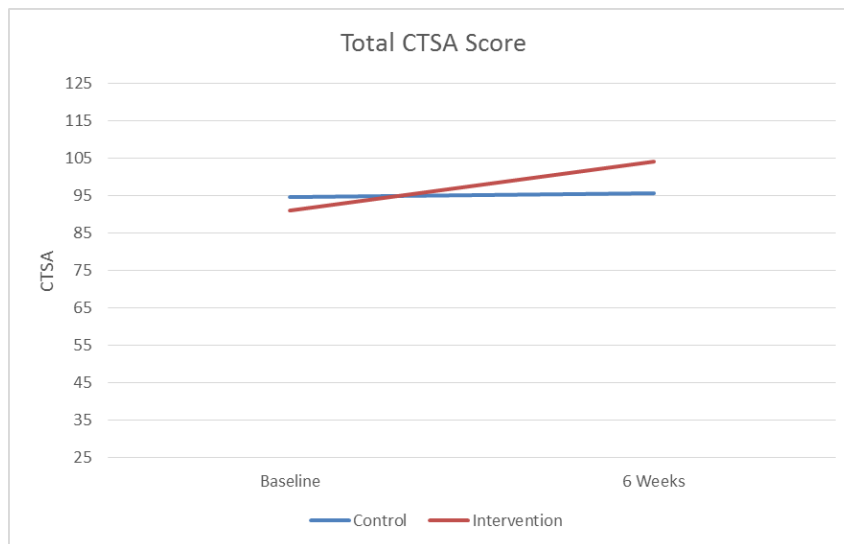
Table 1.

Figure 2. Total CTSAT Score Changes
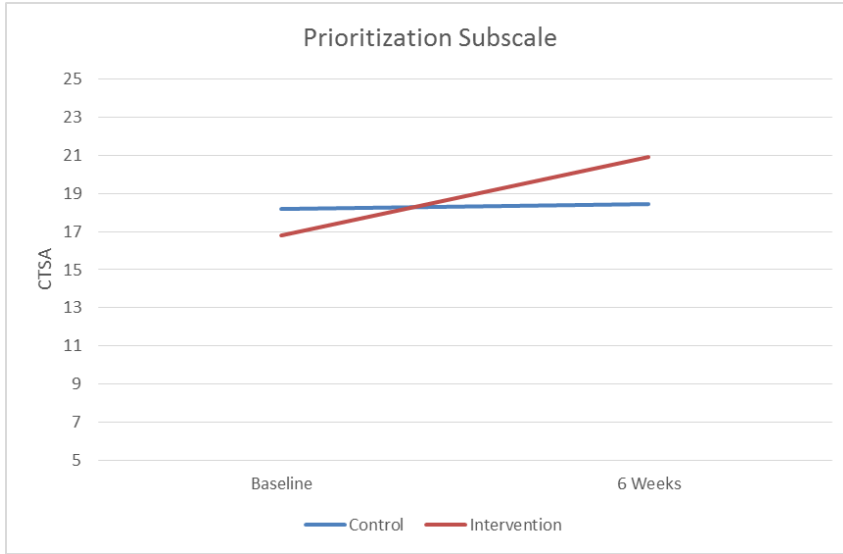
Figure 3. Prioritization Subscale Changes
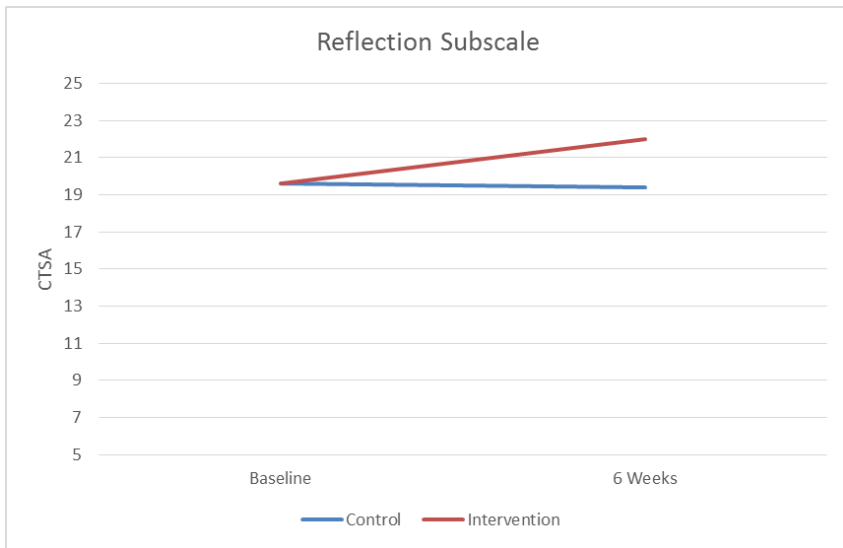

Figure 4. Reflection Subscale Changes

Table 1. Mean Critical Thinking Self-Assessment Scores

Critical Thinking Self-Assessment	Mean Baseline Score	Mean 6 week Score
Control: Clinical Decision Making	19.500	19.406
Intervention: Clinical Decision Making	18.500	20.400
Control: Clinical Implementation	18.88	19.13
Intervention: Clinical Implementation	18.60	20.60
Control: Prioritization	18.188	18.469
Intervention: Prioritization	16.800	20.900
Control: Problem Recognition	18.563	19.094
Intervention: Problem Recognition	17.500	20.300
Control: Reflection	19.6250	19.4219
Intervention: Reflection	19.600	22.000
Control: Total CTSAT	94.75	95.625
Intervention: Total CTSAT	91.00	104.200

CTSAT Item scores. The item scores were evaluated to see if the change of effect was

different between the control and intervention group. The intervention group had a statistically

significant greater change in the intervention group when compared to the control group in

eight questions. Refer to Table 2 for the question items found to have the significant changes.

Table 2. CTSAT Mean Score Item Changes

CTSAT Statistically Significant Mean Score Item Changes					
Question	Control Mean Change	Intervention Mean Change	t	df	Sig. (2-tailed)
Proactively identify unit or hospital-based improvement opportunities	- 0.4375	.6000	-2.56	24	.017
Consistently demonstrate understanding of rationale for following (or departing from) established protocols and policies.	-.1875	.6000	-2.67	24	.013
Appropriately prioritizes the most urgent patients	.0625	.6000	-2.14	24	.043
Appropriately sequence care for an individual patient	-.0625	.8000	-2.44	24	.023
Appropriately sequence indirect care responsibilities across the shift	-.0625	.9000	-3.14	24	.004
Appropriately apply knowledge of past experiences to present situations.	-.1875	.5000	-2.53	24	.019
Proactively initiate collegial dialogue around nursing practice	-.2500	.9000	-3.30	24	.003
Proactively debrief after errors or near misses.	-.2188	.5000	-2.13	24	.044

Lasater Clinical Judgment Rubric (LCJR)

The LCJR is designed to measure the components of the new graduate clinical judgment. The tool has 4 subscales with 2-4 concept scores in each subscale. The total tool score had a high level of internal consistency as determined by a Cronbach's alpha of 0.902. The Subscales at baseline and 6 weeks also had a high level of internal consistency with Cronbach's alpha ranging from .705-.952.

There were no statistically significant differences between the control and intervention final

LCJR total scores or subscales.   The change from the initial assessment to the final assessment

was similar in both groups although the intervention group had a slightly higher change in scores

(10 points versus 9.75). The intervention group demonstrated the most improvement in

intervention and responding. The control group saw the most improvement in responding and

noticing. Mean scores for each subscale are found in Table 3.

Table 3. Lasater Clinical Judgment Rubric Scores

Lasater Clinical Judgment Rubric	Mean Baseline Scores	Mean 6 week scores
Control: Noticing	5.88	8.81
Intervention: Noticing	5.90	8.70
Control: Interpreting	3.88	5.63
Intervention: Interpreting	4.00	6.00
Control: Responding	8.69	12.00
Intervention: Responding	8.40	11.60
Control: Reflecting	4.19	5.81
Intervention: Reflecting	3.90	5.90
Control: Total Lasater Score	22.63	32.38
Intervention: Total Lasater Score	22.20	32.20

CTSAT\LCJR Correlation

The CTSAT and LCJR subscales were analyzed using a Pierson Chi-square to determine if

there was a correlation between subscales measuring like components of clinical judgment. The

CTSAT subscales of Problem Recognition, Clinical Decision Making, Prioritization, Clinical

Implication, and Reflection to the LCJR subscales of noticing, interpreting, responding, and

reflecting were used in this comparison, as well as the total scores. Subscales are mapped to

Tanner's Clinical judgment model in Table 3.   Baseline clinical decision making scores and LCJR

Interpreting scores were significantly correlated r = -.53, p = .005, and baseline reflection

subscales on both tools were moderately correlated r = -.467, p = .016. There were no significant

correlations between clinical implementation and responding, problem recognition, and

noticing or prioritization and interpreting scores.

Table 4. CTSAT\LCJR Subscale Crosswalk

Tanner's Model		Lasater Clinical Judgment Rubric	Critical Thinking Self-Assessment Tool	
Noticing	Context, Background, Relationship, Expectations, Initial Grasp	Focused Observation	Accurately anticipate changes in patient status	Problem Recognition
			Accurately recognize changes in patient status	
		Recognizing Deviations from Expected Patterns	Consistently recognize unsafe practices by self and others	
		Information Seeking	Proactively voice concerns about unsafe practices by self and others.	
			Proactively identify unit or hospital-based improvement opportunities'	
Interpreting	Reasoning Patterns: Analytic, Intuitive, Narrative Reflection in Action	Prioritizing Data	Appropriately prioritizes the most urgent patients	Prioritization
			Appropriately sequence care for an individual patient	
			Appropriately sequence indirect care responsibilities across the shift	
		Making sense of Data	Appropriately delegate responsibilities	
			Consistently demonstrate accountability for delegated responsibilities	
			Effectively explore multiple solutions to a given problem	Clinical Decision Making
			Consistently demonstrate understanding of rationale for following (or departing from) established protocols and policies.	
			Consistently demonstrate understanding of potential clinical implications of interventions	
			Proactively ask peers and experts for assistance when needed	
			Proactively consult further resources (e.g. literature, evidence-based tools, etc.) to improve patient care.	
Responding	Action Outcomes	Calm Confident Manner	Consistently develop plans of care that reflect the most current evidence-based `practices and protocols	Clinical Implementation
		Clear Communication	Consistently develop plans of care that reflect patient, family, and community needs	
		Well-Planned Intervention/Flexibility	Effectively implement nursing interventions included in plan of care	
		Being Skillful	Proactively adjust plan of care according to patient needs, preferences and cultural considerations	
			Clearly communicates plan of care to other team members	
Reflecting	Reflection on Action and Clinical Learning	Evaluation. Self-Analysis	Appropriately apply knowledge of past experiences to present situations.	Reflection
			Consistently reevaluate assumptions to draw conclusions based on nursing evidence	
			Proactively initiate collegial dialogue around nursing practice	
			Proactively debrief after errors or near misses.	
		Commitment to Improvement	Appropriately adjusts own practice based on others feedback	

Preceptor Journaling

Preceptors were sent email reminders weekly to Journal via a survey Monkey Link with questions related to coaching and clinical judgment. Questions included in the survey were:

- Please give an example of one clinical judgment coaching technique you used this week?
- What was the observed outcome?
- What did you expereince this week that improved your opportunity for coaching?
- Did you experience any barriers in coaching this week?
- Do you feel adequately equipped to develop clinical judgment in the graduate nurse?

Survey responses were analyzed by qualitative content analysis to identify key points identified by the preceptors. Data was evaluated for themes, and data grouped into clusters to understand the coaching experiences of the preceptors.

When the preceptors were asked for an example of clinical judgment coaching technique used during the week, their responses followed three themes: coaching technique, clinical judgment concepts and tools they used. *Coaching* techniques included; questioning, reflection, case studies, scenarios, or listening exercises. Clinical judgment concepts were identified in many of the responses. The preceptors described noticing, prioritizing, responding, interpreting, reflecting, "Making sense of the data," time management, focused assessments, and delegation. These concepts are components of the Tanner Clinical judgment model and the Lasater Clinical Judgment Rubric. Tools discussed were SBAR, teach back and stop and resolve.

There were major themes identified in the observed outcome of the coaching. The preceptors described desired changes in behavior, technical skills, and thought processes. Behaviors such as confidence, orientee becoming more positive, organized, and having a questioning attitude emerged. Demonstration of the technical skill that the preceptor was coaching became more proficient. Thought processes were affected in many ways. The preceptors described the orientee's as being more focused, reflective, verbalized

understanding, and responding to the questions asked. They also described that the orientee recognized the importance of critical thinking, and that this prompted the orientee's to ask more questions. The preceptors also reported that they observed transfer of learning as when they coached the orientee in one situation, the orientee was able to apply that knowledge to another patient.

The preceptors described opportunities that improved clinical judgment coaching and identified the orientee's attitude, time, and exposure to new learning experiences, resources (both personnel and online resources), and focused clinical experience.   The orientee's attitude included description of the being less anxious, more focused, eager to learn, receptive, and more organized. Having time off the floor and/or a patient assignment that allows free time to coach were both identified as improving the opportunity to coach. Preceptors identified new learning experiences as positive opportunities to coach. Other opportunities include available resources, the Clinical Nurse Specialist, readings, and in-service model. Finally, the preceptors identified focused clinical experiences that allowed them to key in on certain aspects of patient care.

Three themes emerged as barriers to coaching: workflow issues, new graduates' behaviors/attitudes, and preceptor knowledge. *Workflow issues* included two components of patient load and time available to spend on coaching. At times, the patient load was too heavy to take the time to coach, or the skills too immediate, or at times, the preceptors were pulled away to take patients of their own. Information overload and other staff communication also were identified workflow barriers. Patient status also was seen as a barrier to coaching. Hospital protocols and policies were also identified as barriers. Not being familiar with the routine policies, plus the heavy demand of paper work, and charting led to a feeling of information overload and found the new nurse focusing on tasks versus critically thinking

through the patient's information. *Behaviors and attit*udes such as the "know it all" or "have

to do it all myself" in new graduates who didn't feel free to ask questions also contributed to

barriers in coaching. Additional barriers included the concept of defensiveness, a situation in

which the new grad became defensive or was "offended" by coaching/questioning and closed

off to coaching to improve clinical judgment. Preceptors identified that *knowledge* was an issue

and, at times, they didn't know how to respond to the new graduate or didn't have the

knowledge to enable them to coach the new graduate in a particular skill. They did identify

that they could turn this into a learning experience by demonstrating how to seek out

information and serve as a role model (See Appendix A for a conceptual map of themes).

Both the control group and intervention group preceptors had similar self-rankings,

each having a mean of 7 on a 1-10 scale. When asked if the majority of time spent coaching

was integrated into care or did it take longer, the control group responses identified it was

integrated 83%, takes longer 11.5 %, and both 5.5 % and the intervention group responses

identified it was integrated 82%, takes longer 12 %, and both 6.0 %. The control group

reported spending a mean of 35 extra minutes a day, and the intervention group spent on

mean of 36 extra minutes past their shift.

<center>**Discussion**</center>

The new graduates who received the coaching intervention scored themselves higher on

critical thinking than those in the control group. Having the preceptors coach and question

based on learning needs may have helped the new graduates learn to prioritize and reflect on

the actions they have taken, will take, and the patient's response. By allowing the new graduate

nurse to work through the process of thinking, they gain confidence and see themselves as

competent individuals. The increase in the total scores was driven by the subscales'

prioritization and reflection. Looking at the themes and comments submitted by the preceptors,

they often talked of prioritization and reflection. This focus may have driven the change.

Looking at the individual questions, the mean change is actually negative in a number of the

questions in the control group and not in the intervention group. It has been noted in the

literature that new graduates will come into an institution confident, and as they experience

Kramer's reality stages, they hit the shock stage and doubt their skills. At six weeks the control

group may have been through enough clinical experiences and identified that they didn't know

as much as they thought they did when first starting. They may not have scored themselves as

high initially is they had been exposed to the actual clinical setting before scoring themselves

rather than scoring themselves before the clinical experience as in this study. The support of

coaching to the individuals learning needs keys in on the areas that the new graduate nurses

identified as their weaknesses and makes the new graduates feel supported as they move into

the "shock" stage. The development through coaching allows them to develop confidence as

they discuss these areas with their preceptor.

There were no significant changes in the LCJR between the control and intervention

groups. It is interesting the new graduates rated themselves differently between groups, but

the preceptors who are responsible for assessing their skills did not see a difference in the new

graduate at six week. This might be due to the issue of the preceptor's expecting or wanting the

new graduate to be a fully functioning competent nurse and because they do not see them as

accomplished practitioners. Six weeks may not be enough time to show a significant difference

in clinical judgment.

The preceptors actually continued to use a variety of coaching skills, which is beneficial,

and appeared by their input, to be situational according to what was happening in the clinical

setting. Without being directed to respond in terms of the framework, the preceptors took on

the language of the rubric and model as they focused on noticing, interpreting, responding, and reflecting. Even sub- concepts such as prioritizing and making sense of the data were used in the journaling responses. This occurred in both the control group and the intervention group as both groups received education on Tanner's model and the LCJR. This would support what the literature reported in that the model and rubric provided a needed framework, it assisted in fostering clinical judgment, and it provided a process to evaluate the new graduate. Nielson (2016) reported findings that supported this phenomenon. They reported that having a structured framework provided objective ways to evaluate, similar to what the preceptors reported in the journaling. The barriers identified by the preceptors were also consistent with what has been published in the literature and demonstrates why there are differences in coaching in the practice setting as compared to the academic setting.

The clinical judgment outcomes themes represented the domains of skill, cognitive, and affective behaviors. The preceptors were looking for the evidence of the technical skill, as well as the thought process and also the belief in nursing and the importance of critical thinking.

Financially, the preceptors in the intervention group took a mean of one minutes longer coaching then the preceptors in the control group. This small difference would not be financially impactful. Providing the tools to coach would be fiscally beneficial. The education provided gave the preceptors the skills to coach but allowed them to do this in an integrated way so as to not increase the time that would normally be used in coaching. Both groups did identify that they went over their shift time and that it would ideally be even better fiscally to be able to coach within the assigned shift.

Limitations of the study include the convenience sampling and the small sample size. This limits the generalizability of this pilot study. The tools to measure critical thinking may also

be a limitation, though reliable, the LCJR has not been widely used in the clinical setting and will

need to be further established. The varied reliability of the CTSAT tool can be seen as a limit.

Further investigation of this tool will also be beneficial.

Conclusions

Support and coaching allowed the new graduate to have the self-perception of being

more skilled in critical thinking, specifically prioritizing and reflection. Not only did the support

improve scores, but those graduates who did not receive the coaching experienced lower scores

at six weeks. New graduates need the ongoing individualized coaching not only to develop but

also to prevent a decrease in their confidence in their skills. Preceptors still see many barriers to

coaching and developing clinical judgment and further exploration in how to remove and

prevent these barriers is needed.   We need to continue to eliminate as many barriers as we can

to allow the preceptor to spend time on clinical judgment development.

We need to continue to develop tools that reliably measure the concept of clinical

judgment that are practical to use in the fast-paced practice setting. This is such a key element

to nursing that we need to assure this is evaluated as it impacts patient care significantly.   We

need to continue to eliminate as many barriers as we can to allow the preceptor to spend time

on clinical judgment development.

Future research needs to be done on testing appropriate tools, coaching based on

learning needs, and how barriers can be eliminated. Research should include experimental

designs so that the measurements reflect the intervention effectiveness and not just

maturation. With a new generation of nurses coming into the practice world, there needs to be

research on how best to coach them, not only based on learning needs but also learning styles,

ultimately, with the goal to develop them into expert clinicians capable of sound clinical

judgment. Healthcare is changing, it is time education changes to meet the needs of the nurses

and the patients.

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    new graduates. *Journal for Nurses in Professional Development, 29*(4), 167-172.

Appendix A: Conceptual Map of Themes

Question	Major Concepts	Sub concepts	
Techniques for Critical Thinking	coaching technique	taking a stand questioning, reflection, case studies,	scenarios listening exercises
	clinical judgment concepts	noticing prioritizing responding interpreting reflecting	making sense of the data time management focused assessments delegation
	tools	SBAR teach back stop and resolve	
Outcomes	behavior	confidence, orientee becoming more positive, organized asking questions themselves emerged	
	technical skills		
	thought processes	focused, reflective, verbalized understanding, responding to questions	recognized the importance of critical thinking observed transfer of learning
Improved coaching	identified the orientee's attitude	less anxious more focused eager to learn	receptive more organized
	time	away from the floor free time within assignment	
	new experiences		
	resources (both personnel and online resources)	CNS readings in-service model	
	focused clinical experience	theme to patient assignment	
Barriers	workflow issues,	patient load and time available to spend on coaching information overload other staff patient status	
	new graduates behavior/attitude	"know it all" "have to do it all myself" didn't feel free to ask questions defensiveness	"offended" Closed off
	Preceptor knowledge.	They didn't know how to respond to the new graduate.(conflict, uncomfortable conversations) They didn't have the knowledge to enable them to coach the new graduate in a particular skill.	

Summary Discussion

The purpose of this body of work was to examine the benefits of a Preceptor Coaching

intervention (PCI) on the development of clinical judgment of new graduate nurses. A

systematic review of the literature found evidence-based intervention components and critical

thinking outcomes varied across studies. Preceptor education was a key component in all of the

studies, assuring the preceptors were equipped to provide quality development. There were

very few experimental design studies examining the benefits of a preceptor intervention on the

outcome of clinical judgment.

Focus groups of preceptors described questioning as a valuable technique not only to

assess clinical judgment but to develop it also. The focus groups did not have a structured

questioning technique and acknowledged that they did not use an objective tool to assess

clinical judgment. They also identified barriers to the development of clinical judgment. Similar

barriers were identified by the preceptors in the literature review, thus supporting these

concepts. This preliminary work provided insight and groundwork for the pilot study. The

following aims were addressed by this study:

Question 1. To examine the effectiveness of a Preceptor Coaching intervention (PCI)

individualized to the new graduate nurses' learning needs on the development of clinical

judgment.

Preceptor Coaching intervention (PCI) individualized to the new graduate nurses' learning needs

was effective on the development of clinical judgment in improving the prioritization, reflection,

and total CTSAT scores of the new graduates receiving the intervention when compared to the

control group. The preceptors Lasater scores were not different between groups indicating the

preceptors did not observe the same change the orientees experienced.

Question 2. To examine the relationship between clinical judgment self-assessment and preceptor direct observation assessment measures.

The tools utilized did not correlate on total scores but did correlate negatively on specific subscales and questions. The negative correlation was explained by the fact that the control groups scores either decreased or did not improve from baseline, which indicated that without the support of the coaching intervention, they percevied themselves less capable of the clinical judgment compenents than when they first started at the institution. The new graduates as an overall group scored the lowest on the initial CTSAT in prioritization and problem recognition, which correalates to noticing and interperting in the Tanner model. It is interesting that the basic skills of identifying the patients' problem were scored lower than the actual management of the problem.

Question 3. Explore the usefulness and financial implications of the Preceptor Coaching

intervention (PCI) on preceptor preparation to promote the use of clinical judgment by the

new graduate nurse.

Preceptors in both the control and intervention group rated themselves a mean of 7 on a scale of 1-10; both groups overall were comfortable with coaching. The time coaching extended their shift was similar with only a 1-minute difference. It was difficult to assess turnover in the short period of the study. Turnover will be followed in the future.   At this time all new graduate participants that completed the study are still employed with the institution. The evidence would suggest that the new graduate nurses perceived themselves as more skilled in critical thinking, and it did not increase the cost of orientation to provide a structured preceptor coaching intervention.   This would imply that educating preceptors on the 5 MP would be a cost effective way to improve the new graduate nurses' self-assessment of critical thinking.

Implications for Future Nursing Research

Several areas for further evaluation have been identified in this body of work and are also

supported as research priorities by Association for Nursing Professional Development (ANPD),

National League for Nursing (NLN), and National Councils of State Board of Nursing (NCSBN).

Areas identified are:

1. Orientation should be based on the learning needs of new graduate nurse.

New graduate nurses who received coaching based on their needs scored themselves higher on

the Critical Thinking Self-Assessment Tool. Total scores, prioritization and reflection subscales

and specific questions all were statically significant. The scope of future research may include

how to measure the learning needs of the newly hired nurses, determining which tools are most

reliable, how and when evaluating whether learning should be measured, and whether self-

reporting is reflective of the new nurses' ability to use clinical judgment as a subjective tool.

Also mentioned in the preceptor interviews was how learning styles fit into the learning needs

of the individual new nurse. Once the learning need is identified, how does the preceptor know

the coaching will meet the nurse's needs? Does coaching, in the format of the 5MP, meet the

needs of all learning styles?

2. What interventions have the greatest effect on clinical judgment?

The new graduates' CTSAT scores reflected a change in their perception in critical thinking, but

there was not a significant difference between the control and intervention preceptor scores.

The preceptors did not see this change. Further evaluation of techniques to develop clinical

judgment in the practice setting needs to be completed. How much preparation does the

preceptor need? Should there be ongoing support and ongoing observation of skills rather than

a onetime check off? What are the key elements that must be included in preceptor education?

The literature shows a gap in the levels of evaluation of preceptor education. Most evaluate

preceptor education based on the first two levels of Kirkpatrick's levels and look at reaction and

learning. A few looked at preceptor's behaviors (level 3), but not enough evaluate the results of

the intervention as it relates to clinical judgment.

3. What is the appropriate tool to measure clinical judgment, both to identify needs and

    assess a competency in the new nurse at completion of orientation?

Are the tools developed to assess the nursing student adequate to evaluate the professional

nurses? When the Lasater was piloted with the preceptors, there were questions regarding

scoring and understanding of the anchors.   Do professional nurses require different anchors,

should the scale include more than 4 levels of performance to increase the sensitivity of the

tool? Is there a guideline or minimum score at the completion of orientation that would

indicate success or lack of success at one year?

4. What can be done with culture to decrease anxiety and provide support?

Both in the preceptor focus group interviews, preceptor journaling in the control and

intervention groups, and in the literature, anxiety and fear were identified as barriers to clinical

judgment. These barriers affected the new grads' ability to use clinical judgment and their

ability to receive coaching at times. The anxiety and fear "paralyzed the new graduate." The

focus interviews also provided a retrospective look back on new grads that had completed

orientation. Preceptors talked of bullying and non-receptive team members that inhibited the

growth of the new grad after orientation. Research that focuses on the culture of the unit and

the feeling of being "overwhelmed" by the complexity of the environment will lead to better

understanding of developing clinical judgment.

5. How do we prepare new grads to receive feedback?

Again, both the preceptor focus group and the preceptor journaling addressed the difficulty of

the new graduate receiving feedback. Exploration into how the new graduate is prepared to

receive feedback may help to prepare the graduate for the practice world. How are faculty

handling conflict and communicating areas that need improvement? Were these new graduates

receiving the appropriate feedback in the academic world? Why is it such an adjustment to

receive feedback by their preceptors? This is an ongoing learning process and should not be

seen as a failure. How can this be turned around?

Future Research Trajectory

The overall objective of all nursing education, whether it is in the academic setting or practice setting, is ultimately safe quality patient care.   All patients have the right to quality care from all practitioners, be it a new graduate or experienced nurse. My passion over the last 10 years has been to pursue how to prepare and support the new graduate nurse in caring for the highly acute patient in a very complex health care system. Upon completing this research, I find I may have answered some questions, but this research experience has opened up a great deal more questions to be answered. I am inspired to continue future research in the following areas:

- ***Evaluate preceptor curriculum developed to improve the new graduate clinical judgment.*** Most of the preceptors in this study had attended some form of preceptor training, but of all who did attend training, only 1 identified he/she had clinical judgment education. The one-hour course on clinical judgment and the 5-minute preceptor in this study was not enough time to have the desired effect. Further research regarding a curriculum directed at preceptors coaching to develop clinical judgment is needed. Also, research on the ongoing effect of support to the preceptor is needed. Would the performance of the preceptor improve if the preceptor had educational resources and support? Collecting supporting data to provide evidence of the value of creating a preceptor certification through AACN would be a future goal.

- ***Development of a tool to specifically measure clinical judgment in the practice setting.***

Research regarding the development and/or refinement of current tools is needed

to appropriately measure and evaluate clinical judgment. New tools could include

algorhythms and suggestions for appropriate coaching interventions, and if sensitive

enough, could serve in some capacity as a predictor,

- *Examine virtual mentoring post-orientation*. The innovations in technology are

  enormous and as virtual capabilities expand, research in this area is emerging.

  Questions related to mentoring and education virtually while on the job need to be

  explored, protocols and guidelines developed, and outcomes measured. With the

  difficulty recruiting in rural CAH and the numbers of new graduate in these areas,

  the concept of a virtual mentor to review patient care, discuss priorities, and plan

  patient care becomes a vital option and will need to be evaluated for effectiveness.

- *Explore a collaborative academic\practice model post-graduation*. There is great

  potential to tap into the resources of the education experts and continue clinical

  judgment development as well as to provide support. I would be interested in

  developing a program with a school of nursing that would provide group mentoring

  sessions to its past graduates. This model would not only be a great recruiting tool,

  but it would also benefit the new nurse, the institutions, and patients. The group

  could be coordinated by a faculty member who was involved with the graduating

  class. This faculty member would provide education expertise and also relational

  support. The group could meet monthly for a year and offer clinical judgment

  education to all graduates. Various modalities could be used: simulation, case

  scenarios, as well as information on how to survive the first year of nursing practice.

  Area agencies would have a consultant who could provide information on current

  struggles or potential gaps in performance that could be woven into the curriculum.

Outcomes such as clinical judgment, social support measures, and first year

retention figures could be collected to determine success and modifications.

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Appendix A: Performance Based Development System Rater Form

<u>CRITICAL THINKING</u>   <u>CLUSTER ASSIGNED:</u>   <u>CHI # 020</u>

TAPE #	CLINICAL PROBLEM	PROBLEM LABEL	PRIORITY INTERVENTION	RATIONALE	ACTIONS
902-2 *URGENT*	(ROSS) Myocardial Infarction	□ A □ U	□ A □ P □ U Data to physician/RN: □ Chest pain □ ↑ P □ Rhythm (PVCs)	□ A □ U □ P	□ <u>Nitroglycerine/Morphine Sulfate</u> □ <u>Cardiac enzymes</u> □ ASA □ Pulse ox/Oxygen □ BP □ Eval antiarrhyth/Heart rhythm
912-4 *URGENT*	(HUNTER) Pneumothorax Secondary to Central Line Insertion	□ A □ U	□ A □ P □ U Data to physician/RN: □ Breath sounds □ ABGs	□ A □ U □ P	□ CXR □ <u>Chest tube</u> □ Oxygen/pulse oximetry □ Do not use central line □ Respiratory assessm □ BP/P
913-2 *URGENT*	(TOWNSEND) Catheter Site Bleed Post-Percutaneous Transluminal Coronary Angioplasty (PTCA)	□ A □ U	□ A □ P □ U Data to physician/RN: □ Bleeding □ Changes in pulses	□ A □ U □ P	□ <u>PTT/PT repeat</u> □ Place flat in bed □ Stop Heparin □ Pressure at site □ Mark hematoma/bleeding □ BP/P/pedal pulses
707-5 *URGENT*	(DENNISON) Arterial Compromise; Peripheral Vascular Disease	□ A □ U	□ A □ P □ U Data to physician/RN: □ Absent left pedal pulse □ Leg color/temp	□ A □ U □ P	□ <u>Diagnostic test</u> □ <u>Anticoagulant therapy</u> □ Bed rest □ Leg pulses □ Leg color/temperature □ Factual response re: "all right?"
707-6 *URGENT*	(HILTON) Hypoglycemic Reaction	□ A □ U	□ A □ P □ U Data to physician: N/A (Inform about TX) LPN: Notify RN.	□ A □ U □ P	□ Quick-acting glucose source □ Follow-up meal/snack □ Blood glucose □ Teaching re: Eating
709-5 *URGENT*	(MYERSON) Hypovolemic Shock; Bleeding	□ A □ U	□ A □ P □ U Data to physician/RN: □ Bleeding □ Δ in BP/P □ NGT drainage	□ A □ U □ P	□ <u>IV fluids/Blood</u> □ <u>H&H/CBC</u> □ <u>Diagnostic test/OR</u> □ BP/P □ Pulse ox/Oxygen □ I&O
712-6 **ACUTE**	(GREEN) Heart Failure related to Mitral Valve Prolapse	□ A □ U	□ A □ P □ U Data to physician/RN: □ Breath sounds □ Respiratory difficulty	□ A □ U □ P	□ <u>Diuretics</u> □ <u>CXR/Echo</u> □ Pulse ox/Oxygen □ Peripheral edema assessment □ BP/P □ I&O
717-1 *URGENT*	(COHN) Oversedation	□ A □ U	□ A □ P □ U Data to physician/RN: □ Ectopy (irreg rhythm) □ ↓ oxygen saturation	□ A □ U □ P	□ <u>Antidote/Evaluate need</u> □ Oxygen/pulse oximetry □ Hold additional pain med □ BP/P/rhythm
710-1	(ABRAMS) Hypokalemia; Cardiac Dysrhythmia; R/O Digoxin Toxicity	□ A □ U	□ A □ P □ U Data to physician/RN: □ ↓ K □ Irreg HR □ ↑T □ Nausea/no appetite	□ A □ U □ P	□ EKG □ <u>Replace K+</u> □ <u>Electrolytes</u> □ Temp □ BP/P/Heart rhythm □ If Dig Toxicity: <u>Digoxin level</u> □ If Dig Toxicity: Hold Digoxin

* Performance Management Services Inc, 2012©

Appendix B: Critical Thinking Self-Assessment Tool*

Use the scale below to rate your current performance level for each skill listed in the table. In the right column provide between one and three supporting examples of times that you performed each skill at the rated level.

5= I perform this skill effectively with every patient.
4= I am generally able to perform this skill but may not do so for every patient.
3= I do not perform this skill as well as I wish I could.
2= I sometime struggle to perform this skill.
1= I often struggle to perform this skill.
*The Nursing Executive Advisory Board 2010

Competency	Skill	Score	Supporting Examples
Problem Recognition	Accurately anticipate changes in patient status		
	Accurately recognize changes in patient status		
	Consistently recognize unsafe practices by self and others		
	Proactively voice concerns about unsafe practices by self and others.		
	Proactively identify unit or hospital-based improvement opportunities'		
Clinical Decision Making	Effectively explore multiple solutions to a given problem		
	Consistently demonstrate understanding of rationale for following (or departing from) established protocols and policies.		
	Consistently demonstrate understanding of potential clinical implications of interventions		
	Proactively ask peers and experts for assistance when needed.		
	Proactively consult further resources (e.g. literature, evidence-based tools, etc.) to improve patient care.		
Prioritization	Appropriately prioritizes the most urgent patients		
	Appropriately sequence care for an individual patient		
	Appropriately sequence indirect care responsibilities across the shift		
	Appropriately delegate responsibilities		
	Consistently demonstrate accountability for delegated responsibilities		
Clinical Implementation	Consistently develop plans of care that reflect the most current evidence-based `practices and protocols		
	Consistently develop plans of care that reflect patient, family and community needs		
	Effectively implement nursing interventions included in plan of care		
	Proactively adjust plan of care according to patient needs, preferences and cultural considerations		
	Clearly communicates plan of care to other team members		
Reflection	Appropriately apply knowledge of past experiences to present situations.		
	Consistently reevaluate assumptions to draw conclusions based on nursing evidence		
	Proactively initiate collegial dialogue around nursing practice		
	Proactively debrief after errors or near misses.		
	Appropriately adjusts own practice based on others feedback		

Appendix C: Lasater Clinical Judgment Rubric (LCJR)

LASATER CLINICAL JUDGMENT RUBRIC
Noticing and Interpreting

Effective NOTICING involves:	Exemplary	Accomplished	Developing	Beginning
Focused Observation	Focuses observation appropriately; regularly observes and monitors a wide variety of objective and subjective data to uncover any useful information	Regularly observes/monitors a variety of data, including both subjective and objective; most useful information is noticed, may miss the most subtle signs	Attempts to monitor a variety of subjective and objective data, but is overwhelmed by the array of data; focuses on the most obvious data, missing some important information	Confused by the clinical situation and the amount/type of data; observation is not organized and important data is missed, and/or assessment errors are made
Recognizing Deviations from Expected Patterns	Recognizes subtle patterns and deviations from expected patterns in data and uses these to guide the assessment	Recognizes most obvious patterns and deviations in data and uses these to continually assess	Identifies obvious patterns and deviations, missing some important information; unsure how to continue the assessment	Focuses on one thing at a time and misses most patterns/deviations from expectations; misses opportunities to refine the assessment
Information Seeking	Assertively seeks information to plan intervention: carefully collects useful subjective data from observing the client and from interacting with the client and family	Actively seeks subjective information about the client's situation from the client and family to support planning interventions; occasionally does not pursue important leads	Makes limited efforts to seek additional information from the client/family; often seems not to know what information to seek and/or pursues unrelated information	Is ineffective in seeking information; relies mostly on objective data; has difficulty interacting with the client and family and fails to collect important subjective data
Effective INTERPRETING involves:	Exemplary	Accomplished	Developing	Beginning
Prioritizing Data	Focuses on the most relevant and important data useful for explaining the client's condition	Generally focuses on the most important data and seeks further relevant information, but also may try to attend to less pertinent data	Makes an effort to prioritize data and focus on the most important, but also attends to less relevant/useful data	Has difficulty focusing and appears not to know which data are most important to the diagnosis; attempts to attend to all available data
Making Sense of Data	Even when facing complex, conflicting or confusing data, is able to (1) note and make sense of patterns in the client's data, (2) compare these with known patterns (from the nursing knowledge base, research, personal experience, and intuition), and (3) develop plans for interventions that can be justified in terms of their likelihood of success	In most situations, interprets the client's data patterns and compares with known patterns to develop an intervention plan and accompanying rationale; the exceptions are rare or complicated cases where it is appropriate to seek the guidance of a specialist or more experienced nurse	In simple or common/familiar situations, is able to compare the client's data patterns with those known and to develop/explain intervention plans; has difficulty, however, with even moderately difficult data/situations that are within the expectations for students, inappropriately requires advice or assistance	Even in simple of familiar/common situations has difficulty interpreting or making sense of data; has trouble distinguishing among competing explanations and appropriate interventions, requiring assistance both in diagnosing the problem and in developing an intervention

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Lasater Clinical Judgment Rubric (LCJR) (Continued)

LASATER CLINICAL JUDGMENT RUBRIC
Responding and Reflecting

Effective RESPONDING involves:	Exemplary	Accomplished	Developing	Beginning
Calm, Confident Manner	Assumes responsibility: delegates team assignments, assess the client and reassures them and their families	Generally displays leadership and confidence, and is able to control/calm most situations; may show stress in particularly difficult or complex situations	Is tentative in the leader's role; reassures clients/families in routine and relatively simple situations, but becomes stressed and disorganized easily	Except in simple and routine situations, is stressed and disorganized, lacks control, making clients and families anxious/less able to cooperate
Clear Communication	Communicates effectively; explains interventions; calms/reassures clients and families; directs and involves team members, explaining and giving directions; checks for understanding	Generally communicates well; explains carefully to clients, gives clear directions to team; could be more effective in establishing rapport	Shows some communication ability (e.g., giving directions); communication with clients/families/team members is only partly successful; displays caring but not competence	Has difficulty communicating; explanations are confusing, directions are unclear or contradictory, and clients/families are made confused/anxious, not reassured
Well-Planned Intervention/Flexibility	Interventions are tailored for the individual client; monitors client progress closely and is able to adjust treatment as indicated by the client response	Develops interventions based on relevant patient data; monitors progress regularly but does not expect to have to change treatments	Develops interventions based on the most obvious data; monitors progress, but is unable to make adjustments based on the patient response	Focuses on developing a single intervention addressing a likely solution, but it may be vague, confusing, and/or incomplete; some monitoring may occur
Being Skillful	Shows mastery of necessary nursing skills	Displays proficiency in the use of most nursing skills; could improve speed or accuracy	Is hesitant or ineffective in utilizing nursing skills	Is unable to select and/or perform the nursing skills
Effective REFLECTING involves:	Exemplary	Accomplished	Developing	Beginning
Evaluation/Self-Analysis	Independently evaluates/ analyzes personal clinical performance, noting decision points, elaborating alternatives and accurately evaluating choices against alternatives	Evaluates/analyzes personal clinical performance with minimal prompting, primarily major events/decisions; key decision points are identified and alternatives are considered	Even when prompted, briefly verbalizes the most obvious evaluations; has difficulty imagining alternative choices; is self-protective in evaluating personal choices	Even prompted evaluations are brief, cursory, and not used to improve performance; justifies personal decisions/choices without evaluating them
Commitment to Improvement	Demonstrates commitment to ongoing improvement: reflects on and critically evaluates nursing experiences; accurately identifies strengths/weaknesses and develops specific plans to eliminate weaknesses	Demonstrates a desire to improve nursing performance: reflects on and evaluates experiences; identifies strengths/weaknesses; could be more systematic in evaluating weaknesses	Demonstrates awareness of the need for ongoing improvement and makes some effort to learn from experience and improve performance but tends to state the obvious, and needs external evaluation	Appears uninterested in improving performance or unable to do so; rarely reflects; is uncritical of him/herself, or overly critical (given level of development); is unable to see flaws or need for improvement

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Each square is worth one point.

Noticing ___ + ___ + ___ = ___

Interpreting ___ + ___ = ___

Responding ___ + ___ + ___ + ___ = ___

Reflecting ___ + ___ = ___   Total ___

Appendix D: Weekly Preceptor Coaching Assessment

Please give an example of one clinical judgment coaching technique you used this week?

What was the observed outcome?

What did you expereince this week that improved your opportunity for coaching?

Did you experience any barriers in coaching this week?

Aproximately how many minutes did you spend coaching this week? _____

Was the majority of the time spent coaching integrated into care or did it take longer to orient

this new graduate because of coaching?

If coaching added to your day, how much time did coaching add to your day?

Do you feel adequately equipped to develop clinical judgment in the graduate nurse?

(Please circle the appropriate number on the continuum).

          1   2   3   4   5   6   7   8   9   10

Appendix E: PCI Educational Module Content

Learner Objective	Content	Time Frame
Demonstrate how to assess and document clinical judgment on the LCJR	Explain four components of the model: Noticing, Interperting, Responding, Reflecting Review expectaion for each of the 4 levels of performance: Exemplary, Accomplished, Developing, Beginning Provide scenarios with examples of scoring.	10
Discuss the impact of clinical judgment	Patient Outcomes The importance of coaching Approaching the topic with care (tone, bullying, emotinonal repsonses)	10
	Provide overview of experential learning cycle • Transformation of experience • Allow the nurse to learn through the process of thinking	20
Implement the Five Minute Preceptor Model (Bott, Mohide, & Lawlor, 2011) (Kertis, 2007) (Price, 2013)	Describe and demonstrate the Five Steps • Have the nurse take a stand • Probe for supporting evidence • Teach general rules (usually a maximum of three things), the most important pearls, (the concept of clustering as an education tool will be presented) • Reinforcing the positives, strengths, and competencies • Correcting errors and misinterpretations Review Pocket Card with Model and questions Demonstrate Five Minute Preceptor	
Utilize questioning technique based on Tanner's Model (Performance Management Services Inc, 2012)	Provide overview of specific questions that can be utilized with the Five Minute Preceptor based on • noticing • interpretation • responding • reflecting Provide Handout with questioning examples.	10 10

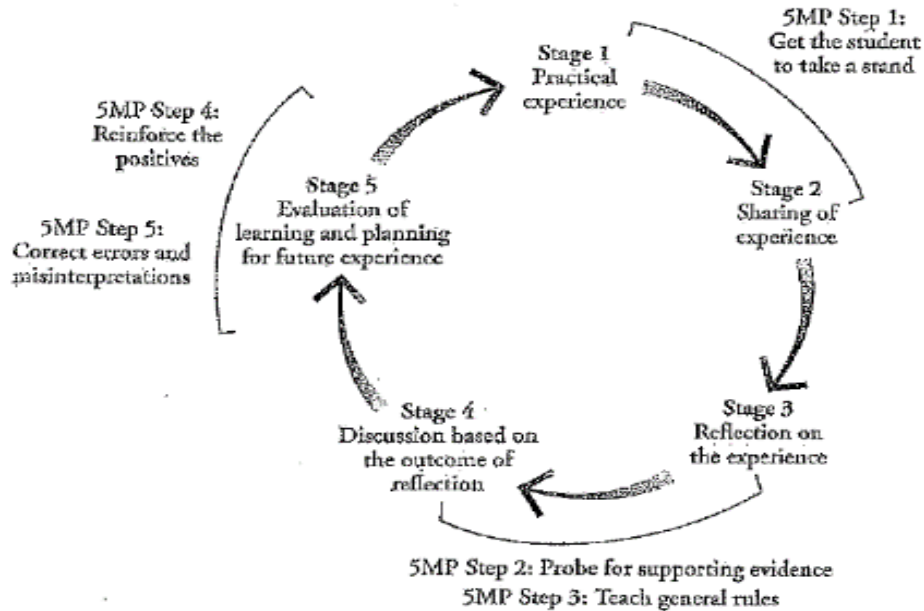| Modic (2013a, 2013b, 2014a, 2014b, 2014c) Implement the Five Minute Preceptor	Videotape scenarios of common patients with nurses with learning needs concerning noticing, interpreting, responding, and reflecting.	

Appendix F: Preceptor Observation Assessment

Preceptor Observation Assessment			
Preceptor_____ Date _____			
Behavior	Observation successfully demonstrated	Needs further evaluation	Comments on behavior and/or Preceptor coached
Demonstrates positive non-threatening approach			
Good eye contact			
Non-threatening demeanor			
Friendly voice			
Appropriate body language			
Appropriate facial expression			
Demonstrate the Five Minute Preceptor technique			
Have the nurse take a stand			
Probe for supporting evidence			
Teach general rules (usually a maximum of three things, the most important pearls), the concept of clustering as an educaiton tool will be presented)			
Reinforce the positives, strengths, and competencies			
Correct errors and misinterpretations			
Demonstrate questions that would be appropriate for the new graduate nurse,			

Field Notes:

Appendix G: 5-Minute Preceptor Model

Front Page

5MP Step 1: Get the student to take a stand

Stage 1 Practical experience

Stage 2 Sharing of experience

5MP Step 4: Reinforce the positives

Stage 5 Evaluation of learning and planning for future experience

5MP Step 5: Correct errors and misinterpretations

Stage 4 Discussion based on the outcome of reflection

Stage 3 Reflection on the experience

5MP Step 2: Probe for supporting evidence
5MP Step 3: Teach general rules

Tanner's Model for Questioning

Back Page

Noticing: Tell me what you notice that is abnormal on Mr. or Ms. X when you do your assessment? What abnormal signs and symptoms do you notice?
Specifics:

Interpreting: Can you tell me what the clinical problem is based on his/her signs and symptoms? Do you think the patient has XXXXXX?
Specifics:

Responding: What can we do to manage/treat this problem? Given what's going on now with the patient what's the most important thing to do now?
Specifics

Reflecting: How would you know that what you are doing is successful or not? What else might be going on here? Why is this not working as it should?
Specifics

Appendix H: PCI Handout

Five-Minute Preceptor

     Refer to Cue Card for Review of procedure

Noticing learning Need

    Observation of nurse (clinical behaviors)

Before seeing the patient:

- Tell me briefly about the patient(s) you've been assigned?
- Who will you check on first?
- What will you want to be sure to include in assessment of the patient?
- How will you know if the patient is getting better or getting worse?
- What if you find...?
- What will you do...?

During patient rounds:

- What did you notice about Mr. or Ms. X?
- Is this a cause of concern?
- What do you think it means?
- So you've identified several possible explanations for these signs and symptoms?
- Can you think of others?
- What assessment do you need to make to determine which of these explanations is most likely?

Actions:

To develop contextual knowledge, ask questions pertaining to patient population and care environment, such as safety practices.

Assign assessment of multiple patients with similar diagnosis to compare and contrast.

Role model early on seeing patient for the first time together such as in room hand-off. Continually refer back to first assessment to compare and contrast status.

Interperting learning need

    Observation of nurse (clinical behaviors)

Call for differential interpretation

- Why Congestive heart Failure?
- Why not...?
- Why would ....look like that?
- How would ....look different from...?
- How would that be different from ...?
- What if you also found...?
- What would you think then?

- Where would you go, or whom would you talk with to learn more?
- Now, what if this happened?
- What would you think, what information would you want, and what would you do?
- But what if the patient also had…?

Actions

- Call out similar and dissimilar patterns
- Case based learning: created, simulated, or real life review

Responding learning need
- Observation of nurse (clinical behaviors)
- Given what's going on now with the patient, what's the most important thing to do now?
- Can the other patients wait until you are done with Mr. …?
- Is there anyone you can delegate work to in order to stay on track with your patients?
- Now that things are settling down here, what's your next most important concern?
- Let's reconsider what's going on with the rest of your patients and reset your priorities for the next hour.
- What might you anticipate the patient's response is?
- What if…?
- How would you know that what you are doing is successful or not?

Actions

- Do walk through of clinical equipment.
- Determine a signal that the preceptor will use if they need to step in.
- Assist with clustering work.
- Call attention to unit processes.
- Debrief a skill (question action, response, and contribution to progress)

Reflecting Learning Needs

- Observation of nurse (clinical behaviors)
- Ask and encourage the new nurse to ask these questions to themselves.
- Do I/you have enough information?
- Something doesn't feel right, is something else going on?
- What else might be going on here?
- Why is this not working as it should?

Action
- Role model reflection
- Critical event debriefing
- Clinical narratives

Appendix I: New Graduate Nurse Demographic Tool

Subject Number_____

Education Level

     Associate Degree   ☐   Bachelor's Science Nursing   ☐

Gender

     Male   ☐   Female   ☐

Age   _____

Have you worked in health care previously?

If so in what role and where?

Appendix J: Preceptor Demographic Tool

New Graduate Nurse Subject Number _____

Preceptor ID Number_____

Please Circle the apporpriate answer.

Education Level

AD   Diploma   BSN   MSN   Other Degree_____

Gender Male   Female

Age: _____

How many years have you worked as an RN?_____

How many years have you worked at this institution? _____

How many years have you been a preceptor? _____

How many nurses do you oreint in a one year time frame?_____

Have you had specific training on the development of Clinical judgment for new graduates in the past? Yes   No

Indicate which of the following types of preceptor training you have had previous to this study.
Full day Conference   How long ago? _____
Inservice   How long ago? _____
On line Module   How long ago? _____
Quarterly Education   How long ago? _____
DEU Education   How long ago? _____

Appendix K: Crosswalk for Tanner's Model Subconcepts

Tanner's Model		Performance Based Development System	Lasater Clinical Judgment Rubric	Critical Thinking Self-Assessment Tool
Noticing	Context, Background, Relationship, Expectations, Initial Grasp	Clinical Judgment: Recognition of essential clinical data or actual problem Identify essential clinical data indicative of an acute change in patients' health status.	Focused Observation	Accurately anticipate changes in patient status
				Accurately recognize changes in patient status
			Recognizing Deviations from Expected Patterns	Consistently recognize unsafe practices by self and others
			Information Seeking	Proactively voice concerns about unsafe practices by self and others
				Proactively identify unit or hospital-based improvement opportunities
Interpreting	Reasoning Patterns: Analytic, Intuitive, Narrative Reflection in Action	Differentiation of Problems needing immediate intervention Differentiate between problems needing immediate or subsequent action	Prioritizing Data	Appropriately prioritizes the most urgent patients
				Appropriately sequence care for an individual patient
				Appropriately sequence indirect care responsibilities across the shift
			Making sense of Data	Appropriately delegate responsibilities
				Consistently demonstrate accountability for delegated responsibilities
				Effectively explore multiple solutions to a given problem
				Consistently demonstrate understanding of rationale for following (or departing from) established protocols and policies
				Consistently demonstrate understanding of potential clinical implications of interventions
				Proactively ask peers and experts for assistance when needed
				Proactively consult further resources (e.g. literature, evidence-based tools, etc.) to improve patient care
Responding	Action Outcomes	Clinical Judgment: Management of Problems Initiate independent and collaborative actions to correct or minimize risks to patient's health	Calm Confident Manner	Consistently develop plans of care that reflect the most current evidence-based practices and protocols
			Clear Communication	Consistently develop plans of care that reflect patient, family and community needs
			Well-Planned Intervention/Flexibility	Effectively implement nursing interventions included in plan of care
			Being Skillful	Proactively adjust plan of care according to patient needs, preferences and cultural considerations
				Clearly communicates plan of care to other team members
Reflecting	Reflection on Action and Clinical Learning	Rationales Know why these actions are relevant	Evaluation. Self-Analysis	Appropriately apply knowledge of past experiences to present situations
				Consistently reevaluate assumptions to draw conclusions based on nursing evidence
				Proactively initiate collegial dialogue around nursing practice
				Proactively debrief after errors or near misses.

			Appropriately adjusts own practice based on others feedback
		Commitment to Improvement	