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## **An eLearning Module to Prepare Clinical Nurse Faculty to Foster Clinical Judgment: A Quality Improvement Project**

Erin Melissa Armstrong  
*St. Catherine University*

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**An eLearning Module to Prepare Clinical Nurse Faculty to Foster Clinical Judgment: A Quality Improvement Project**

DNP Project  
Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Nursing Practice

St. Catherine University  
St. Paul, Minnesota

Erin Melissa Armstrong


May 2023

ST. CATHERINE UNIVERSITY  
ST. PAUL, MINNESOTA

This is to certify that I have examined this  
Doctor of Nursing Practice DNP project scholarly paper  
written by

*Erin Melissa Armstrong*

and have found that it is complete and satisfactory in all respects.



PhD, RN, PHN, CNE

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4/17/2023

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Date

DEPARTMENT OF NURSING

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## Abstract

**Background and Problem:** Many nursing students graduate with poorly developed clinical judgment skills placing patients at risk for poor outcomes. Nurse faculty can address this problem but are often unprepared. Research shows that faculty development focused on high-level teaching strategies supported by Tanner's Clinical Judgment Model can prepare faculty to foster students' clinical judgment skills in the clinical setting. Clinical faculty must be better prepared to develop students' cognitive processes to prepare practice-ready nurses.

**Purpose:** This quality improvement project seeks to design and implement an eLearning module for clinical nurse faculty to (1) increase faculty's self-efficacy in fostering clinical judgment in the clinical setting; (2) change faculty behavior to implement clinical judgment teaching strategies into their practice; and (3) understand the module's effectiveness in meeting faculty learning needs.

**Methods:** Participants included part-time and full-time faculty teaching clinical at an urban associate degree nursing program. A pretest-posttest design was used to evaluate faculty self-efficacy. A post-survey and 13-week follow-up survey were used to evaluate course effectiveness in meeting faculty needs and self-reported implementation of clinical judgment strategies.

**Intervention:** A 1.5-hour highly interactive, engaging eLearning faculty development module provided content on high-level teaching strategies supported by Tanner's Clinical Judgment Model.

**Results:** Overall, mean self-efficacy increased, but not statistically significant. All participants found this course to be beneficial. Five out of seven participants implemented clinical judgment teaching strategies in their courses. Qualitative data indicated that the module provided guidance and tools to foster clinical judgment and helped to develop a robust post-conference.

**Conclusion:** This project shows that an eLearning module that integrates high-level teaching strategies supported by Tanner's Clinical Judgment Model can change faculty behavior. When faculty are more prepared to promote high-level learning, this has the potential to strengthen students' clinical judgment skills and, therefore, improve patient safety.

**Keywords:** Clinical judgment, eLearning module, faculty development, clinical nurse faculty, teaching strategies

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## **An eLearning Module to Prepare Clinical Nurse Faculty to Foster Clinical Judgment: A Quality Improvement Project**

Many nursing students graduate with poorly developed clinical judgment skills. Only 10% of nurse managers believe new graduates are prepared for practice, with a mere 23% meeting clinical judgment competencies (Lee, 2021). This deficit leads to poor patient outcomes, with nearly 50% of novice nurses involved in patient errors, and 65% of these errors are related to poor clinical decision-making (National Council of State Boards of Nursing, 2021). Nurse faculty teaching clinical can address this practice gap. However, many faculty themselves are often unprepared, leading to faculty using lower-level learning methods such as task completion rather than encouraging deeper thinking that allows students to reason through complex patient situations (Jessee & Tanner, 2016). When faculty are unprepared to develop and evaluate higher-level thinking, students are unlikely to develop the necessary clinical judgment skills to be safe, competent nurses (Gonzalez et al., 2021). Therefore, the identified need is to increase the faculty's ability to promote clinical judgment among undergraduate nursing students in the clinical setting.

### **Clinical Judgment**

Critical thinking, clinical reasoning, and clinical judgment are often used interchangeably in nursing; however, clinical judgment requires noticing important aspects in undefined clinical situations, interpreting their meaning, responding appropriately, and evaluating patient responses (Tanner, 2006). Critical thinking requires skillful thinking to interpret, analyze, evaluate, infer, and explain, which can be used to formulate clinical judgments. Clinical reasoning is the process nurses use to make judgments in managing patient care. Clinical judgment is defined as “an interpretation or conclusion about a patient's needs, concerns, or health problems, and/or the decision to take action (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient's response” (Tanner, 2006, p.

204). Clinical judgment is a complex process that integrates both critical thinking and clinical reasoning cognitive processes to lead to decisions on patient care.

### **Practice Problem**

New graduates must possess strong clinical judgment skills to provide safe, competent care for today's increasingly complicated patients (Gonzalez et al., 2021). Students must have intentional clinical experiences to apply their theoretical knowledge to a situation to begin to develop this skill (Lee, 2021). When clinical faculty are prepared for their role as educators, they can help build students' cognitive processes in clinical judgment to prepare practice-ready nurses. However, many faculty are unprepared to teach and evaluate students' clinical judgment within the clinical setting (Gonzalez et al., 2021). Often, nurses transition from clinical practice to nursing academia without substantial training in pedagogical methods, and robust faculty development is lacking to support these new faculty (Spector et al., 2020; Ross & Silver Dunker, 2019). This holds true at a local urban undergraduate associate degree nursing program, with many faculty verbalizing a lack of support in faculty development. The lack of support and training leaves faculty without the necessary knowledge and ability to promote higher-level thinking in the clinical setting resulting in students with poorly developed clinical judgment (Ross & Silver Dunker, 2019).

The deans and faculty at this urban undergraduate associate degree nursing program in Minnesota have recognized the importance of addressing this student preparation gap; however, they have been unsuccessful in preparing new graduates for practice. In 2022, the University's National Council Licensure Examination (NCLEX) pass rate goal was 80%; however, the program only achieved a pass rate of 65.32%. Numerous nursing faculty at this school have also verbalized that many nursing students at the end of the nursing program lack the necessary clinical judgment to care for patients safely. For example, this author noted that a final quarter nursing student failed to recognize that a blood pressure of 180s over 90s was an abnormal finding and required intervention during clinical.

Many students at this institution are unprepared to care for today's complex patients placing patients at risk for poor outcomes, which could be influenced by nurse faculty unpreparedness in fostering clinical judgment; therefore, this phenomenon should be evaluated.

## **Background**

The literature shows faculty development can support the nurse educator to be effective in fostering student learning (Fura & Symanski, 2014; Mann & De Gange, 2017; Phillips et al., 2019; Ross & Silver Dunker, 2019; Silver Dunker & Manning, 2018; Summers, 2017; Weston, 2018). Interactive and engaging educational increase faculty competency and self-efficacy (Phillips et al., 2019; Ross & Silver Dunker, 2019; Silver Dunker & Manning, 2018; Weston, 2018). The literature also shows high-level learning activities (debriefing, concept-based learning activities, reflection activities, and open-ended questions) supported by Tanner's Clinical Judgment Model (CJM) improved student's clinical judgment (Alfayoumi, 2019; Brown Tyo & McCurry, 2018; Gonzalez et al., 2021; Harvey, 2015; Hensel & Billings, 2020; Hines & Wood, 2016; Nielson, 2016; Smith, 2021). Therefore, implementing a faculty development educational session that is highly engaging, integrates Tanner's CJM, and includes high-level learning activities can increase clinical nurse faculty self-efficacy and ability to teach clinical judgment, which may strengthen students' clinical judgment skills. See Appendix A for the literature matrix.

## **Conceptual Framework**

Tanner's clinical judgment model was used to guide this project because it explains the clinical judgment process of the experienced nurse (Tanner, 2006). The Model includes four aspects, noticing (initial grasp), interpreting (understanding the situation), responding (necessary interventions or no intervention), and reflecting (evaluating the patient's response; Appendix B). The nurse educator can use this Model to compare students' thought processes to those of the experienced nurse to identify breakdowns and areas of opportunity. When the educator and student clearly understand how nurses

think, they can work together to identify gaps in the student's thinking and work towards improving their clinical judgment.

### **Purpose**

This quality improvement project seeks to understand the following:

1. Do clinical nurse educators who participate in an eLearning module designed to improve faculty's ability to teach nursing students' clinical judgment in the clinical setting report improved self-efficacy to foster clinical judgment?
2. Do clinical nurse faculty persist in using learned teaching strategies to promote clinical judgment over time?
3. Do faculty find this course beneficial and effective in preparing them to teach clinical judgment, including aspects of the module that could be improved to meet faculty needs?

### **Methods**

#### **Context**

This project was implemented at an urban undergraduate associate degree nursing (ADN) program in Minnesota. The university has both full-time and part-time faculty. This university graduates about 100 ADN students annually, and the faculty census varies according to student enrollment.

#### **Intervention**

An interactive eLearning module was designed to deepen learning and increase the confidence of the nurse educator in fostering clinical judgment in the clinical setting. This project used EdApp, a learning management system, to deliver the content in a flexible, asynchronous setting for self-guided learning. The platform allowed for an interactive learning experience. For example, practice questions were integrated throughout the course to engage users (see Figure 1). Lessons included practice challenges encouraging users to apply learned concepts to real-life clinical situations and deepen learning (see Figure 2). The module moves past the lower levels of knowledge, such as remembering,

and encourages higher levels of learning by requiring users to apply, evaluate, and create during practice challenges to deepen understanding and increase self-efficacy (Billings & Halstead, 2012; Phillips et al., 2019).

**Figure 1**

*Practice Question Example from eLearning Module: Conclusion Section*

What is the most effective teaching strategy to foster clinical judgment in the clinical setting?

- Debriefing
- Guided-reflective writing
- Higher-order questioning
- Exemplifying the concept
- Clinical judgment cards
- Any of these methods when using Tanner's Clinical Judgment Model as a guide


SELECT THE CORRECT ANSWER

**Figure 2**

*Practice Challenge Example from eLearning Module: Higher-Order Questioning Section*

## Practice Challenge 2

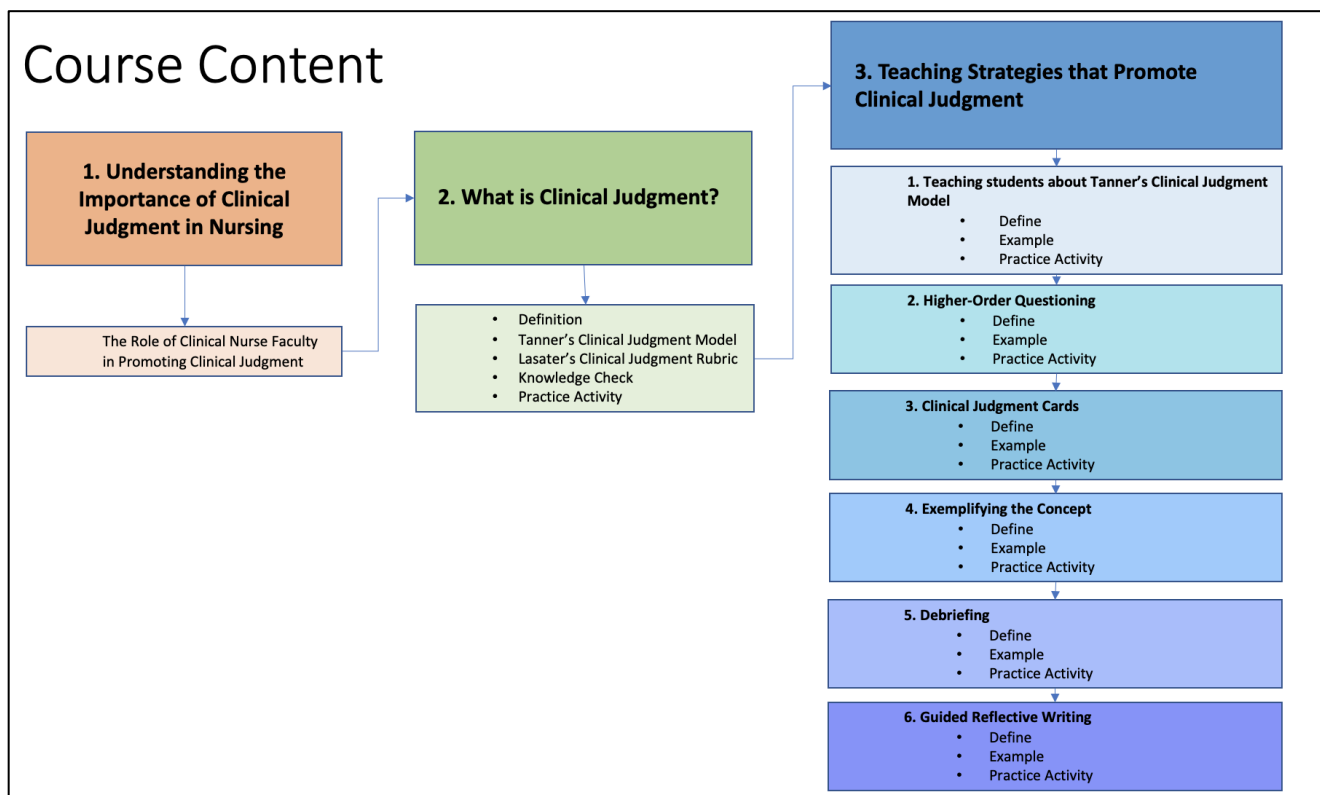
You just finished observing your student assess a patient. The patient with congestive heart failure had clear findings of fluid volume excess, such as weight gain of 3 pounds in the past day, shortness of breath with activity and rest, crackles in the lungs, and +4 edema in the legs. How will you use higher-order questioning to stimulate deeper thinking?



The sequencing of the learning module allowed users to progress from understanding clinical judgment concepts to a deeper knowledge of how to implement clinical judgment teaching strategies into practice. For example, the initial lessons began with defining clinical judgment and Tanner's CJM. Then it progressed to how to implement learning activities supported by Tanner's CJM in the clinical setting (see Figure 3). Each module also included knowledge checks and practice activities, so learners were required to apply knowledge to practice. This progression and use of application allowed users to build on their knowledge throughout the module and deepen learning (Billings & Halstead, 2012).

**Figure 4**

*Course Content Outline: Introduction Section*



Throughout the learning module, users were provided relevant, rich feedback following practice challenges (see Figure 4). Providing this feedback allowed users to compare their responses to potential responses to foster insight and investigate their teaching practices (Phillips et al., 2019). Overall,

detailed feedback helps users gain a deeper understanding of concepts and consider how they might implement them in their practice.

**Figure 4**

*Detailed Practice Challenge Feedback Example: Guided-Reflective Writing Section*

Student Example Work	
<p><b>Noticing:</b> Describe what you noticed about your patient immediately. Describe what you noticed as you spent more time with the patient and possibly their family.</p>	<p>My patient had mild cognitive deficits. As I spoke to him further, I noticed he needed extra cares. Perhaps he doesn't call when he wants help getting up to the bathroom due to his cognitive deficit. He wanted his hands washed, dental care, and peri care.</p>
<p><b>Interpreting:</b> What did your observations during the clinical experience lead you to believe about your patients? What was the priority of care? What additional information was needed to provide patient care? What resources supported your interpretation?</p>	<p>His priority of care was his left leg pain of 7/10.</p>
<p><b>Responding:</b> After consideration of your clinical experience, what were the goals for your patient? What interventions did you complete during the clinical experience to support these goals? How did you support therapeutic communication with your client?</p>	<p>Goal was to reduce pain. His nurse reassessed pain to offer an as needed pain medication. I made sure to listen to the patient and clarify.</p>
<p><b>Reflection:</b> How do you know your interventions were effective? What are other possibilities for supporting this patient? In what ways did Noticing, Interpreting, Responding, and Reflecting help improve your patient care?</p>	<p>Spending time clarifying what the patient says. Also, the CNA care plan should be checked to know how often to toilet the patient.</p>

**Detailed Feedback Provided to User:  
Potential Instructor Response for Students**

Remember, each of these sections should flow. I **noticed** that my 75-year-old patient was A&Ox2 (person and place) with a history of dementia. He frequently gets out of bed on his own to use the restroom and is incontinent. His gait is unsteady, with him grabbing the walls and furniture when walking to the bathroom. He had a fall two weeks ago without injury. He takes medication that places him at risk for falling, including metoprolol 25mg BID. Based on these findings, my **interpretation** is my patient is at a high risk of falls. Since my patient is impulsive, unaware of his limitations, and weak, I am very concerned he could fall again and cause injury. The resources that supported my interpretation included my personal observations and chart findings. My **response** included implementing a fall risk care plan. Since frequently using the bathroom is the main reason this patient gets out of bed, I implemented a toileting schedule of q2h. I also minimized his time alone in his room and had him participate in group activities during the day. I informed my client that he was at risk of falling and encouraged him to call before using the restroom. I also placed signs in his room to remind him to call. **Reflection** – my patient was free of falls today, so my plan of care worked today. I could have consulted with PT to discuss a balance and strengthening program for this patient since he is weak and unsteady. This process helped me understand my assessment findings and what was my greatest concern based on my observations and chart findings.

For your next clinical experience, please choose a patient where the fall risk **is not** the priority to work through this process.

This course was designed to be flexible for users and integrate various learning styles for diverse learners. For example, the module included 11 lessons estimated to take between two to fifteen minutes, which allowed users to progress through the module at their own pace. All lessons accommodated varied learner preferences by using text and audio narration for slide content, and users interacted with the slides to progress through the module. Lastly, this course provided a downloadable resource for faculty, including all the evidence-based learning activities presented in the module for future reference and use (See Appendix C).

### **Teams Involved in Intervention**

The Doctor of Nursing Practice (DNP) student must collaborate with a team because team members play important roles in assisting with project development, implementation, and evaluation (Moran, 2020). For example, the student collaborated with two school mentors on this project. These PhD-prepared faculty provided crucial knowledge and expertise, such as guidance on project design. The student's school mentor also assessed the content validity of the module and guided the student on statistical analysis. The site mentor was an essential resource for the implementation phase. They provided important knowledge on the organization's culture to help strategize effective methods to encourage faculty participation in the project. Lastly, the author worked with nurse faculty peers to evaluate assessment tool content validity. This collaboration was important to help implement the change initiative.

### **Study of Interventions**

A pretest-posttest design was used to assess the impact of the eLearning module on clinical faculty's self-efficacy in teaching clinical judgment. Self-efficacy was measured before and following faculty participation in the training. Then, a 13-week follow-up survey was used to examine faculty's self-reported behaviors of implementing clinical judgment teaching strategies into their practice and how the eLearning module influenced this. Open-ended questions were integrated into the post-survey and the 13-week follow-up survey to gather rich qualitative data on faculty perceptions of module effectiveness related to their learning needs.

### **Measures**

Various methods were used to assess the outcome and process measures of the eLearning module. Data was collected anonymously using an electronic pre-survey and post-survey embedded in the eLearning module. Participation in the surveys and learning module was voluntary. A feature within EdApp was selected, which required participants to complete the pre-survey and the learning content



before accessing the post-survey to ensure data completeness. The pre-and post-surveys included a modified Self-efficacy Toward Teaching Inventory (SETTI) tool and questions guided by Kirkpatrick's Four Levels of Training Evaluation Model. An electronic 13-week follow-up post-survey was implemented for further data collection to evaluate the effect of time on outcomes.

### ***SETTI***

Self-efficacy was measured using a modified Self-efficacy Toward Teaching Inventory (SETTI). The SETTI tool was selected to assess the effectiveness of the intervention because this tool was developed to measure overall feelings of self-efficacy and efficacy for teaching strategies, specifically for clinical teaching (Weston, 2018). This tool uses a 4-item Likert-like scale to evaluate faculty self-efficacy. It aligns with this quality improvement project that seeks to increase new faculty's self-efficacy in teaching clinical judgment in the clinical setting. The tool was modified to ensure the questions were relevant to this project (see Appendix D).

Three expert nurse educators evaluated this adapted tool to ensure content validity. Cronbach's alpha showed high internal consistency reliability for the modified pre-SETTI tool (0.866) and the post-SETTI tool (0.987). This tool appeared to be effective for measuring this sample's self-efficacy in teaching strategies, including clinical judgment strategies in the clinical setting following the eLearning module.

Self-efficacy is a component of Bandura's Social Cognitive Theory, and this theory discusses how self-efficacy is influenced by personal, environmental, and behavioral factors (Bandura, 1977a, 1977b, 1978). Personal factors include knowledge and attitudes. Environmental factors include the influence of others and social norms. Behavioral factors include skills and practice. Based on this model, knowledge and attitudes inform self-efficacy beliefs, which influence their behavior within their environmental context. Therefore, measuring self-efficacy will determine whether faculty believe they have developed the necessary knowledge and skills to implement clinical judgment teaching strategies in their clinical

courses successfully. When clinical faculty have increased self-efficacy, this can translate to improved teaching performance and confidence in relation to promoting clinical judgment.

### ***Kirkpatrick Model***

The Kirkpatrick Model guided the development of post-survey questions for this project because this model is easy to use and effective in evaluating professional development effectiveness (Kirkpatrick & Kirkpatrick, 2005). The four levels of this model include:

1. Reaction – whether participants find the training favorable and relevant to their job.
2. Learning – whether participants attain the intended knowledge, skills, attitude, and confidence based on the training.
3. Behavior – whether participants apply what they learned from the training.
4. Results – the outcomes that occur because of the training.

The first three levels of Kirkpatrick's model informed decision-making on post-survey question development. For example, faculty rated their satisfaction with the eLearning module and relevancy of content and their attained self-efficacy following module participation in alignment with Kirkpatrick's Model, levels 1 (reaction) and 2 (learning), respectively. Thirteen weeks after completion of the eLearning module, open-and close-ended questions were used to understand whether faculty changed their teaching following this interactive eLearning module, in alignment with Kirkpatrick's Mode, levels 3 (behavior; see Appendix E).

Lastly, the post-survey included open-ended questions to gather rich feedback from faculty on what aspects of the eLearning module best supported them in teaching clinical judgment and what elements they felt would have better supported their learning. These help with the ongoing assessment of the project to measure the effects over time and ensure data completeness. Since this project was implemented during the organization's professional development week and the mobile application was free for users to access the eLearning module, no costs were incurred.

## **Analysis**

The Mann-Whitney U test was used to evaluate differences in mean pre-test and post-test scores. A non-parametric statistical test was chosen because the data distribution did not follow a normal curve. The 13-week follow-up post-survey was used to gain a deeper understanding of the impact of this module on faculty teaching over time. This design of pre-and post-test with 13-week follow-up was used based on Kirkpatrick's Four Levels of Evaluation Model, which recommends using a pre-and post-test design to understand level 2, learning, and a follow-up survey after training to accurately evaluate behavior changes (Kirkpatrick & Kirkpatrick, 2005).

Qualitative data obtained from the surveys' open-ended questions was analyzed using word repetition to identify themes because this method is easy to use and clarifies what participants find important (Ryan & Bernard, 2005). All data from the post-survey and 13-week post-survey was compiled and then examined for frequently used words, including synonyms, to identify the themes.

## **Setting and Sample**

### **Data Collection and Handling**

Participation in the surveys and eLearning module was voluntary. The author presented this project to all faculty teaching clinical via a faculty meeting, email, and an accreditation summit, which included information on the surveys and eLearning module. The author informed the faculty that participation in the project and surveys was voluntary. Informed consent was embedded within pre- and post-surveys to inform participants that participation was voluntary. All survey data was anonymous.

### **Ethical Considerations**

This project was submitted to St. Catherine University's Institutional Review Board (IRB). It was approved as an exempt study. Each participant was offered the opportunity to give consent before taking the survey through insertion of informed consent statements in the eLearning module explaining the purpose of the study. Participants were also informed that participation was voluntary, did not

impact relationships with the project team, the site, or St. Catherine University, and they could choose to stop at any time. Consent was implied if the participant proceeded with the survey and submitted the responses.

### **Sample**

Study participants were selected from a convenience sample of all nurse faculty teaching clinical at an urban undergraduate associate degree nursing program in Minnesota. Participants were recruited at a faculty meeting, via email, and at an accreditation summit. Criteria for study participation included all faculty at the site teaching clinical, including part-time and full-time. Of the seven participants, the following specialties were represented by the group intensive care unit (14.3%), progressive care unit (14.3%), obstetrics (28.5%), emergency room (14.3%), medical surgical (14.3%), and mental health (14.3%). The participants reported the following levels of education: six with a Master of Science in Nursing and one with a Bachelor of Science in Nursing. Of those with an advanced degree, five had an emphasis in nursing education and one in nursing leadership. The participants' nursing experience ranged from two to 22 years, with a mean of 12 years. Four participants had less than three years of teaching experience, and three participants had three or more years of teaching experience. All participants had mentoring experience.

### **Timeline of Implementation**

The timeline and population were extended due to various factors, such as the faculty's desire to participate and a lack of project participation. The original sample population included novice nurse faculty, those with less than three years of teaching experience. However, numerous experienced nurse faculty expressed a desire to take the eLearning module during a faculty meeting, so the DNP student submitted an IRB addendum to include all nurse educators teaching clinical in this project. There were also low participation rates during the professional development week, so faculty participation was extended from September 19 – 25<sup>th</sup>, 2022, to October 24<sup>th</sup>, 2022. These adjustments were made to

increase the sample size and provide equal opportunity to all nurse faculty at the practice site. See Appendix F for timeline details.

## Results

### Outcome Measure Analysis

The process and outcome measures used to evaluate the effectiveness of this study were:

1. Outcome Measure One – 70% of new nurse faculty participants will have increased self-efficacy in integrating clinical judgment teaching strategies in the clinical setting by October 2022.
  - a. Process Measure One – 100% of participants will complete the self-efficacy pre-survey before taking the eLearning module by October 2022.
  - b. Process Measure Two – 70% of new faculty will participate in the eLearning module by October 2022.
  - c. Process Measure Three – 100% of participants will complete the post-survey, including a self-efficacy assessment tool, by October 2022.
2. Outcome Measure Two – 80% of new faculty participants feel the course was beneficial by October 2022.
  - a. Process Measure Four – 100% of participants will complete the post-survey, which includes a course effectiveness questionnaire, by October 2022.
3. Outcome Measure Three - 80% of new faculty participants will integrate evidence-based teaching strategies that foster clinical judgment in the clinical setting by December 2022.
  - a. Process Measure Five – 100% of participants complete the 13-week follow-up post-survey that evaluates whether faculty integrate clinical judgment teaching strategies by December 2022.

This section examines whether these measures were met. First, Outcome Measure One was unable to be fully evaluated due to anonymous data collection; however, the mean pre-SETTI score and

the post-SETTI scores were compared ( $\frac{\text{SETTI score before}}{\text{SETTI score after}} = x$   $28.29/34.57 = 0.82$ ) resulting in  $x = 0.82$ . A positive impact is defined as a means  $x < 1$  and a negative as  $x > 1$ . The result of 0.82 indicates a positive impact on faculty self-confidence following the eLearning module. Process Measures One and Three were used to help achieve this outcome measure. These two process measures were met, with 100% of participants completing the pre-and post-surveys for the eLearning module. Process Measure Two was unmet, with only 25.9% of faculty teaching clinical participating in the eLearning module ( $100 \times \frac{7 \text{ faculty participants}}{27 \text{ faculty teaching clinical}} = 25.9 \%$ ).

Outcome Measure Two was exceeded with every participant finding this course beneficial to their practice ( $\frac{7 \text{ faculty feel course beneficial}}{7 \text{ faculty participants}} = 100\%$ ). Process Measure Four was used to help with this outcome measure attainment, which was met with 100% of participants completing the post-survey.

Outcome Measure Three could not be accurately determined as only five out of seven participants completed the 13-week follow-up post-survey, which was a limitation resulting in an outcome process of 71.4% of faculty participants implementing clinical judgment teaching strategies. All five of the respondents stated that they implemented clinical judgment teaching strategies.

### **Data Findings**

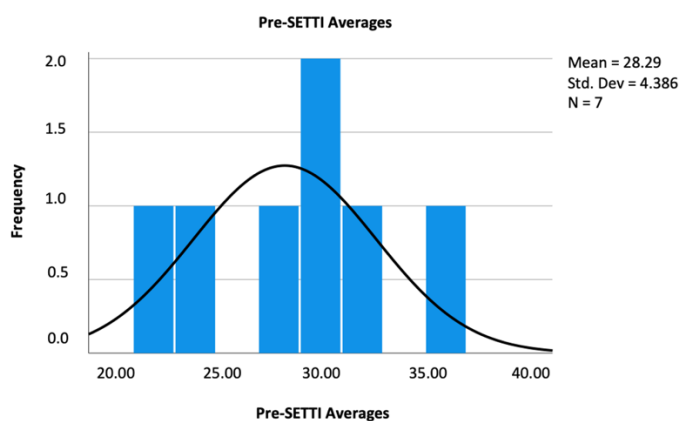
Distributions of confidence scores for the pre-test and the post-test were not similar, as assessed by visual inspection (see Figures 5 and 6). Therefore, a non-parametric Mann-Whitney U test was chosen to determine whether there were differences in SETTI scores between the pre-test and post-test. Results for the pre-test (mean rank = 5.57) and post-test (mean rank = 9.43) were not statistically significant,  $U = 11.0$ ,  $z = -1.746$ ,  $p = .081$ , and alpha of 0.05 (Dineen & Blakesley, 1973).

The overall mean confidence of the participants increased by 6.28 points (pre-SETTI mean score = 28.29 and post-SETTI mean score = 34.57; see Figure 7). The lowest possible score on the modified SETTI tool is 13 (indicating not confident in any aspects), and the highest score is 52 (meaning

completely confident in all aspects). A score of 39 means that participants felt confident in all aspects. The 13-week follow-up post-survey found that all respondents (5 out of 7 participants completed the survey) implemented one or more clinical judgment teaching strategies following the eLearning module. The strategies implemented most often included guided reflection and debriefing (see Figure 8). Although the pre- and post-SETTI data were not statistically significant, it was clinically significant because all respondents implemented clinical judgment teaching strategies following the eLearning module.

**Figure 5**

*Normality Test for Modified Pre-SETTI Averages*



**Figure 6**

*Normality Test for Modified Post-SETTI Averages*

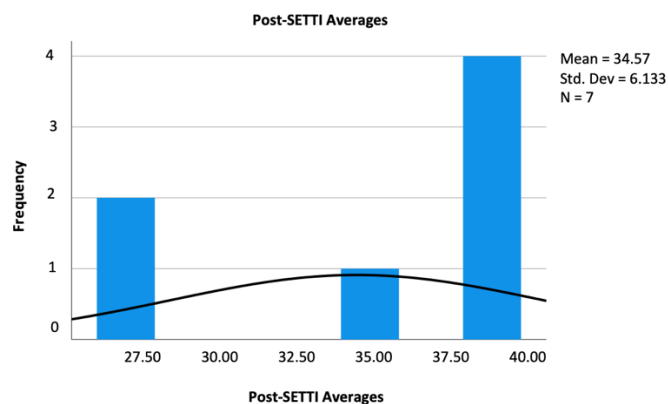


Figure 7

Comparison of Group Mean Pre- and Post-SETTI Results and SETTI Values

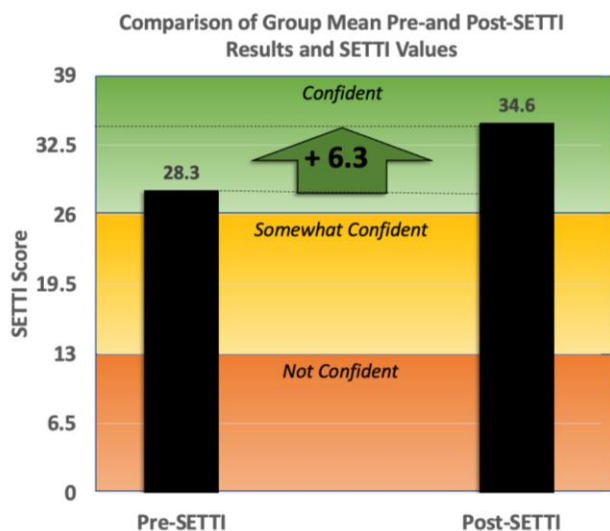
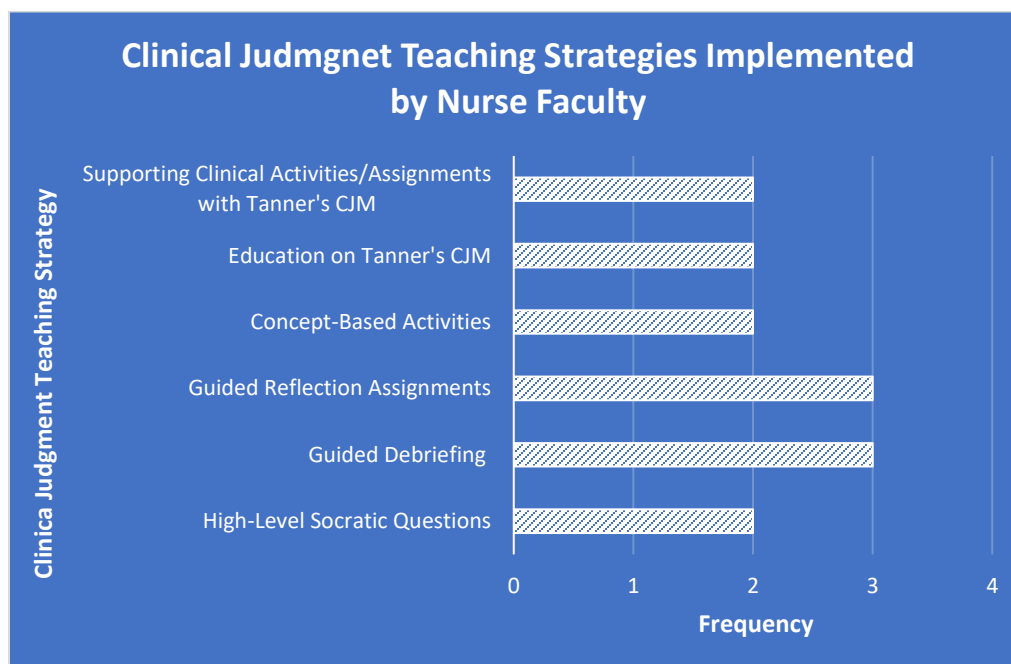


Figure 8

Clinical Judgment Strategies Implemented by Participants





## Qualitative Findings

During thematic analysis, two themes emerged about the module: (1) it provides guidance and tools to foster clinical judgment in clinical, and (2) it provides strategies for a robust post-conference. During the post-survey, participants were asked to identify how the eLearning module benefits their role as a nurse faculty teaching clinical. Three participants described how the module provides guidance and tools to promote clinical judgment in the clinical setting. For example, one participant wrote, “provide[s] further guidance in developing clinical judgment.” Another participant stated, “this adds structure and provides tools to promote clinical judgment.” The third participant said, “it teaches a process to follow that helps guide an educational experience for the students.”

For the 13-week follow-up, post-survey participants were asked to describe how the eLearning module prepared them to teach clinical judgment in the clinical setting. Four participants identified that the module provided them with the guidance and tools to foster clinical judgment. Two participants described that the module helped them create a robust post-conference. One participant wrote, “[it] gave me new ideas to use for post-conference,” and another participant stated, “it helped me make a more robust post-conference.” These findings support the importance of faculty development in providing clinical nurse faculty with the necessary tools and guidance to foster clinical judgment in the clinical setting.

## Discussion

This eLearning module, “Fostering Clinical Judgment in the Clinical Setting,” was implemented to improve nurse faculty’s self-efficacy and ability to implement teaching strategies that develop nursing students’ clinical judgment skills in the clinical setting. The overall mean scores for self-efficacy improved by 6.28 points following participation in the eLearning module. However, the difference was not statistically significant ( $p = .081$ ). In the post-survey, every faculty member stated this course benefited their teaching practices. Participants described that the module provided them with the

guidance and tools to promote clinical judgment in the clinical setting. Even though there was no statistically significant increase in self-efficacy, clinical significance was found. Five out of seven participants completed the 13-week follow-up survey, with all five stating that they implemented clinical judgment teaching strategies in their clinical courses.

Lastly, 60% of participants appreciated that the eLearning module provided them with the tools and guidance to strengthen their teaching, including post-conference. These findings are consistent with the literature that faculty development programs can increase the self-efficacy and competency of the clinical nurse faculty (Sliver Dunker & Manning, 2018; Weston, 2019). These findings also align with Bandura's Social Cognitive Theory, where increased feelings of knowledge and confidence lead to behavior changes or implementation of clinical judgment teaching strategies (Bourne et al., 2021).

This study's strengths include the sample's diversity and the module's robustness. The sample included novice educators (less than three years of experience) and experienced educators (greater than three years to 10 years), including part-time and full-time faculty. Another strength of this project was the robustness of the eLearning module. Tanner's CJM was used as a framework to support every teaching strategy presented in the module because the literature shows that high-level teaching strategies supported by a clinical judgment model led to better student outcomes (Hines, 2016; Smith, 2021). Using Tanner's CJM provided structure to this eLearning module leading to a robust professional development tool for nurse faculty.

Schools of nursing lack standardized professional development specifically related to the recent call to improve nursing students' clinical judgment. This project aligns with research showing that professional development is necessary for supporting clinical nurse faculty in their role, including fostering clinical judgment. Faculty development programs focused on preparing clinical nurse faculty can lead to increased satisfaction and less burnout (American Association of Colleges of Nursing, 2022;

National Advisory Council on Nurse Education and Practice, 2021). An eLearning module is a highly cost-effective method to implement this faculty development.

### **Limitations**

The limitations of this project may impact these findings. The results of this project may have been influenced by additional clinical judgment educational opportunities being available to faculty during their professional development week. For example, with the Next Generation NCLEX (NGN), faculty received multiple options for continuing education on preparing faculty to teach clinical judgment, such as webinars. This project took place during a faculty development week that offered continuing education on teaching clinical judgment for the NGN. Faculty may have participated in this additional education on clinical judgment, which could have increased faculty self-efficacy in teaching clinical judgment.

There was an unexpected lack of faculty participation during project implementation. Initially, only four nurse faculty participated in this project. The DNP student modified the study population from novice nurse educators teaching clinical to all nurse educators teaching clinical to improve participation. The project implementation timeline was extended to increase participation, leading to a total of seven participants. This was a major limitation of the project because a sample size of seven did not provide enough power to be able to detect statistical significance

The small sample size limits generalizability and the power to reject the null hypothesis. This author implemented this project at a site different than the author's place of employment, which led to challenges with stakeholder buy-in and ultimately could have resulted in limited participation. Another potential cause of the limited participation could be that the author only provided a brief overview of the project at a faculty meeting. If the author received permission from the Dean to allow time during the faculty meeting for participants to take the eLearning module, this could have increased

participation. Lastly, response bias may have occurred since participants volunteered to complete the self-report surveys.

### **Impact on Social Justice**

This project can impact social justice because increasing new clinical faculty's self-efficacy in teaching clinical judgment can improve student outcomes and performance (Bourne et al., 2021). Developing this skill among students can help them think like a nurse and take appropriate actions to provide safe, competent care (Tanner, 2006). Good clinical judgment requires more than understanding the pathophysiological changes in a patient, but also the patient and their family's experience of the illness and their physical, social, and emotional strengths and coping resources. When the nurse can go beyond the patient's disease and value the individual as a whole, this can improve the care of an individual. Overall, students with well-developed clinical judgment skills are more likely to transition to the role of novice nurse as a safe practitioner with respect for individual patient's needs, which can lead to high-quality care for all patients.

### **Recommendations**

Clinical teaching is not intuitive, and inconsistent professional development methods lead to unprepared clinical nurse faculty to foster clinical judgment in nursing students. Current literature lacks the most effective ways to prepare clinical nurse educators to promote clinical judgment among students. More research is needed on comprehensive clinical nurse faculty development related to teaching clinical judgment, including comparing outcomes between the use of eLearning and in-person education. The literature has identified mentoring as a key aspect necessary in faculty development (Mann & De Gagne, 2017; Sliver Dunker & Manning, 2018; Weston, 2018). Therefore, future research should consider integrating mentoring with faculty development to improve clinical faculty's ability to foster clinical judgment. Lastly, this project only studied the impact of the eLearning module on faculty, but future research should evaluate the impact faculty development has on student outcomes related to

clinical judgment. Studying this topic further to develop comprehensive faculty development on fostering clinical judgment is necessary to support clinical nurse faculty and students and, ultimately, patient safety.

### **Conclusion**

Nursing programs are expected to develop nursing students with strong clinical judgment skills to graduate practice-ready nurses (Lee, 2021; National Council of State Boards of Nursing, 2021). Clinical nurse faculty play a vital role in ensuring students are prepared for practice by fostering clinical judgment in the clinical setting. The literature identifies the need for faculty development to prepare effective clinical nurse faculty, such as this project. This project shows that implementing an eLearning module changed faculty behavior by providing high-level teaching strategies supported by a clinical judgment module such as Tanner's CJM changes. Faculty development provides clinical nurse faculty with the guidance and tools to foster clinical judgment. When faculty are more prepared to promote high-level learning, this has the potential to improve student outcomes in clinical judgment and, therefore, improve patient safety.

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Appendix A

Literature Matrix

Author, Title, & Journal	Year of Publication	Purpose of Study	Conceptual Framework (if any)	Design/ Method	Sample/ Setting	Major Variables and Definition	Measurement of Major Variables	Data Analysis	Study Findings	Worth to Practice: Johns Hopkins LOE/quality/feasibility/ conclusion/ recommendation
<b>Professional Development</b>										
Fura, L. A., & Symanski, M. E.; An online approach to orienting clinical nursing faculty in baccalaureate nursing education; Nursing Education Perspectives	2014	A pilot study providing online support for adjunct clinical faculty. Goals: 1. augment orientation and support adjunct clinical and lab instructors and 2. evaluate the use of online support methods.	NA	Pilot study - quasi-experimental	Small liberal arts university with a BSN program of 247 students. Clinical instructors teaching junior and senior level nursing clinical and lab courses (n=17).	Blackboard online orientation (guiding student learning to achieve clinical learning objectives, communication with staff members, and understanding legal issues associated with the instruction of nursing students. Offered information materials, access to the full-time faculty course coordinators, and a forum for discussion. Resources posted included resources on best practices	Survey pre- and post-clinical instruction knowledge survey.	The mean summary score of knowledge increased (34.88 to 36.6, p = 0.37)	Increased knowledge. The resource wasn't accessed often for discussion board.	Level II and good quality. Online orientation increased knowledge of the clinical instructor. Limitations: small sample and one setting. Unknown if the completion of the training was required. This resource was informational, providing resources and access to mentors via discussion board. Unsure if this was an interactive learning experience. Limitations: small sample of participants in only one setting, and an outcome measure with no published data to support its reliability and validity.  This article guides the type of learning platform, noting that a static module did not increase knowledge significantly.

						in clinical instruction, simulation and skill validation in lab learning, internal and external web links, journal articles, and video vignettes. Discussion board for questions (answered within 24/36hrs).				
Mann, C. & De Gagne, J. C.; Experience of novice clinical adjunct faculty: A qualitative study; The Journal of Continuing Education in Nursing	2017	Explicate the perceptions of new adjunct clinical faculty and what was done and is needed to help nurses transition to this role	NA	Qualitative study	9 Nursing faculty in the clinical setting with 3 years or less in prelicensure nursing program or considered themselves novices, Texas nursing programs, and willingness to participate. Clinically expert nurses.	Perceptions of novice adjunct clinical faculty	In-depth semi-structured interview.	Conventional content analysis. Four key themes: unpreparedness; facilitators and barriers in the transition; new learning needs and processes; and salient recommendations to pass on.	Unprepared -an overall lack of orientation and mentorship. One participant received orientation with mentoring, finding this experience invaluable. Asking questions helped them learn. One cannot apply what one does not know. Having an orientation program and mentoring is important.	Level III and high quality. New clinical faculty feel unprepared, and an orientation program (how to bridge the gap of theoretical knowledge and clinical application) with mentoring is recommended. Limitations: small sample size may not represent all new clinical faculty.  Although mentoring is recommended, this project will start with just new clinical faculty orientation and will consider adding mentoring in a future phase. This article guides orientation content about bridging theory to clinical application.

<p>Summers, J. A.; Developing competencies in the novice nurse educator: An integrative review; Teaching and Learning in Nursing</p>	<p>2017</p>	<p>Report on research that addressed the development of teaching competencies in novice nurse educators</p>	<p>NA</p>	<p>Integrative review</p>	<p>Quantitative (n=9), mixed methods (n=2), and qualitative (n=16)</p>	<p>NA</p>	<p>NA</p>	<p>Greenhalgh's checklist for quality improvement to extract themes and data.</p>	<p>Lack of support in transition to nurse educator role, increased stress. Mentoring is essential to facilitate successful transition because it allows novice educators to attain competency and confidence in teaching. Orientation allows for clear direction on role expectations.</p>	<p>Level V and high quality. Nurse educators need support through orientation and mentorship as they transition to this role. Mentorship is key to developing competency and confidence. Need for education related to pedagogy, student assessment techniques, and management of students in the learning process. Limitations: Some of the studies presented the experiences and views of a limited number of participants - limiting generalizability.</p> <p>Again, although mentoring is recommended, this project will start with just new clinical faculty orientation and will consider adding mentoring in a future phase. This article guides orientation content to ensure role clarity, including education on pedagogy to decrease faculty stress.</p>
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<p>Sliver Dunker, K. N, &amp; Manning, K.; Enhancing quality and safety in clinical teaching: Statewide live continuing education program for adjunct clinical nursing faculty; Journal of Nursing Education and Practice</p>	<p>2018</p>	<p>Evaluate the effectiveness of a clinical faculty orientation program on participants' knowledge (Went through 3 phases: 1. online format of program 2. Three nursing schools. 3. Now - regional locations northeast)</p>	<p>Novice to expert model</p>	<p>Mixed-methods: Correlational descriptive design and qualitative descriptive</p>	<p>Massachusetts Healthcare Workforce Summit. 312 faculty (97% female, 87.3% white, and 73% clinical faculty)</p>	<p>LCEP-ACNF (4-hour live workshop - video vignettes, PowerPoint presentations, live role-playing, and breakout sessions) and competency (knowledge, comprehension, and application related to clinical teaching).</p>	<p>Pre-test and post-test measuring knowledge, comprehension, and application. 6 weeks after interviewed.</p>	<p><b>Quantitative:</b> Pre- and post-test outcomes using McNemar Chi-square test. Safety with medication administration (McNemar chi-square pre-test 21 and post-test 101, <math>p = .000</math>). Clinical observation (McNemar chi-square pre-test 123 and post-test 152, <math>p = .002</math>). Mean post-test scores significantly higher than overall pre-test scores (<math>z = 11.10</math>, <math>p &lt; 0.1</math>). <b>Qualitative:</b> Data from open-ended responses and interviews with field notes and audiotapes with thematic analysis. Four themes: 1. learning new teaching strategies and ideas for clinical instruction, 2. helpfulness of workshop, 3. collaborating with nursing faculty from other programs, and 4. need for mentoring. Video vignettes were most helpful.</p>	<p>Orientation program increased faculty competency related to teaching clinical. Mentoring is important to support clinical faculty.</p>	<p>Level III and high quality. Orientation program significantly improved faculty knowledge, comprehension, and application related to clinical teaching, with qualitative findings supporting these findings. Mentoring is important for developing clinical faculty. Limitations: sample included one northeastern state limiting generalizability. Sample included mixed experience levels potentially impacting pre- and post-test results.</p> <p>Again, although mentoring is recommended, this project will start with just new clinical faculty orientation and will consider adding mentoring in a future phase. This article guides orientation modality on how to conduct an interactive, engaging orientation.</p>
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<p>Weston, J.; The clinical instructor program improving self-efficacy for nurse educators; Nurse Educator</p>	<p>2018</p>	<p>Determine if the Clinical Instructor Program (CIP) effectively prepares nurse clinicians for the role of clinical instructor by measuring knowledge of clinical teaching, understanding of role, pedagogical strategies, and self-efficacy as a clinical instructor.</p>	<p>NA</p>	<p>Pretest-posttest design (quasi-experimental)</p>	<p>Convenience sample of adjunct faculty (clinical instructor with a master's degree). Four universities in southeastern United States. Total of 35 participants. Experienced clinical instructors 1-3 years of experience, and novices had &lt;1 year of experience</p>	<p>CIP (Topics include philosophy of teaching, student orientation, matching classroom and clinical content, making the clinical teaching assignment, strategies for successful teaching, and evaluation of the student. Time to complete modules ranged from 20 hours to 3 months) and self-efficacy (efficacy for understanding role, instructional content, and teaching strategies).</p>	<p>Self-efficacy Toward Teaching Inventory (SETTI)</p>	<p>Self-efficacy increased after CIP participation (pre-test 112.57[SD, 25.14] and post-test 128.11 [SD, 18.99] with <math>p=0.15</math>). No difference in knowledge of instructional strategies (pre-test mean 20.23 and post-test mean 20.09). <b>Kruskal-Wallis analysis</b> (compare novice to experienced clinical instructors): <math>\chi^2 = 5.35</math> (<math>p = 0.21</math>), meaning experienced instructors had great self-efficacy after CIP. Knowledge of instructional strategies post-test was higher in experienced instructors (<math>\chi^2=4.70</math>, <math>p=.03</math>).</p>	<p>CIP increased self-efficacy. Those with 1-3 years of experience had an increase of knowledge in instructional strategies compared to those with &lt;1 years of teaching experience.</p>	<p>Level II and good quality. Orientation program (understanding the role of clinical instructor, knowledge of clinical teaching, pedagogical strategies) improved self-efficacy. Better improvement for those with 1-3 years of experience, but could be addressed with more application learning activities in the orientation.</p> <p>Again, although mentoring is recommended, this project will start with just new clinical faculty orientation and will consider adding mentoring in a future phase. This article guides orientation modality on how to conduct an interactive, engaging orientation and content on clinical teaching strategies.</p>
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<p>Ross, J. G., &amp; Silver Dunker, K.; New clinical nurse faculty orientation : A review of the literature; National League for Nursing</p>	<p>2019</p>	<p>Provide a review of literature on current orientation practices for new clinical nursing faculty</p>	<p>Benner's Novice to Expert for knowledge acquisition</p>	<p>Literature Review</p>	<p>115 articles - limited empirical research. Mostly descriptive or pilot studies. <b>Descriptive:</b> 1. 65 adjunct faculty. 2. 26 clinical educators. <b>Quantitative</b> : 3.17 adjunct clinical instructors one SON 4. 6 maternal-child faculty. <b>Mixed-methods</b>. 5. 312 faculty - 40 nursing program NE</p>	<p><b>Descriptive:</b> 1. One-hour live orientation (including site orientation and course coordinator). 2. Simulation orientation (Included education on nursing program, teaching strategies, challenging students, student evaluations, and specifics of course) and confidence. <b>Quantitative:</b> 3. Online support method with live orientation (included resources for clinical teaching, video, links, articles, and interaction with course coordinator) and knowledge assessment 4. Simulation (pre-brief, simulation, debrief for teaching strategies) and self-</p>	<p><b>Descriptive:</b> 1. descriptive survey. 2. descriptive - confidence (non-specific) <b>Quantitative:</b> 3. Knowledge assessment 4. Self-efficacy related to teaching strategies <b>Mixed-methods:</b> 5. Competency-based test</p>	<p><b>Descriptive:</b> 1. None provided (need for formal orientation). 2. None provided (increased confidence) <b>Quantitative:</b> 3. <math>p = .37</math>, increased knowledge not statistically significant 4. None provided - increased self-efficacy <b>Mixed-methods:</b> 5. Increased competency-based scores <math>z=11.10, p&lt;.01</math></p>	<p>Limited empirical research. Need for formal orientation - unproven effectiveness of various forms. Mentoring is well received and provide needed support to clinical faculty. Need for education on pedagogical strategies. Simulation well received and supports self-efficacy and confidence. Orientation needed to support novice clinical faculty.</p>	<p>Level V and good quality. Orientation is needed. Simulation and mentoring are effective. Limitations: limited number of research studies that are descriptive or pilot studies with small samples, limiting generalizability.  Again, although mentoring is recommended, this project will start with just new clinical faculty orientation and will consider adding mentoring in a future phase. This article guides orientation modality and duration effectiveness, noting that one-hour clinical-focused on-site orientation is insufficient for faculty development. Simulation, online, and live orientations effectively increase confidence and competency.</p>
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						efficacy related to teaching strategies <b>Mixed-methods:</b> 5. Four-hour live orientation (PowerPoint presentations, video vignettes, role-play scenarios, and competency. Beyond program mentoring was available).				
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<p>Phillips, C., Bassell, K., &amp; Fillmore, L.; Transforming nursing education through clinical faculty development; Teaching and Learning in Nursing</p>	<p>2019</p>	<p>Designing and implementing eLearning course for developing faculty in clinical nurse educator roles and self-reported outcomes.</p>	<p>NA</p>	<p>Quality Improvement Project - mixed-methods</p>	<p>237 full and part-time faculty (experience 0-15 years). 20 campuses in 14 states.</p>	<p>An eLearning faculty development course and the effectiveness of the course</p>	<p>Kirkpatrick's Model, survey</p>	<p>Descriptive statistics for pre- and post-surveys. <b>Postsurvey:</b> Knowledge effect statistically significant, <math>t(236) = -8.905</math> and <math>p = 7.30E-17</math>. Skill effect significant, <math>t(236) = -8.2211</math> and <math>p = 6.74E-15</math>. Attitude effect not statistically significant, <math>t(236) = -0.428</math>, and <math>p = .335</math>. Cohen's <math>d</math> for effect size. Knowledge - Cohen's <math>d = 0.643305</math> (moderate impact of course on faculty development). Skills - Cohen's <math>d = 0.51717</math> (moderate impact). Attitudes - Cohen's <math>d = 0.028069</math> (slight impact). <b>3-month follow-up survey:</b> Knowledge effect statistically significant <math>t(53) = -3.29</math>, <math>p = .009</math>. Skill effect no statistically significant <math>t(53) = -1.47</math>, <math>p = .073</math>. Attitude effect was significant <math>t(53) = -2.02</math>, <math>p = 0.024</math>.</p>	<p>eLearning course effective in enhancing competencies for clinical education in supporting faculty</p>	<p>Level V and high quality. eLearning course effective in improving faculty competency towards clinical education. Limitations: significant loss of participants for 3-month follow-up survey.  This article guides how to create an effective online faculty development course, including content, teaching strategies, and duration.</p>
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Clinical Judgment										
Harvey, G. Connecting theory to practice: Using guided questions to standardize clinical post-conference ; Journal of Nursing Education	2015	Describe the process of standardizing the weekly post-conference by deliberately integrating questions within clinical	NA	Clinician experience	18 groups (about 8 students per group and 1 clinical instructor) of 2nd-year baccalaureate nursing students.	Standardized debriefing with guided questions (open-ended questions based on content from lecture 1-2 weeks before clinical). Reflective practices supported by Tanner's CJM (pictorial representation, poetry, and concept maps)	NA	NA	Instructors verbalized appreciation for structured guidance to clinical teaching.	Level V and good quality. Limitations: No specific data methods mentioned. Simply stated they appreciated this type of teaching method.  This article shows that providing faculty with tools can increase faculty satisfaction.
Hines, C. B. & Wood, F.; Clinical judgment scripts as a strategy to foster clinical judgments; Journal of Nursing Education	2016	Does a standardized debriefing script based on Tanner's clinical judgment model (TCJM) foster clinical judgment	NA	Quasi-experimental	Large public university in southeast United States (used during 6 clinical experiences and 2 simulations). Convenience sample of 53 senior BSN students	Standardized debriefing script based on TCJM and Lasater's Clinical Judgment Rubric	Lasater clinical judgement rubric and an investigator-developed Likert-style survey	Improved noticing (t = 5.109, df=52, p=.000), interpreting (t=5.436, df=52, p=.000), and reflecting (t=6.058, df=52, p=.000). Decrease in student responding (t=15.044, df =52, p=.000). Student perceptions about clinical judgment improved in student noticing, interpreting, and responding (p=.000), and reflecting (p=.003). Clinical instructor perceptions about students'	Standardized script based on TCJM and Lasater's rubric increases noticing, interpreting, and reflecting, but a decrease in responding was noted.	Level II and high quality. Standardized script based on TCJM and Lasater's rubric improved clinical judgment in simulation and patient-based clinical experiences.  This article guides the content of effective clinical judgment teaching strategies to include in the faculty development session including standardized debriefing supported by TCJM.

								reflective thinking improved (p=.002). Kappa (0.814) agreement among clinical instructor perceptions of student reflection. Students rated the script as effective (M=4.42, SD =.57)		
Nielsen, A.; Concept-based learning in clinical experience s: Bridging theory to clinical education for deep learning; Journal of Nursing Education	2016	Explore and describe concept-based learning in clinical education through used of concept-based learning activities (CBLAs)	NA	Multiple-case study exploratory - qualitative	4 cases (1 educator and their students). 2 associate degree nursing programs and two baccalaureate nursing programs. Two were first-year and two were second-year nursing students. 3 groups hospital setting and 1 in long-term care setting.	Concept-based learning activities (study of concept and how it presents in patients)	Observation of educators. Researcher anecdotal notes. Qualitative: student reflective writing, student focus groups with semi-structured interview guide, educator semi-structured interviews. Lasater's Clinical Judgment Rubric	Themes: 1. concept-based learning in clinical can facilitate deep learning, 2. various teaching approaches in CBLAs support deep learning (time for student-educator interaction key to learning and educator questioning deepens learning), 3. Connection of theory to practice (clinical judgment) is an outcome of CBLA	CBLAs effective way to connect theory with practice and develop deeper thinking through hands on experience with patient, exemplifying the concept, rich discussion, and student questioning.	Level III and good quality. CBLA can improve clinical judgment in clinical setting. Limitations: unable to draw specific correlation since descriptive research. Caution transferability of findings to nonacute care concepts.  This article guides the content of effective clinical judgment teaching strategies to include in the faculty development session including CBLA supported by Tanner's CJM.

<p>Brown Tyo, M. &amp; McCurry, M. K.; An integrative review of clinical reasoning teaching strategies and outcome evaluation; Nursing Education Perspectives</p>	<p>2018</p>	<p>Explore teaching strategies commonly used to promote clinical reasoning in nursing students and identify outcomes or methods to evaluate effectiveness</p>	<p>Wittemore and Knafelz integrative review method</p>	<p>Integrative review</p>	<p>37 articles (25 quantitative, 5 qualitative, and 7 mixed methods). Most studies of baccalaureate programs.</p>	<p>clinical reasoning teaching strategies and clinical reasoning teaching strategies supported by framework (Outcome-Present Test Model, Interactive Computer Decision Support, Think Aloud, Debriefing for Meaningful Learning, Developing Nurses' Thinking, SAFETY, Lasater Clinical Judgment, Virtual patient Nursing Design Model, Newman's Health Expanding Consciousness theory, and IRUEPIC (Identify, Relate, Understand, Explain, Predict, Influence, and Control))</p>	<p>Exams, worksheets, observations by clinical instructors, or combination of clinical reasoning instruments and paper-based exams.</p>	<p>23 studies reported statistically significant increases in clinical reasoning, 5 nonsignificant, 3 mixed results, and 6 non-specific results. Studies with clinical reasoning structured framework reported greater success. Studies without a framework reported nonsignificant, mixed or non-specific findings</p>	<p>Clinical reasoning teaching strategies supported by a framework improved clinical judgment. Faculty preparedness is tied to facilitating clinical reasoning during practicum. Clinical faculty lack adequate training to facilitate higher-level thinking.</p>	<p>Level V and good quality. The use of a clinical reasoning framework with teaching strategies can improve student's clinical judgment (simulation, group discussion, case studies, and reflection). Clinical faculty need training to facilitate clinical reasoning. Limitations: small sample sizes, issues with the expert panel board composition, selection bias, homogeneous samples, lack of a pre-test, and the use of an instrument not specifically designed for nursing.</p> <p>This article supports that various clinical judgment teaching strategies supported by a clinical judgment framework can be integrated into the faculty development session to effectively increase students' clinical judgment.</p>
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<p>Alfayoumi, I.; The impact of combining concept-based learning and concept-mapping pedagogies on nursing students' clinical reasoning abilities; Nurse Education Today</p>	<p>2019</p>	<p>Determine the impact of combining concept-based learning and concept-mapping pedagogies on clinical judgment and reasoning</p>	<p>NA</p>	<p>Pretest-posttest design (quasi-experimental)</p>	<p>A consecutive sample of 40 baccalaureate nursing students in Jordan</p>	<p>Concept-based learning and concept-mapping pedagogies (supported by Tanner's CJM). Nursing students' general clinical reasoning behavior and independence in clinical reasoning and clinical judgment.</p>	<p>Questionnaire including demographics, general clinical reasoning behavior, independence in clinical judgment and clinical reasoning (validated by author in previous study - unknown validation strategy). 2-hour observation by clinical instructor.</p>	<p>Significant improvement in student perceptions of their clinical than academic success (<math>z=-2.236, p=0.025</math>). Improvement in general clinical reasoning behavior (<math>-3.11, p=0.005</math>) and independence in clinical reasoning (<math>-2.24, p=0.032</math>). Observations of clinical instructor found improvement in independence in clinical reasoning (<math>-6.15, p&lt;0.001</math>)</p>	<p>Concept-based learning and concept-mapping pedagogies on clinical judgment and reasoning</p>	<p>Level II and good quality. Concept-based learning and concept-mapping can improve clinical reasoning and clinical judgment. Limitations: Data findings heavily relied on student perceptions. Unclear how this was implemented specifically (lecture, clinical, both and how).  This article guides the content of the module supporting concept-based learning activities supported by TCJM increases students' clinical judgment.</p>
<p>Hensel, D. &amp; Billings, D. M.; Strategies to teach the national council of stateboards of nursing clinical judgment model; Nurse Educator</p>	<p>2020</p>	<p>Discuss how to integrate Clinical Judgment Model into teaching strategies</p>	<p>National Council of State Boards of Nursing - Clinical Judgment Model (NCSBN-CJM)</p>	<p>Expert Opinion</p>	<p>NA</p>	<p>NA</p>	<p>NA</p>	<p>NA</p>	<p>Prompting via verbal questioning based on the steps of the NCSBN-CJM to help students think through clinical situations and develop clinical judgment. Can be integrated throughout curriculum</p>	<p>Level V and high quality. NCSBN- CJM is an integrated model faculty can use that provides a framework for teaching students to think through clinical situations and develop sound clinical judgment  This article guides the content of the learning module providing examples of high-order thinking supported by the NCSBN-CJM.</p>

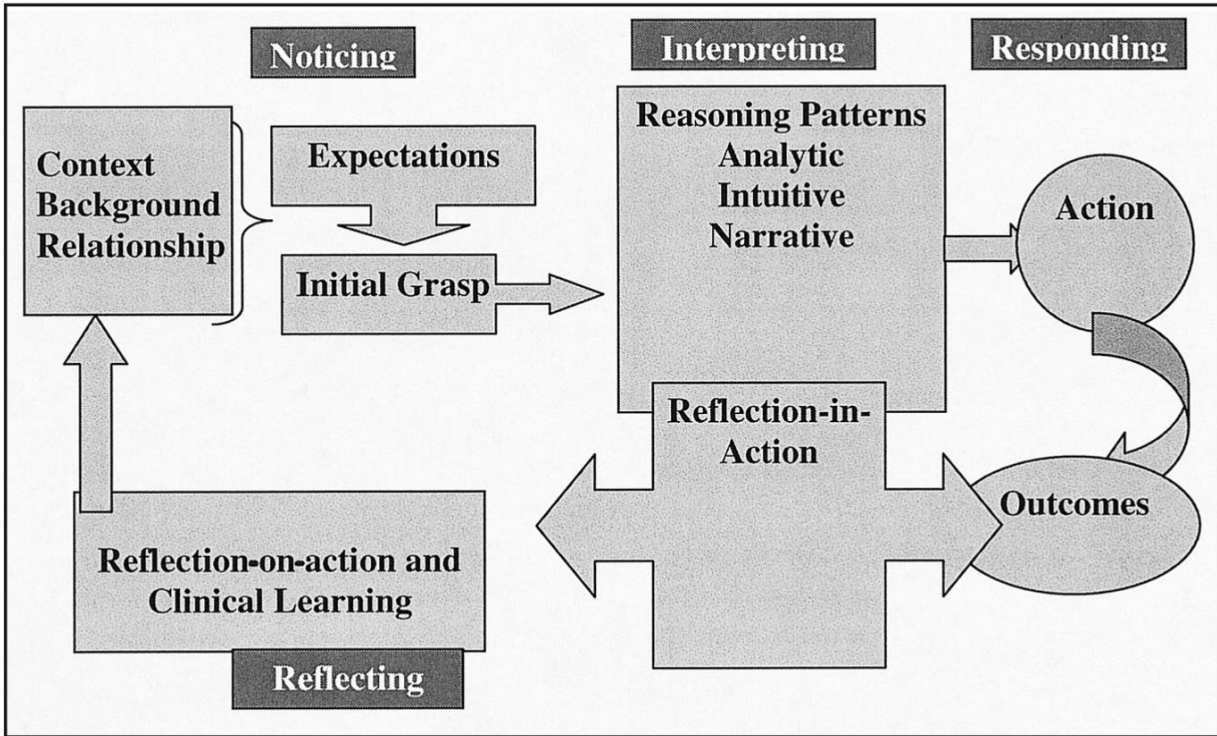
<p>Gonzalez, L., Nielsen, A., &amp; Lasater, K.; Developing students' clinical reasoning skills: A faculty guide; Journal of Nursing Education</p>	<p>2021</p>	<p>Review literature to determine what is known about teaching strategies that teach clinical reasoning skills</p>	<p>NA</p>	<p>Literature Review</p>	<p>NA</p>	<p>Tanner's clinical judgment framework and Lasater's clinical judgment rubric to support teaching. Teaching what clinical reasoning is. Conceptual learning (study concept and apply to a patient in clinical then analyze during debrief with instructor coaching and feedback). Higher-order thinking (using high-level open-ended questions). Debriefing (faculty guides student thinking, reflection-on-action). Reflective activities (using clinical reasoning model to guide thought process related to patient care situations).</p>	<p>Not specified</p>	<p>Not specified</p>	<p>Variety of methods can promote clinical judgment when the instructor is intentional in teaching clinical judgment process.</p>	<p>Level V and good quality. Intentionally teaching students the clinical judgment is key to promote clinical judgment. Providing learning activities that are supported by Tanner's CJM and Lasater's clinical judgment rubric fosters clinical judgment. Higher-leveling teaching promotes higher-level learning (moving beyond from low-level learning such as skills development and remembering).  This article guides the content of effective clinical judgment teaching strategies to include in the faculty development session including concept-based learning, higher-order thinking, debriefing, and reflection supported by Tanner's model and Lasater's rubric. Provides teaching strategy examples that may be integrated into the session.</p>
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<p>Smith, T.; Guided reflective writing as a teaching strategy to develop nursing student clinical judgment; Nursing Forum</p>	<p>2021</p>	<p>Examine nursing student and faculty perspective of benefits and challenges of guided reflective writing for clinical judgment development following clinical. Student and faculty perceptions of guided reflective assignment and clinical judgment development</p>	<p>NA</p>	<p>Qualitative</p>	<p>Small Midwestern University. 28 Junior nursing students. 19 Senior nursing students. 4 clinical faculty.</p>	<p>Guided reflective writing assignment supported by Tanner's Clinical Judgment Model with rubric supported by Lasater's clinical judgment rubric. Perceptions of guided reflective writing assignment.</p>	<p>Surveys, faculty focus group, student and faculty interview and artifact analysis</p>	<p><b>Overall subthemes:</b> 1. approach to thinking, 2. application to clinical care, 3. assignment guidance, and 4. assignment value. <b>Final student themes:</b> 1. organizes basic nursing care (Junior) and 2 sense of wholeness (Senior). <b>Overreaching faculty theme:</b> encourages deep thinking.</p>	<p>Assignment was simple, allowed for deeper thinking, connections and priorities among patients and future care. Helps students understand what they are learning. Helped students organize thinking. Assignment allowed to connect patient activities creating a sense of wholeness.</p>	<p>Level III and good quality. Guided reflective writing assignment supported by Tanner's Clinical Judgment Model and Lasater's Clinical Judgment Rubric encourages clinical judgment development. Limitations: sample included one site of baccalaureate nursing program, limiting generalizability. Groupthink risk.  This article guides the content of effective clinical judgment teaching strategies to include in the faculty development session including reflective writing supported by TCJM and Lasater's rubric. It provides examples of teaching strategies that may be included in the education session.</p>
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**Appendix B**

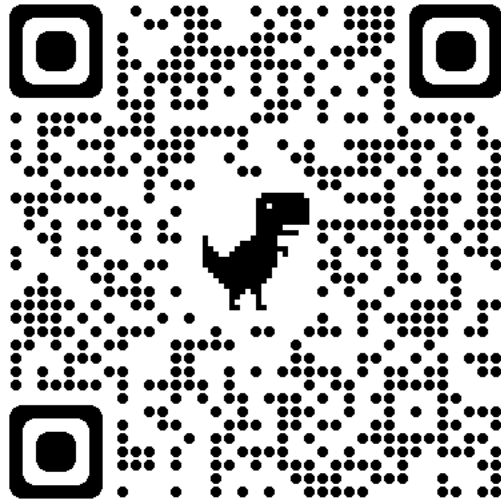
Tanner's Clinical Judgment Model



*Note.* Tanner's Clinical Judgment Model displays the thought process of the experienced nurse. From "Thinking Like a Nurse: A Research-Based Model of Clinical Judgment in Nursing" by C. Tanner, 2006, *Journal of Nursing Education*, 45(6), p. 208 (10.3928/01484834-20060601-04). Copyright 2006 by Journal of Nursing Education and SLACK Incorporated. Reprinted with permission.

**Appendix C**

Downloadable Resource with Evidence-Based Clinical Judgment Activities



**Appendix D**

Modified SETTI

Please rate 1-4 the relevance of the following questions to feelings of self-efficacy for teaching clinical judgment in the clinical setting.	Not Confident	Somewhat Confident	Confident	Completely Confident
How confident are you in your ability to...	1	2	3	4
1. state goals and objectives clearly for students coming into the clinical setting?				
2. conduct post-clinical conferences, drawing students into discussions, and fostering clinical judgment?				
3. select and use a variety of clinical judgment teaching strategies during the clinical day?				
4. use Tanner's Clinical Judgment Model in student interactions while in the clinical setting?				
5. use Lasater's Clinical Judgement Rubric in student interactions while in the clinical setting?				
6. ask open questions in the clinical setting that stimulate				

clinical judgment?				
7. communicate consistently with the student in the clinical setting?				
8. respond appropriately to students' questions?				
9. develop teaching strategies that promote clinical judgment for students in the clinical setting?				
10. demonstrate feelings of confidence towards the student?				
11. stimulate the student to want to learn professional behavior and competence?				
12. provide constructive feedback for the student in the clinical setting?				
13. use reflection to evaluate the clinical practice day?				

*Note. Modified Self-Efficacy Toward Teaching Questionnaire (SETTI). From J. Weston (personal communication, March 4th, 2022). Reprinted with permission.*

**Appendix E**

Survey Questions Based on Kirkpatrick’s Model

<b>Post-Survey Questions Based on Kirkpatrick’s Model</b>	<b>Response Options</b>	<b>Kirkpatrick Level Alignment</b>
Modified Pre- and Post-SETTI	Not Confident, Somewhat Confident, Confident, Completely Confident	Level 2 Learning
Do you feel this interactive eLearning module, “Fostering Clinical Judgment in the Clinical Setting,” was beneficial to your practice?	Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree	Level 1 Reaction
How do you believe this interactive eLearning module, “Fostering Clinical Judgment in the Clinical Setting,” benefits your role as a nurse faculty teaching clinical?	Open-ended, fill-in-the-blank.	Level 1 Reaction
<b>13-week Follow-up Survey Based on Kirkpatrick’s Model</b>	<b>Response Options</b>	
Following the eLearning Module “Fostering Clinical Judgment in the Clinical Setting,” did you	Yes, No	Level 3 Behavior

<p>integrate any clinical judgment teaching strategies in your clinical course this quarter?</p>		
<p>Which of the following clinical judgment strategies did you implement in your clinical course? <b>(Select all that apply)</b></p>	<ul style="list-style-type: none"> <li><b>a.</b> Providing students education on Tanner’s Clinical Judgment Model</li> <li><b>b.</b> Providing students education on Lasater’s Clinical Judgment Rubric</li> <li><b>c.</b> Supporting clinical activities/assignments with Tanner’s Clinical Judgment Model</li> <li><b>d.</b> Supporting clinical activities/assignments with Lasater’s Clinical Judgment Rubric</li> <li><b>e.</b> High-level Socratic questions (e.g., open-ended questions)</li> <li><b>f.</b> Concept-based activities (e.g., concept mapping)</li> <li><b>g.</b> Guided reflection assignments</li> <li><b>h.</b> Guided debriefing</li> <li><b>i.</b> Other (specify)</li> </ul>	<p>Level 3 Behavior</p>
<p>Describe how the interactive eLearning module, “Fostering Clinical Judgment in the Clinical Setting,” prepared you to teach nursing students clinical judgment in the clinical setting.</p>	<p>Open-ended, fill-in-the-blank.</p>	<p>Level 3 Behavior</p>

**Appendix F**

Project Timeline

