Bridging the Gap: Strategies to Enrich the Clinical Experience of Undergraduate Nursing Students to Improve Clinical Judgment Skills

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Bridging the Gap: Strategies to Enrich the Clinical Experience of Undergraduate

Nursing Students to Improve Clinical Judgment Skills

by

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Abstract

Introduction: The lack of competent clinical judgement among new graduate nurses contributes to poor patient outcomes, negatively impacting patient satisfaction scores, and subsequently raising the cost of healthcare for consumers. This project explores how reflective journaling and cooperative learning activities contribute to the development of critical thinking of nursing students during their Nursing Fundamentals clinical practicum.

Methods: Seventeen students enrolled in a private university nursing program were selected as the sample. The students were introduced to the recommended learning strategies and invited to anonymously participate in a pre-survey and post-survey. The surveys were identical in content and consisted of eight statements, aimed to identify perceptions of the impact reflective journaling and cooperative learning activities have on their critical thinking, by using a 5-point Likert scale (1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree). Qualitative data was analyzed using descriptive statistics.

Results: Out of the 17 nursing students who were invited to participate, 2 students responded to the pre-survey questionnaire and 3 students responded to the post-surgery questionnaire. One student reported a positive impact on critical thinking after implementing cooperative learning and reflective journaling.

Discussion: These findings may imply a gained interest in the learning strategies as they were applied in the clinical practicum.

Keywords: best practice learning strategies, contemporary learning methods, concept mapping, reflective journaling, cooperative learning, critical thinking

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Problem Recognition

The delivery of safe patient care relies greatly on the nurse's ability to critically evaluate a clinical situation, using evidence-based reasoning and practical analysis, to form a competent clinical judgment. Through personal experience and recent publications, the gaps between nursing education and practice can be narrowed.

Identified Need

An analysis of new graduate nurses determined that roughly 23% have limited entry-level competencies (Billings, 2019, p. 1). This knowledge deficit represents an education-practice gap that impacts patient safety, as a direct result of ineffective clinical judgments. Two top components are noted to be imperative when providing safe, patient-centered care: critical thinking and problem-solving. Yet, 50% of entry-level nurses are involved in practice errors, and 65% of entry-level nurses' errors are related to poor clinical decision-making (Billings, 2019, p. 1). While these statistics are not indicative of poor education preparedness, they accurately depict the necessity to narrow the gap between education and practice. As many nursing educators face the challenges associated with the lack of practice readiness among nursing students, employers also attribute the lack of practice readiness to high turnover rates, costly training efforts, and poor patient outcomes (Billings, 2019).

Adverse events related to unsafe patient care exemplify the financial burden imposed on healthcare facilities, subsequently affecting healthcare consumers. The Deficit Reduction Act (DRA) of 2005 mandated the Hospital-Acquired Conditions-Present on Admission (HAC-POA) program, which identifies conditions that could have been prevented if evidence-based practice guidelines were appropriately implemented

(Social Security Administration, 2006, 5001(c) section). Secondary diagnoses', related to unsafe patient care delivery, result in a reduction in reimbursement from Medicare to the healthcare facility; thereby, increasing the price of fee-for-service to attenuate the reduction in reimbursement.

Gaps in literature prevent the ability to report the specific number of adverse patient events (also referred to as *sentinel events*) that are directly related to the poor clinical judgment of new graduate nurses. The Joint Commission (2023) defines sentinel events as an unexpected incident that results in death, serious physical or psychological injury, or the risk thereof (para. 1). Not only do sentinel events contribute to the financial burden on healthcare facilities, but sentinel events also contribute to society's mistrust of the healthcare industry as a whole.

Theoretically, engaging undergraduate nursing students in evidence-based practice learning strategies, to improve critical thinking skills, will generate a paradigm shift in the restoration of trust in patient-focused healthcare directly resulting from a decrease in unsafe patient care.

Problem Statement

The gaps that exist between nursing education and clinical practice, as it relates to the critical thinking skills of new nurse graduates, represent a major concern for patient safety. Enriching the clinical practicum experience of undergraduate nursing students, by integrating dynamic teaching methods, students will encounter opportunities to enhance their ability of clinical judgment; thus, improving patient care through evidence-based clinical reasoning.

Literature Review

A literature review was conducted using various databases provided by Gardner-Webb University Library. The main database that was found to be most helpful in providing an abundance of applicable research articles was the Cumulative Index to Nursing and Allied Health Literature (CINAHL). The second database used was Google Scholar. Search criteria included keywords such as best-practice teaching strategies, evidence-based nursing education, contemporary learning strategies, concept mapping, reflective journaling, and critical thinking.

A synthesis of this literature supports the need to strengthen contemporary learning strategies in undergraduate nursing education to improve critical thinking skills. These instructional modalities enrich the clinical experience and enforce the recognition of implementing evidence-based practice for providing safe patient care. Contemporary learning strategies include problem-based learning (such as case studies), concept mapping, and reflective journaling. Two supplemental methods (storytelling and cooperative learning) are also included in this literature review to further support the recommendation of implementing these dynamic teaching strategies.

Case Studies: The Influence on Critical Thinking Skills

Instituting creative strategies to garner the critical thinking skills of nursing students is an essential contribution to their clinical reasoning ability. Case studies provide dialogue that helps students improve their care-related decision-making, which is a key component in critical thinking. A prospective quasi-experimental study, conducted by Lopez et al. (2020), sought to identify the impacts of educational interventions, specifically strategies that included case studies on the critical thinking skills of

undergraduate nursing students. A total of 112 first-year nursing students volunteered to participate in this study anonymously, all of whom were enrolled in a nursing fundamentals course at the School of Nursing. Ninety-eight participants were female, while the remaining 15 were male, with all participants having a combined average age of 18. The teaching methods that were evaluated consisted of lectures, seminars, problem-based learning, case studies, and tutorials as well as various out-of-classroom activities. The students were divided equally into four groups and a total of 22 activities were conducted, each lasting 50 minutes per day. Out of the 22 learning activities, eight were case studies based on nursing care planning. Data were collected pre/post-intervention using a critical thinking questionnaire (CPC2) that consisted of 30 questions. The reliability of the test was found to be 0.90. This study concluded that the implementation of the various methods of educational interventions, specifically the use of case studies, directly improved the critical thinking skills of undergraduate nursing students (López et al., 2020). Limitations of this study are related to the method of choosing the sample size and possibly related to the "Hawthorne effect" (altered responses due to awareness of the study) (López et al., 2020).

Abdelkader and Almefarfesh (2020) conducted a quasi-experimental study, aimed at highlighting the importance of implementing case studies in pre-licensure undergraduate nursing students. Participants included 90 nursing students during the first semester of their third year, in Saudi Arabia at the College of Applied Medical Science in 2018-2019. Pre/post-test data collection, as it relates to the effectiveness of a case study method, was captured using the Perception of Teaching Effectiveness questionnaire (PTE), which was based on a 5-point Likert Scale. The course was 3 hours per week for 4

consecutive weeks, with participants being assigned to small groups of four students per group. During each session, the students were presented with a case study followed by direct questions. Students were asked to elaborate on their justifications for their actions, critically analyze their decisions, and examine the outcome. The study concluded that implementing a case study approach allows students to expand their problem-solving capabilities and enhances their critical thinking skills (Abdelkader & Almefarfesh, 2020). Not only did this study reveal the positive impact of using case studies to improve critical thinking skills, but it also revealed that students consider this a preferred method of teaching as a supplemental approach. Limitations of this study were related to the small sample size as well as the consistency of case study topics.

Case Studies: The Correlation of Self-Efficacy and Critical Thinking Skills

In order to provide quality patient care, it is important to implement creative self-efficacy as it relates to the development of critical thinking skills (Liu et al., 2021). Originally developed by Albert Bandura, self-efficacy is best defined as "an individual's confidence in their ability to complete a task or achieve a goal" (Hopper, 2021, para. 1). Liu et al. (2021) conducted a quasi-experimental study to determine if implementing an instructional strategy aimed at developing critical thinking disposition, by use of case studies (and other more traditional methods) is effective in the application of clinical reasoning for nursing students. The study consisted of 68 second-year pre-nursing students at a university in northeastern China, divided into 12 groups of five to six students. Pre- and post-quantitative and qualitative measurements were obtained to determine the effect of the intervention. Quantitative data was measured using the California Critical Thinking Disposition Inventory (CCTDI) tool to determine the

student's critical thinking ability. To measure the student's self-efficacy, the Creative Self-Efficacy Scale (CSES) was used as a guide while analyzing their reflective journaling entries. With the integration of concepts, knowledge, and skills of critical/creative thinking, the study consisted of interventional courses that extended over one semester (16 weeks) and lasted 2 hours for each session. The health-related case studies were presented and discussed in a cooperative learning environment to facilitate student engagement and foster team-based activities. Researchers concluded that "students with a critical thinking disposition were positively related to creative self-efficacy (as demonstrated by reflective journaling) which fully mediates the link between critical thinking disposition and scientific creativity" (Qiang et al., 2018, p. 2), which is deduced from the use of case studies (Liu et al., 2021). This study supports the reasoning behind implementing case studies to enhance critical thinking skills in undergraduate nursing students. Limitations of this study involved the quasi-experimental design, limited comparison for future studies based on geographic location and gender of sample size, as well as potential bias related to students' report of learning assessment.

A subcategory of case studies, best referred to as "unfolding case-based learning" is arguably more beneficial than the traditional representation of a mono-themed case study. Contrary to a mono-themed case study, unfolding case studies present themselves in various sequences of situations. This provides a real-life representation of how patient scenarios are dynamic and evolving, which contributes to theoretical knowledge (Ma & Zhou, 2022). Ma and Zhou (2022) utilized a quasi-experimental study to compare self-efficacy and critical thinking enhancement resulting from the implementation of unfolding case studies with traditional learning methods (based on learner preference). A

total of 115 second-year nursing students (average age: 20) from a medical university in Guangzhou, southern China were invited to participate. Fifty-four students agreed to participate in the intervention while the remaining 61 preferred the traditional learning methods. The control group included 61 students who did not participate in the intervention, and the 54 students who chose to participate were the experimental group. The design of the intervention was a well-thought-out process that involved extensive faculty training to ensure the consistency of the clinical scenarios. A high-fidelity manikin, as well as a standardized patient, was used during the unfolding case study to simulate abnormal signs and symptoms. The student's responses to the simulation were evaluated by the faculty and a debriefing commenced following each scenario. Based on the "standard guidelines of the International Nursing Association for Clinical Simulation and Learning (INACSL Standards Committee, 2016)" (Ma & Zhou, 2022, p. 3), each student provided justification for their action in the situation and was provided the opportunity to reflect on their emotions and feelings. Pre- and post-test data collection involved the California Critical Thinking Disposition Inventory (CTDI) for the analysis of critical thinking ability, as well as an unnamed self-confidence questionnaire that was dually validated by expert consultation. The results revealed a significant difference between the control group and the experimental group, "indicating that the application of unfolding case-based learning rendered beneficial effects for undergraduate nursing students" (Ma & Zhou, 2022, p. 5); the experimental group performed at a higher level of intellectual autonomy than those in the control group. The limitations of this study were related to the singularity focus of an individual nursing school. It is recommended that

future validation for the effectiveness of this teaching method be implemented involving more nursing students from other schools (Ma & Zhou, 2022).

Concept Mapping: The Effect on Critical Thinking

Mohammadi et al. (2019) conducted a study that revealed a correlation between the utilization of concept mapping and its effect on critical thinking in nursing students. This quasi-experimental case-control study was conducted at the University of Medical Sciences, Shiraz, Iran, and was composed of 81 students enrolled in Fatemeh-Zahra School of Nursing and Midwifery, Shiraz between April 2015 and October 2016 (Mohammadi et al., 2019). Pre/post-test data were collected using the California Critical Thinking Skills Test on both the control group (40 students who received traditional teaching methods) and the experimental group (41 students who received training on concept mapping and integration methods). Students in both groups were selected by convenience sampling and randomly assigned to the control/experimental group. Both groups were then divided into five teams of nine students and spent twenty-four 6-hour sessions of training, 3 days a week. Each group was given equal information on both learning methods to ensure consistency. The study concluded that concept mapping allows the learner to visualize the network of relationships among concepts and elicits reflection on each element of each sub-concept (Mohammadi et al., 2019). The main concept is written or drawn in the center of a spider-like object, and sub-concepts are connected beneath or to the side to indicate their level of priority in relation to the main concept. This method encourages students to dedicate more time to learning the concept; therefore, transferring the information into long-term memory that enhances meaningful learning and deductive reasoning (Mohammadi et al., 2019). This study involved a

limited number of participants as well as a short time frame, which contributes to the limitations of this quasi-experimental case-control study.

Concept mapping has been an educational strategy since the 1970s, not known to have critical thinking implications on nursing students until 2000 when it was used as an alternative to nursing care plans (Eisenmann, 2021). To further investigate the theory for this strategy, Alfayoumi (2019) conducted a quasi-experimental study to document the impact of blending teaching strategies of concept-based learning and concept mapping to enhance nursing students' clinical reasoning abilities. Data were collected from 40 second-year undergraduate nursing students at a private university in Jordan, utilizing a one-group pre/post-test design, as well as direct observation by clinical instructors. This study did not employ a control group since both pedagogies (concept mapping and concept-based learning) have already been proven to be beneficial in enhancing students' critical thinking and clinical reasoning. Quantitative and qualitative data were collected by analyzing the student's self-reported level of independence in patient care judgments and critical thinking ability with subsequent decision-making, based on a questionnaire and by observation/evaluation by the clinical instructor. As each student analyzes elements of clinical reasoning by employing a methodical approach to recall important concepts with conceptual mapping, this study concluded that this strategy maximized their ability to critically think through a problem (Alfayoumi, 2019). The only limitation of this study was the small sample size.

Reflective Journaling

Reflective journaling was the central focus as it relates to experiential learning. Reflective journaling forms the conceptual framework of critical thinking by allowing the

learner to recall the experience, provide introspective constructive criticism, and reflect on personal feelings and beliefs noted during the experience. Cheng et al. (2020) utilized a pre/post-test design to develop and evaluate an experiential learning program (ELP) for nursing students, in the wake of the COVID-19 pandemic. The study was conducted at a university in Central Taiwan, involving a convenience sample of 103 undergraduate nursing students from February to June of 2019 (8 weeks, during one semester). The ELP involved nursing activities with infants, pregnant women, and the elderly. After the ELP, the students completed a self-reflection insight scale (SRIS) and Taiwan Critical Thinking Disposition Inventory (TCTDI) to measure study outcomes. Reliability was verified with Cochran's Alpha scale, which indicated a reliability score of 0.57 for the SRIS and 0.97 for the TCTDI. The results of this study reflected the suggestion of a correlation between self-reflection and critical thinking, which resulted in a significantly positive relationship between the scores of SRIS and TCTDI (Cheng et al., 2020). Researchers concluded that reflective journaling strengthens attitudes, abilities, and skills to enhance the core nursing practice while discovering facts and problems, helping them become competent caregivers trusted by their patients and families (Cheng et al., 2020). Limitations for this study were related to the tools used to assess data as well as the chosen group to analyze.

Simulation has long been identified as an effective teaching strategy for developing critical thinking skills in undergraduate nursing students. Recently, a study was published in the Journal of Nursing Education (2016) suggesting the implementation of guided reflection exercises, following simulations and clinical experiences, strongly enhances the critical thinking ability of nursing students (Padden-Denmead et al., 2016).

Padden-Denmead et al. (2016) used a descriptive correlational design to explore the use of guided reflection exercises to enhance the critical thinking ability of nursing students. The Holistic Critical Thinking Skills Rubric (HCTSR) and the Level of Reflection on Action Assessment (LORAA) were used to determine the relationship between critical thinking and the level of reflection after one patient simulation and two clinical experiences. A total of 23, second-year undergraduate nursing students consented to participate in this study. They were divided into small groups, two or three students per group. Each group took part in a high-fidelity simulation, followed by a reflective debriefing session and a written reflective journal entry. The same process ensued for two real-life patient care clinical experiences. Using the HCTSR and LORAA, each student was assessed based on faculty observation and rating of the reflective journal entry. As part of the final measurement of validity, students' scores from the HCTSR and LORAA were compared with the national standardized Assessment Technologies Institute (ATI). The results from this study indicated reflective journaling is an effective teaching method and stimulates critical thinking in undergraduate nursing students, more so than simulation alone (Padden-Denmead et al., 2016). Limitations for this study were due to the limit in sample size, as well as the geographic location of the study. Implementing this study with a larger sample size, as well as including several geographical locations, may result in a more reliable evaluation score.

Cooperative Learning and its Impact on Critical Thinking

Nursing education has undergone a noticeable shift over the last decade in the face of evolving technological innovations in healthcare. This dynamic field requires nurse educators to implement new teaching strategies that employ learning approaches

that are also dynamic. Cooperative learning is a method of teaching that involves a group of students, with diverse backgrounds, working together towards the same objective (Zhang & Chen, 2021). This approach promotes interprofessional collaboration with the implication of team nursing as it relates to clinical judgment. This experience allows the students to discover communication techniques within a team, amidst diversity, to accomplish a goal. To answer the research question: "Does cooperative learning impact critical thinking in nursing students?," a quasi-experimental study was conducted in China at a university-affiliated hospital. Two groups of undergraduate nursing students, a total of 50 students, participated in this study. The students were divided into small groups who worked together for a total of 4 weeks, twice weekly. The weekly agenda was implemented into their clinical practicum and included a pre-clinical session, clinical practice sessions, and post-clinical sessions. The experimental group was divided into groups (no more than 8 per group), while the control group had a much smaller group (no more than 2-3 students), was self-arranged, and worked independently. Participants completed a baseline questionnaire using the California Critical Thinking Disposition Inventory (CCTDI) prior to the learning intervention and immediately following the intervention. The results of this study supported the suggestion that cooperative learning has a positive effect on the critical thinking of nursing students. Students reported that this method decreased learning anxiety and improved confidence/self-efficacy (Zhang & Chen, 2021). Limitations to this study were related to the potential bias present by the experimental group since it was not a blind study.

Storytelling: To Promote Deep Learning, Critical Thinking, and Enhance Clinical Skills

Much of the content nursing students are faced with involves concepts that require creative learning methods to embed the information into long-term memory. Students develop creative acronyms that tell a story, to encourage memory retention on topics and ideas. Similar to this concept, an innovative approach, that has been strongly suggested to support the promotion of deep learning, engage critical thinking ability, and enhance clinical skills is the conceptual method of storytelling. While didactic lecturing is known as a traditional method, evidence suggests "teaching through speech" is an innovative, complementary method that is an "art-based communicating approach as a means of entertainment and education" (Zare et al., 2021). Zare et al. (2021) conducted a study to compare the effect of traditional teaching methods with the innovative method of storytelling as it relates to deep learning, critical thinking, and clinical skills. The study was conducted in a training hospital in Ardabil, Iran from 2019-2020, and involved 70 undergraduate nursing students through convenience sampling. Students were then randomly grouped into a control group and an experimental group. The experimental group received education on topics using the storytelling method while the control group received education on the same topics but with traditional methods. Qualitative data was gathered using a standard satisfaction questionnaire which revealed a preference for the storytelling teaching method. Students reported learning the information in a shorter period and found themselves motivated to continue to learn (Zare et al., 2021). The lack of identifying how this teaching method enhances long-term memory, as well as the small sample size, contribute to the limitations of this study. This study may have benefited

from a more thorough planning process, possibly instituting an alternative assessment tool. Another limitation is the possibility of "contamination bias" due to the exchange of information between the two groups (Zare et al., 2021).

Needs Assessment

Target Population

Approximately 16 first-year nursing students, enrolled in an Associate of Science in Nursing program at a private, faith-based institution served as participants in this project. In addition, approximately two nursing clinical instructors were trained on how to implement this project within their assigned clinical groups.

Available Resources

The Hunt School of Nursing Director allowed the DNP Project Leader to conduct pertinent training, in a designated space, within the Gardner-Webb University (GWU) College of Health Sciences building, as well as utilize the facility printer to photocopy materials for GWU clinical faculty, thereby decreasing project costs. GWU clinical instructors were required, per their authorized contract, to attend the orientation/training session. Clinical instructors, serving as vital participants in this project, incorporated contemporary learning methods into their students' clinical practicum, establishing a structured learning environment, to stimulate deep thinking that will enhance learners' clinical judgment.

Desired and Expected Outcomes

Evidence from the literature describes several teaching strategies, categorized as *contemporary learning* methods, that provide foundational support to the development of clinical judgment. However, the focus of this project was directed toward implementing

reflective journaling assignments following each clinical day, and cooperative learning activities integrated throughout each clinical day. Reflective journaling and cooperative learning are evidence-based pedagogies that stimulate deep learning that will enhance clinical judgment, as referenced in the review of literature.

1. Associate degree Nursing (ASN) fundamentals Clinical Adjunct Instructors were trained in person by the DNP Project Leader on how to implement the selected strategies.

2. Clinical Instructors also integrated reflective journaling and cooperative learning into the clinical practicum.

3. Nursing students will have the ability to apply these methods throughout the pre-licensure nursing program, using prior conceptual knowledge to promote clinical judgment in clinical practice.

Team Selection

The team assembly for this project embodied those with the ability to effectively contribute to the process. The careful selection consisted of the following:

- DNP Project leader

- DNP Project Chair: Director of the Hunt School of Nursing

- Hunt School of Nursing Pre-Licensure Clinical Coordinator

Scope of Project

The scope of this project included an organized, scholarly planning process, execution of the project, evaluation of the results, and the presentation of the analyzed data. The planning process began with recognizing the practice problem, examining scholarly research articles that support the identified problem, and executing a conceptual

literature review of key data identified in the articles. The target population was identified as undergraduate nursing students enrolled in a nursing fundamentals clinical course. The theoretical frameworks of Christine Tanner's *Think Like a Nurse* (2006) and Patricia Benner's *From Novice to Expert* (1984), identify contemporary learning strategies, such as reflective journaling and cooperative learning, to be effective in the development of clinical judgment.

Before their first clinical day, the DNP Project Leader introduced herself to the group of students, in person, and briefly described the concept of critical judgment, and an overview of the reflective journaling and contemporary learning strategies that would be utilized in the upcoming clinical rotation. Students also received a copy of the informed consent. Following the discussion, each student was emailed a link to the electronic pretest survey delivered via Qualtrics. Pretest survey results were stored electronically by the DNP Project Leader, confidentially and securely, for the project's duration.

Participants then completed a 45-hour clinical rotation. During the rotation, clinical instructors utilized reflective journaling and cooperative learning strategies to promote clinical judgment among students.

A reflective journaling assignment rubric, created by the DNP Project Leader, directed the framework for the journal entry, ensuring each concept of the nursing process was appropriately implemented. The intent of using the nursing process was to promote understanding of each concept that drives a nurse's decision-making. Reflecting on the clinical situation allows the learner to better understand "why" an intervention was implemented (promoting evidence-based practice) and if the outcome was expected. It is

important that each student understands each step of the nursing process and how it should be applied in practice to contribute to safe patient care.

Clinical Instructors coached students to make cognitive connections, promoting opportunities to utilize the principles of nursing discipline to develop clinical judgment in the clinical environment. To model the "dimensions of the Lasater Clinical Judgment Rubric (LCJR)" (Gonzalez et al., 2021, Table 2), each element of the reflective journaling assignment represents the components of the nursing process:

1. Assessment

2. Diagnosis (nursing diagnosis)

3. Planning/Outcomes

4. Interventions

5. Evaluate

(American Nurses Association [ANA], 2014)

The instructors used this assignment to measure the student's engagement in each of the five components of the nursing process, as well as to evaluate the effective application of the nursing process while caring for their assigned patient, as illustrated in their reflection. The student was awarded full credit (100 points) if the assignment was submitted within 2 days of the clinical day and met assignment guidelines as described in assignment instructions. Assignments that did not meet the guidelines outlined in the instructions, although submitted by the due date, received 50 points. All late submissions received 0 points. These assignments had a 5% impact on the student's overall clinical practicum grade.

Cooperative learning techniques that were included are:

- Team nursing among students.

    o If clinical groups consisted of an even number of students, each student was paired with one partner. If the clinical group consisted of an odd number of students, one team consisted of three student nurses. On each clinical day, the students were assigned (by their clinical instructor) a different partner than before to ensure they could practice effective communication among teammates.

    o Each "team" provided care for their assigned patient, which encouraged a collaborative approach to promote interprofessional communication.

- "The Circle Way" – a debriefing activity that facilitates discussion and reflection on the clinical experiences of each student (Bumby et al., 2020).

    o During the debriefing period, also referred to as post-conference, the students gathered with the clinical instructor in a private, designated area, appropriate for discussing patient information.

    o After completing an SBAR on their assigned patient, provided at the beginning of each clinical day, the student addressed each component with the clinical group. Elements of the SBAR consist of:

        ▪ S–Situation:

        ▪ B-Background:

        ▪ A-Assessment:

        ▪ R-Recommendations:

- o Evidence supports utilizing the SBAR technique during interdisciplinary communication, especially during bedside reports, to ensure consistent, focused, and efficient communication (Blom et al., 2015). Therefore, introducing this technique in a student's first semester of nursing school is intended to contribute to the development of effective nurse-physician communication and nurse-nurse communication, a key element to safe patient care, and contributing to the development of clinical judgment.

- o To model the technique of "The Circle Way" (Bumby et al., 2020) the clinical instructor set a timer for 2 minutes, which began when the student was prepared to read aloud the SBAR to the clinical group. The implication of this technique was to facilitate communication techniques, relieve anxiety associated with speaking aloud amongst peers, and institute the structure of providing a concise, yet efficient, bedside report. Questions were reserved for after the student finished the SBAR or ran out of time. While this method may incite anxiety for students initially, by the final clinical day the students should report less trepidation and the ability to complete the SBAR within 2 minutes.

Throughout the duration of the project, the implementation was closely monitored by the DNP Project Leader. Open communication with the participating clinical instructors was maintained and feedback/suggestions were documented by the DNP Project Leader and described within the threats and barriers section of the final written DNP project paper.

Upon completion of the clinical practicum, the DNP Project Leader administered a posttest to each participating student to assess the perceived impact reflective journaling and cooperative learning have on clinical judgment. Pretests and posttests were identical in the form of delivery and content. Data was secured confidentially by the project leader for data analysis and evaluation.

Objectives and Timeline

Objectives

- Nursing students will report an increase in their perceived clinical judgment skills while performing independent patient care activities, after participating in cooperative learning and reflective journaling.

- Nursing students will report an increase in their confidence in performing independent patient care activities after participating in cooperative learning and reflective journaling strategies.

- Clinical instructors will utilize cooperative learning and reflective journaling in the clinical practicum to promote the development of clinical judgment in nursing students.

Timeline

The timeline (Table 1) for this project was approximately 13 months. This includes the process of planning, approval, implementation, and evaluation. The project's initial phases are planning and approval, while the final phases are dissemination and evaluation of data.

Table 1

Projected Timeline

Semester	Steps	Phases
Semester 1: Jan-May 2023	Steps 1-3	Problem Recognition Needs Assessment Objectives and Timeline
Semester 2: May-July 2023	Steps 4-6 QI application draft	Theoretical Underpinnings Work Planning Evaluation Planning Submission of necessary forms
Semester 3: Aug.-Dec. 2023	QI application approval and Step 7	QI application final version GWU approval Begin project implementation Monitoring of implementation
Semester 4: Jan.-Feb. 2024	Steps 7-9	Interpretation of data Utilize and report results

Theoretical Underpinning

For this DNP Project Patricia Benner's, From Novice to Expert, and Christine Tanner's Clinical Judgment Model were used as the framework.

From Novice to Expert

Benner's framework is based on the theoretical groundwork of the Dreyfus Model of Skill Acquisition and has been applied to clinical nursing practice (Benner, 1984). The Dreyfus Model illustrates, that during skill acquisition, the individual unknowingly undergoes five levels of proficiency (in chronological order), each contributing to their

overall comprehension of the clinical picture and improving their clinical judgment. The levels are described as novice, advanced beginner, competent, proficient, and expert (Carlson et al., 1989, p. 188). Carlson reiterates Benner's description of each level as:

- <u>Novice</u>: Individuals with no prior experience related to the situation. Novices have a basic understanding of the concepts but have no underlying knowledge that would contribute to effective clinical judgment.

- <u>Advanced beginner:</u> At this stage, the individual begins to understand broad concepts. While their performance is only "marginally acceptable," they begin to implement meaning to their actions with situational awareness.

- <u>Competent</u>: The individual recognizes and implements interventions based on effective prioritization that also contributes to long-term goals.

- <u>Proficient</u>: A keen sense of situational awareness relating to planned interventions is implemented, allowing them to make appropriate interventions in a deliberate, meaningful manner.

- <u>Experts</u>: The implementation of interventions is based on intuition that comes from prior experience, knowledge, and the understanding of dynamic concepts. (Carlson et al., 1989, p. 188)

Clinical Judgment Model

Sound clinical judgment relies on distinct types of knowledge and is certainly not a skill that can be instantaneously instilled. Christine A. Tanner (2006) identifies not only the importance of critical thinking as it relates to patient care but also the necessary components that contribute to forming deductive reasoning. Although the Model of Clinical Judgment in Nursing is tailored to nursing, the strategies defined by the author

can be broadened and applied in other situations that require methodical, critical thinking. It is a complex process that involves four aspects: Noticing, Interpreting, Responding, and Reflecting (Tanner, 2006, p. 208).

Through prior knowledge and clinical experience, the nurse expects the patient and begins the intuitive process of the first step of the nursing process: assessment. This is also the first of the four aspects defined by the author as "noticing" (Tanner, 2006, p. 208). The second aspect, interpreting, consists of the nurse determining an appropriate action or intervention in response to their assessment, oftentimes, responding is done concomitantly to interpretation. In situations where the nurse is unable to immediately determine which action to implement, a diagnostic hypothesis is generated through careful hypothetico-deductive reasoning. As part of this process, the nurse performs additional assessments that correlate with the hypothesis, until sufficient data supports an appropriate response (Tanner, 2006, p.208). Tanner (2006) describes the final aspect, reflection, as the most "significant component in the model" (p. 209). Reflection allows the nurse to critically think about the interventions implemented, prompting internal dialogue that questions the appropriateness of the interventions as they relate to the expected outcomes. Tanner (2006) explains that "engaging in reflection requires a sense of responsibility, connecting one's actions with outcomes" (p. 209). The four aspects identified by Tanner promote the recognition of errors in judgment by enhancing personal accountability through constructive coaching by nurse educators – especially during the reflective journaling process.

Application to Project

From Novice to Expert

According to Benner's framework, the theoretical groundwork of the Dreyfus Model of Skill Acquisition (1989), the student learner is categorized as a novice. The student has little to no experience to use as a base when formulating an understanding of the clinical situation. During this time, the clinical instructor provided guidance to the student, helping to identify key features of the clinical situation and coaching the student about possible changes in the patient's condition, and the constant cycle of the nursing process. Throughout the clinical practicum, the student can recall textbook examples of disease processes and correlate them with actual clinical cases, imparting experiential learning in the dynamic climate of authentic clinical practice. The Dreyfus model of skill acquisition is developmental and is based solely on situational performance through experiential learning (Benner, 1984, p. 188). With each skill acquired in subsequent semesters of the nursing program, and in combination with the added knowledge of disease processes, the student has the ability to implement clinical enrichment strategies to further build their proficiency level. After the completion of nursing school, the graduate should be at a level of skill acquisition that will improve their transition from education to practice, contributing to an improved ability to care for complex patients in the clinical environment. This strategy will not only enrich the clinical practicum experience for nursing students but will also institute confidence as they embark on their careers post-licensure – promoting both employer and individual satisfaction.

Clinical Judgment Model

Integrating reflective journaling, an evidence-based teaching strategy identified by Christine A. Tanner (2006), in the clinical practicum will be established as a required assignment. The reflective journaling assignment syllabus provided objectives, recommendations for evidence-based databases, and detailed guidelines to promote the recognition and application of the five components of the nursing process. The guide directs the student to describe the patient encounter and the care provided by answering questions and providing statements, illustrating the clinical situation, and encouraging higher thinking to incite clinical judgment. This strategy will also contribute to the skills of prioritization, delegation, and interpersonal communication. In addition to the reflective journaling guide, a reference of strategies (prepared by the project leader) was electronically available within the course folder to support the student through the process of thinking through a complex clinical situation.

Work Planning

Through an organized planning process that involved the DNP Project Leader, the DNP Project Chair, and the Pre-Licensure Clinical Coordinator, the implementation of this quality improvement project was introduced to undergraduate associate degree nursing students. Among other tasks, the planning process involved the identification of the practice problem, evidential support for the practice problem/need, evidential support for proposed strategies, and team selection. Strategies identified through analysis of existing studies indicate a positive impact on clinical judgment with the implementation of dynamic teaching pedagogies integrated throughout the clinical practicum. The clinical day's structure was organized using a methodical approach to ensure time was used

appropriately. Each clinical day was completed according to the deliberate structure indicated to align expectations and outcomes as they relate to the clinical practicum (Table 2). In doing so, the student was able to dedicate an appropriate amount of time to each task.

Table 2

Structured Clinical Practicum Daily Schedule

Hourly Breakdown of the Clinical Day (0630-1530)						
0615-0630	0635-0640	0645-0745	0750-1130	1135-1205	1215-1330	1340-1530
Student arrival	Arrive to unit	Pre-conference	Clinical integration	Lunch	Clinical integration	Post-conference

Task Description		
Pre-Conference	Clinical Integration	Post-Conference
Student assignments	SBAR	SBAR utilization (bedside report simulation) using the model of "The Circle Way" (Bumby et al., 2020).
Discuss objectives	Implement components of the nursing process	

Note: The total length of the clinical day is 9 hours.

Project Management Tool

The purpose of a project management tool (Figure 1) was to illustrate the projected timeline of each project process and identify milestones, and task completion progress. A Gantt Chart was used to exhibit each stage of the project which began with the problem recognition process and ended with the evaluation of interventions imposed by the project's dissemination. The chart dictates a time period beginning in January 2023, and ending in February 2024. In total, the timeline includes 386 days.

Figure 1

Gantt Chart

Project name:	Project Duration	Project Start Date:	Project End Date:
Bridging the Gap: Strategies to Enrich the Clinical Experience of Undergraduate Nursing Students to Improve Clinical Judgement Skills	386	1/11/2023	2/1/2024

Project Step:	Task Description:	Task Duration:	Start Date:	End date:	1/11/2023	1/31/2023	2/1/2023	2/21/2023	2/22/2023	3/29/2023	5/17/2023	6/6/2023	6/7/2023	6/21/2023	6/22/2023	7/5/2023	7/6/2023	7/14/2023	9/21/2023	11/2/2023	11/3/2023	12/14/2023	1/8/2024	2/1/2024
1	Problem identification	20	1/11/2023	1/31/2023	■	■																		
1	Literature Review	20	1/11/2023	1/31/2023	■	■																		
2	Team selection	20	2/1/2023	2/21/2023			■	■																
2	Determine implementation method	20	2/1/2023	2/21/2023			■	■																
2	Project Scope	20	2/1/2023	2/21/2023			■	■																
3	Project timeline & Objectives	35	2/22/2023	3/29/2023					■	■														
4	Reseach theory/model	20	5/17/2023	6/6/2023							■	■												
4	CTE diagram	20	5/17/2023	6/6/2023							■	■												
5	Cost/Benefit analysis	14	6/7/2023	6/21/2023									■	■										
6	Select eval. methods	13	6/22/2023	7/5/2023											■	■								
6	QI methods selection	13	6/22/2023	7/5/2023											■	■								
6	Develop pre/post test	13	6/22/2023	7/5/2023											■	■								
6	QI/IRB application (draft-final)	8	7/6/2023	7/14/2023													■	■						
7	Project Implementation	42	9/21/2023	11/2/2023															■	■				
7	Monitor Implementation	42	9/21/2023	11/2/2023															■	■				
8	Interpretation of Data (qualitative vs quantitative)	41	11/3/2023	12/14/2023																	■			
9	Utilize & report results (complete DNP written document)	24	1/8/2024	2/1/2024																			■	■

Cost/Benefit Analysis

This project had minimal (if any) associated costs and was projected to have ample benefits. Materials needed for this project were minimal. All resources were made available digitally for students and clinical instructors. Digital materials were available in the Learning Management System utilized by the project site. The project site agreed to cover the cost of paper copies, which were printed in color.

Introducing reflective journaling and cooperative learning strategies within the clinical practicum was intended to promote the student's understanding of complex concepts, which will also positively impact performance in didactic courses. The positive outcome of these strategies directly reflects the educational standards set forth by The American Association of Colleges of Nursing (AACN). Not only will students benefit from the implementation of reflective journaling and cooperative learning, but clinical instructors will have the opportunity to make closer observations of student's clinical progress by evaluating journal entries and overseeing cooperative learning activities.

Evidence-based learning strategies that support the development of clinical judgment will also promote patient safety, encourage patient-centered care, and enhance clinical observation. The Centers for Medicare and Medicaid Services (CMS) (2007) determines the amount of reimbursement a hospital receives based on the quality of healthcare provided. Adverse patient events, such as hospital-acquired harm or illnesses, affect the total payment the hospital or healthcare facility receives to cover patient-care costs. Promoting safe patient care, by implementing evidence-based learning strategies, will improve hospital reimbursement and reduce subsequent healthcare costs to the consumer.

Evaluation Plan

The evaluation method for this DNP Project included the use of a pretest/posttest survey to evaluate the objectives of this DNP Project. To determine which strategy has the greatest benefit, the pretest/posttest survey assessed the perceived impact reflective journaling and cooperative learning activities have on clinical judgment. Answer choices were rated on a 5-point Likert scale. The pretest/posttest was created by the DNP Project Leader and reviewed by the DNP Project Chair for face validity. The survey was distributed via Qualtrics, and data was analyzed using descriptive statistics.

The reflective journaling assignment guidelines were created by the DNP Leader to reflect the theoretical framework of Tanner's Clinical Judgment Model (2006). Using each of the five elements of the Nursing Process, this assignment promoted reflective practice to strengthen the development of clinical judgment. Clinical instructors can readily evaluate a student's experiential progress by evaluating journal entries, ensuring each step of the nursing process is thoroughly described, which conveys deep learning and contributes to the development of clinical judgment.

Project Implementation

Developing clinical judgment is a skill imperative to providing safe, patient-centered care and promoting positive patient outcomes. Like other nursing skills, gaining confidence in clinical judgment is a gradual process that is highly dependent on repeated exposure to clinical situations during the clinical practicum. The clinical practicum for nursing fundamentals provided the ideal environment to introduce cooperative learning and reflective journaling to first-year nursing students.

The DNP project leader provided a brief in-person description of the project to the 17 students enrolled in the nursing fundamentals clinical practicum. The following day, a pre-test survey: "Enriching the Clinical Practicum to Develop Clinical Judgment" was electronically delivered to each student via Qualtrics. Participants voluntarily and anonymously responded to the survey, indicating their current preference for learning techniques using a 5-point Likert scale. After completing their assigned clinical rotation, the post-test survey was emailed to students.

Threats and Barriers

Captivating the student's attention during the initial in-person description of the project was more difficult than anticipated. It could be that traditional ASN students are unfamiliar with research terminology since they have not taken a college-level research course. Nonetheless, this could have potentially contributed to the inability to compel participation. The pre-survey data was collected from the two participants who voluntarily and anonymously responded. This limited sample size prevented the ability to truly determine the efficacy of cooperative learning and reflective journaling in the development of clinical judgment. Unfortunately, one student withdrew from the nursing program, which could have contributed to a limited post-survey response; further limiting the sample size. To ensure each student was provided with a learning opportunity throughout the clinical day, the students were rotated through different departments of the hospital ranging from the emergency department, the intensive care unit, the laboratory/blood bank, and others. Therefore, it was difficult for the students to follow the assignment rubric for their reflective journal since it directed the students to reflect on their patient care experience using the nursing process as a guide. Instead, the project

leader directed the students to reflect on their experience of the department they were assigned to.

Monitoring of Implementation

Each clinical group participated in cooperative learning and reflective journaling during 5 weeks of clinical practicum. Through frequent communication between the project leader and a secondary clinical instructor, it was noted that the assignments were seemingly well-received by the students. The project leader recognized the positive impact of implementing cooperative learning; however, each student described different experiences in their reflective journaling assignments. The reason for this is due to the limited opportunity for patient interactions that would provide an opportunity to utilize the nursing process and engage in deep learning.

Interpretation of Data

Quantitative Data

Two participants completed the pre-test survey and three completed the post-test survey. The following responses to the survey questions were found:

1. Talking about a patient's situation with other students during the clinical day helps me understand the overall treatment plan for a patient.

    a. Pre-Test: 100% (n = 2) strongly agreed

    b. Post-Test: 100% (n = 3) strongly agreed

2. Reflective journaling contributes to the development of my clinical judgment.

    a. Pre-Test: 50% (n = 1) strongly agreed, 50% (n = 1) neither agreed nor disagreed

    b. Post-Test: 100% (n = 3) strongly agreed

3. Collaborating with a partner during the clinical day contributes to the development of my clinical judgment.

   a. Pre-Test: 100% (n = 2) strongly agreed

   b. Post-Test: 100% (n = 3) strongly agreed

4. I have the confidence to provide a bedside report on a patient using S.B.A.R.

   a. Pre-Test: 50% (n = 1) somewhat agreed, 50% (n = 1) somewhat disagreed

   b. Post-Test: 67% (n = 2) strongly agreed, 33% (n = 1) somewhat agreed

5. Writing down my feelings about a situation helps me understand "what" happened and "why" I reacted the way I did.

   a. Pre-Test: 50% (n = 1) strongly agreed, 50% (n = 1) neither agreed nor disagreed

   b. Post-Test: 100% (n = 3) strongly agreed

6. Talking through each step of a nursing skill, with a group of peers, improves my ability to remember the steps of the skill.

   a. Pre-Test: 50% (n = 1) strongly agreed, 50% (n = 1) somewhat agreed

   b. Post-Test: 100% (n = 3) strongly agreed

7. Listening to others talk through their clinical reasoning is beneficial in developing my own clinical judgment.

   a. Pre-Test: 100% (n = 2) strongly agreed

   b. Post-Test: 100% (n = 3) strongly agreed

8. I feel prepared to effectively think through each element of the nursing process during a patient interaction.

   a. Pre-Test: 50% (n = 1) somewhat agreed, 50% (n = 1) somewhat disagreed

b. Post-Test: 67% (n = 2) strongly agreed, 33% (n = 1) somewhat agreed

Due to the small sample size, conclusions about the effects of the enriched clinical experience cannot be determined. Although the small sample size hindered determining the true efficacy of the strategies implemented, an analysis of pre-and-post-survey results revealed an improvement in at least one learner's preference for learning through reflective journaling (questions 2 & 5) and cooperative learning (question 6). Interestingly, two participants completed the pre-survey, and three participants completed the post-survey. This could imply there was a gained interest in the suggested strategies as the methods were applied throughout the clinical experience.

Process Improvement Data

Multiple factors could have contributed to the lack of participation in the pre-test and post-test surveys. One student withdrew from the nursing program midway through the semester; however, it's unknown if they were a participant in the pre-test survey since surveys were completed anonymously. Other factors could have been a lack of interest of the potential participants, little understanding of research-related terminology when the project was initially presented by the DNP Project Leader or the presumption of additional responsibilities associated with their participation.

Each assignment represented evidence-based learning strategies that enriched the clinical experience and were intended to promote a structured clinical day and enhance learning opportunities during the clinical experience. While the survey results only capture those who graciously participated in the questionnaire, the evidence of prior studies provides validation for the implementation of these methods in future clinical experiences or learning opportunities. Through careful observation by the DNP Leader,

students demonstrated an improved ability to discuss a patient situation by way of the

SBAR throughout the 5 weeks of project implementation. Unfortunately, observational

data collected by the clinical instructors was not included in this project's evaluation.

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