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Faculty Perception: Developing Critical Thinking in New Graduate Associate Degree Nurses

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Walden University

College of Education

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Joyet Belcher

has been found to be complete and satisfactory in all respects,
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Walden University
2022

Abstract

Faculty Perception: Developing Critical Thinking in New Graduate Associate Degree

Nurses

by

Joyet Belcher

MSN, University of Phoenix, 2012

BS, Kean University, 2004

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

April 2022

Abstract

Despite national nursing exams that assess critical thinking, new nurses do not fully develop the skills to think critically. The literature review revealed that the lack of critical thinking endangers patients' lives. This study's purpose was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. Participants were a purposeful sample of full-time nursing educators with doctoral or master's degrees in nursing, familiar with critical thinking, who have taken nursing students to clinical settings. The study had a basic qualitative design with 8 semistructured interviews. The conceptual framework was Tanner's clinical judgment model. Data were analyzed using Braun and Clarke's six-step thematic analysis to explore how faculty in an associate degree nursing program in a Northeastern state support students' critical thinking to provide care to patients and what barriers prohibit these faculty from developing nursing students' critical thinking. Findings showed that faculty used inquiry-based questioning, interactive methods, hypothetical scenarios, and simulations to support critical thinking. The barriers are the high number of students compared to available resources, organizations' restrictions and limitations, unmotivated students, and lack of professional training for faculty. The recommendations are for a concept-based curriculum using concept maps, a blueprint to teach critical thinking, and ongoing faculty training. This study could bring about positive social change due to the training of critical thinking nurses who cause a shift in nursing practice by providing members of society with high-quality and efficient nursing care that does not endanger, harm, or cause patients' death.

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Dedication

I dedicate this dissertation to my son Edgar G. Miller whom I lost on December 27th, 2021. He always asked how long I had left to complete this research study. I am so sorry I did not complete it before you left us. I know how proud it would make you feel. It has been a long journey, but I will finish it for you, my son. May you rest in peace.

In addition, I would also like to dedicate this study to my daughter Julia M. Miller, my son Damion A. Miller, and all my grandchildren. God has taken me thus far, and he will see me through. I will complete this journey amidst all the obstacles. Thank you for all the love and support.

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Next, thanks to my children Edgar (deceased during the journey), Julia, and Damion for their love and support. I thank the grandchildren for understanding and allowing me to miss some birthday parties and family gatherings. Thanks to all family members for the encouragement and support as they embarked with me on this journey. Finally, thanks to Dr. Zientek and Dr. McLean, the doctoral committee chairpersons, for their knowledge, guidance, constructive feedback, and patience.

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Chapter 1: Introduction to the Study

Critical thinking is an outcome, an essential skill, and a requirement in the nursing profession. For patients to receive safe, competent, and effective care, all nurses must have the ability to think critically. The licensing organization for new graduate nurses to begin practicing nursing is the National Council of State Boards of Nursing (NCSBN). To apply for a nursing license, students must graduate from an approved nursing program and submit a graduation certificate verifying that they completed the nursing program. According to the NCSBN, (2021), when nursing faculty send students to take the National Council Licensure Examination (NCLEX-RN), they affirm that these new nurses are clinically competent to practice nursing. The NCSBN thus puts the onus on nurse educators to effectively prepare nursing students to provide safe patient care. Safe patient care is impossible without the nurses' ability to think critically. Therefore, it is the nursing faculty's responsibility to help develop critical thinking skills in nursing students to provide safe patient care.

A report from the NCSBN (2018) showed that new nurses lack critical thinking, clinical judgment, and decision-making skills. The NCSBN findings also showed that patients' lives are in danger because of the lack of critical thinking, which has escalated to a public crisis. In addition, Huston et al. (2018) reported that a preparation-to-practice gap in new nurses' critical thinking existed for over four decades. More recent studies have also found that nursing students and new graduates lack critical thinking and clinical reasoning skills (Wong & Kowitlawakul, 2020). The remaining sections of this research

study show the issues caused by the lack of critical thinking and investigate how nursing faculty supported this phenomenon.

During the past years, research findings also revealed practice issues caused by the lack of critical thinking. Ebright et al. (2004) stated that 88% of new graduate nurses made medication errors, and 30% of these errors occurred because of a lack of critical thinking. Failure to rescue patients, which is the inability to recognize early warning signs and symptoms of distress, accounts for 37% of new graduates' errors (Saintsing et al., 2011). According to Li and Kenward (2006), nearly 7,500 nurses blamed poor critical thinking skills as the leading cause of difficulties in their practice. Worldwide, the lack of critical thinking in new graduate nurses contributed to a 35%-60% attrition rate within 2 years from graduation (Goodare, 2015). Facione (2020) warned that a lack of critical thinking in healthcare providers causes poor decision-making, unclear communication, a safety risk for patients, inadequate treatment, and eventually can lead to patients' death.

According to the National Advisory Council of Nurse Education and Practice (NACNEP, 2010) and Phillips et al. (2013), new graduate nurses must acquire the skills, knowledge, and competence to perform in care settings such as primary, critical care, and community care when they graduate. Billings and Halstead (2016) stated that nurse managers look for competent nurses with multi-disciplinary training to deliver efficient and timely care. Nurse educators are required to prepare students to work in these highly challenging, ever-changing healthcare environments (Billings & Halstead, 2016). The NACNEP (2010) added that nurses need to be educated and equipped with the relevant and appropriate competencies, knowledge, skills, and attitudes to ensure the continued

delivery of high-quality, safe, and effective patient-centered care. According to Chan (2013), there is a need to clarify educators' perceptions about critical thinking because as time goes on, the definition and the concept may change. Chan also called for an evaluation of the strategies used to teach critical thinking. Wong and Kowitlawakul (2020) recommended future research to investigate and discover ways to improve critical thinking and clinical reasoning capabilities.

This study was a basic qualitative study investigating how associate degree nursing (ADN) students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. The literature review showed that contemporary researchers continue to present findings that there has been a slight improvement in nursing students' critical thinking over the years. Thus, there were grounds to investigate this issue. This chapter includes a description of the background of the problem, a statement of the problem, the study's purpose, the research questions that guide the study, a description of the conceptual framework, nature of the study, definitions, assumptions, scope, delimitations, limitations, and the significance of the study. Finally, the chapter concludes with a summary.

Background

The nurse educator's role is to prepare nursing students to pass the NCLEX-RN. This exam assesses nursing students' critical thinking to ensure they are ready to practice nursing (Kaddoura et al., 2017). According to Victor et al. (2021), the determinants for readiness for licensure and practice in many nursing schools are computer-based examinations such as the Assessment Technology Institute (ATI) and the Health

Education Systems Inc. (HESI). Eastridge (2019) posited that teaching students to study nursing material and then pass an examination would be phased out to teach students to make decisions based on clinical judgment and the patients' best interests. The faculty at a community college in a Northeastern state reported that they believe that the graduates are prepared for practice because they exceeded the benchmark score of 850 on the HESI examination to predict their readiness to take the NCLEX-RN examination. The faculty also reported that they believe that the high success pass rates for the students who took the NCLEX-RN examination for the first time were accurate predictors of their readiness to practice. However, in the eyes of the public and employers, this is not the case.

According to Victor et al. (2021), the ability to take the NCLEX-RN and pass it is not adequate for evaluating readiness for professional practice. Victor et al. found no relationship between the predictor exams, NCLEX-RN, and readiness to practice. This belief, according to Victor et al., is solely an assumption.

The perceptions about the training of newly graduated nurses vary. According to Lee and Sims (2020), almost all nurse educators in the United States believe that new graduates are fully prepared to practice, but this is not an accurate assumption. Hickerson et al. (2016) referred to the Times Higher Education report, which stated that there is a gap between the educational preparation of nurses and the demands of practice. The current healthcare system requires nurses to think critically about complex health issues. According to Fawaz et al. (2016), gradual changes and the advancing healthcare environment requires regular revisions of the curriculum, instructional strategies, and programs to accommodate these changes. However, the outcry from stakeholders in the

practice area and the healthcare field is that nurses' education does not support critical thinking.

The evidence supporting the perspective that new nurses' training does not support critical thinking during their practice originated from the individuals who hire and orient them for their new positions. Nurse administrators, educators, and preceptors relate the preparation-to-practice gap to the nurses' critical thinking skills and competencies (Hickerson et al., 2016). Nurse administrators believed that new graduate nurses are not fully prepared to think critically: 92% of managers considered new graduates as lacking acceptable performance in 36 skills, and 50% of preceptors thought new nurses could not perform skills (Hickerson et al., 2016). Odland et al. (2014) also stated that employers of newly graduated nurses felt that they had insufficient critical thinking skills.

The lack of critical thinking can result from not having clearly defined nursing knowledge, further prolonging the problem. According to Shoghi et al. (2019), the critical thinking preparation-to-practice gap is not new for new nurses, and despite several attempts to bridge the gap, it continues to be a problem in nursing education and practice. These competency gaps are critical thinking, clinical judgment, and decision-making. Shoghi et al. verbalized that the preparation-to-practice gap in new nurses' critical thinking has negative connotations, serious consequences, and a decline in nursing services quality. Greenway et al. (2019) also concur that there is an existing preparation-to-practice gap with negative connotations, causing nurses' lack of competency in clinical skills and critical thinking abilities.

Problem Statement

The problem for this study was that despite national nursing exams that assess critical thinking, new ADN graduates do not seem to have fully received the knowledge to think critically when providing care to patients. The preparation-to-practice gap suggests a disconnect between what nurse educators enforced in the classroom and the clinical site as critical thinking and what the nursing students encounter during practice. According to Hawkins et al. (2018) and Missen et al. (2016), the clinical competency of new nurses is an international issue, and it is a discussion within the nursing community over the quality of care and safety issues it is causing. There is a dissociation between what the students learn when they were students and what they encounter during their practice (Mirza et al., 2019). According to Kavanagh and Szweda (2017), only 23% of new graduate nurses demonstrate entry-level competencies and practice readiness. The authors believed that for nurses to make accurate clinical judgments and decisions, they must possess strong critical thinking skills. They also believed that the lack of critical thinking is a factor that causes the low percentage of newly competent graduates.

The NCSBN (2018) also reported that only 20% of employers are happy with the new nurses' skills. In addition, The Joint Commission on Accreditation of Healthcare Organizations (2020) reported that 47.96% of sentinel events happened in the acute care setting resulting in patients' death, and 6.28% resulted in permanent loss of function. Most of these sentinel events resulted from the new graduate nurses' lack of critical thinking and clinical judgment. The literature also showed that new nurses caused 50% of

medical errors, and 65% of these errors resulted from poor clinical judgment (Bristol, 2019; NCSBN, 2018).

The nursing profession's preparation-to-practice gap is an imminent challenge affecting patient safety (Hickerson et al., 2016). The NCSBN (2018) also reported that the newly graduated nurses' lack of critical thinking and clinical judgment skills is a public protection issue. The nursing students' success on the NCLEX-RN examination, permitting them to practice nursing, has not bridged the practice gap. Kavanagh and Szweda (2017) stated that "the gap is further exacerbated by faculty who have not maintained clinical competency or awareness of the implication and speed of healthcare reform" (p. 58). The lack of critical thinking and clinical judgment remained a relevant issue that needed investigating. A valuable source of data to lend key insights to opportunities in the curriculum to improve these skills was the faculty themselves.

Purpose of the Study

The purpose of this qualitative study was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. The nurse needs to think critically because patients' lives depend on the decisions. According to Kaddoura et al. (2017), there is a significant relationship between critical thinking and clinical competency. Although the above statement is accurate, and there is consensus in academia that critical thinking is vital in education, there is no consensus on teaching critical thinking (Ozcan & Elkoca, 2019). Ozcan and Elkoca (2019) further stated that the best way to understand critical thinking in nursing is to examine the nursing faculty's critical thinking.

The Board of Nursing and nursing education accreditors use the first-time NCLEX-RN pass rates as a performance outcome to evaluate nursing programs (O'Lynn, 2017). Although accreditation and pass rates are essential and give a good sense of accomplishment, nurse educators cannot depend on them as the only quality indicators for nursing programs. According to Bristol (2019), knowing nursing content does not mean that the students mastered the clinical skills to provide safe care. The NCSBN (2018) also admitted significant gaps in the current NCLEX-RN examination that measures critical thinking, clinical judgment, and decision-making. Bristol (2019) stated that although the NCSBN focuses on the reliability and validity of the NCLEX-RN examination, nurse educators should be concerned about a paradigm shift to develop teaching strategies to prepare nurses who can think critically and practice effectively.

The NCSBN is also planning to make radical changes to the NCLEX-RN to assess critical thinking, clinical judgment, and decision-making in 2023 (NCSNB, 2018). A traditional lecture-focused curriculum fails to produce new graduate nurses who can transition to safe, competent nurses who think critically (Harrison, 2018). Thus, it was vital to address this longstanding issue to help close the preparation-to-practice gap. Therefore, the purpose of this study was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients.

Research Questions

The current preparation-to-practice gap in nursing practice indicates that the newly graduated nurses do not possess enough critical thinking to start their practice (NCSBN, 2018). Two research questions addressed this problem and guided the study.

RQ1: How do faculty support students' critical thinking to provide care to patients in an ADN program in a Northeastern state?

RQ2: What barriers prohibit faculty from developing critical thinking in nursing students in an associate degree program in a Northeastern state?

Conceptual Framework

Tanner's clinical judgment model (CJM) was the conceptual framework for the study. The CJM aligned with the research questions because it provided an appropriate guideline and process for nurses to learn to think critically. The framework guided me in creating interview questions and asking questions that explored the nursing faculty's reflection on supporting critical thinking. The participants reflected on supporting students' critical thinking while the CJM provided the guideline for asking critical thinking questions.

According to Tanner (2006), the CJM indicates that the exercising of clinical judgment involves four distinct phases: noticing, interpreting, responding, and reflecting. The noticing phase of the clinical judgment consists of the nurse's observation of a change in the patient's status (Tanner, 2006). The interpreting phase involves considering and evaluating potential responses and selecting the optimal one. Responding involves implementing the critically selected action, and finally, reflection consists of a

retrospective evaluation of the implemented response and its outcome. Tanner (2006) indicated that the CJM model would help nurses learn crucial concepts, develop practical skills, think critically, and the outcome would be the correct clinical decision.

Tanner (2006) argued that previous models of clinical judgment such as Florence Nightingale and the nursing process were too linear to describe critically ill patients' increasingly complex needs adequately. According to Tanner, the phases of the CJM are a nonlinear, iterative process in which new observations, interpretations, responses, and reflections build on those conducted previously. Tanner also believed that combining the nursing process and the CJM would result in a conceptual framework for educating nurses to think critically and make sound clinical judgments.

Tanner's (2006) CJM would be helpful in the ADN setting because nurses can use it to guide their thinking. According to Tanner, the CJM is a framework for teaching students a consistent approach and pattern to patient care. The ADN curriculum is said to focus on task-oriented skills. Lee and Sim (2020) agreed that "the nursing curriculum is performance-based" (p. 450). Tanner stated that nursing instructors spend time on routine assessment, preparation, and ensuring students are safe. The CJM focuses on critical thinking, clinical judgment and would be most appropriate in the ADN setting to move away from the protocols and standards to a concept-based curriculum (Deane, 2017; Harrison, 2018).

Numerous research studies also speak to the complexity of the healthcare environment, increased acuity of hospitalized patients, more chronic diseases, shorter hospital stay, and employers' expectations that new nurses should be highly competent

(Caputi, 2019; Lee & Sim, 2020; Nielsen, 2016). As stated by Repsha et al. (2020), “A concept-based curriculum focuses on teaching core ideas or concepts threaded throughout a curriculum to encourage critical thinking and deeper learning” (p. 67). Therefore, Tanner’s CJM was the most suitable conceptual framework to guide this study.

Harrison’s (2018) study of ADN nursing students showed a statistically significant increase in critical thinking development after completing a concept-based curriculum. Harrison also concluded that the findings from the study provide hope that nursing students’ critical thinking skills can improve following exposure to a concept-based curriculum. Harrison also posited that a passive approach would result in graver patient outcomes due to the substantial gap between educational preparation and the contemporary nursing practice environment. Critical thinking skills are required to achieve optimal patient results. However, the literature review asserts that new graduate nurses do not possess this cognitive thought process (Harrison, 2018). Thus, Tanner’s CJM was an appropriate framework to use for this study for enhancing critical thinking.

Nature of the Study

This research study used a qualitative methodological approach. Qualitative approaches are appropriate for exploring experiences and perceptions grounded in specific perspectives (Merriam & Tisdell, 2016). The grounding of qualitative findings in specific perspectives is a strength in research, mainly where the phenomenon investigated cannot be separated from or understood in isolation from its specific personal, cultural, or organizational context (Merriam & Tisdell, 2016). The phenomenon under investigation for this research study was critical thinking and how nurse educators helped to support it

in nursing students. According to Hemman et al. (2010), critical thinking posed a challenge in nursing practice to develop students' ability and apply it. Nursing students lack an understanding of critical thinking and its importance to make safe decisions in current nursing practice. As a result, nursing students cannot identify their patient's care needs and intervene. Raymond et al. (2018) stated that it would take a detailed exploration to capture what it means to think critically and grasp its essence.

For this study, the nature of the research problem, which is a gap in the literature related to the nature of adequate supports for critical thinking and implementation in an ADN setting, required relevant findings from the specific conditions in an ADN setting. Addressing the research problem and questions also required that the research be exploratory, given that the phenomenon of interest, which is support for critical thinking, had not been described previously. Therefore, a qualitative approach was appropriate to explore faculty members' perceptions of supporting students' critical thinking skills in one ADN program in the Northeastern United States.

The research design was basic qualitative. A basic qualitative design is not one of the five traditional qualitative approaches, including phenomenology, narrative inquiry, grounded theory, case study, and ethnography (Merriam & Tisdell, 2016). The basic qualitative research is free of the theory-driven emphasis of each of the five traditional approaches (Merriam & Tisdell, 2016), which would have been inappropriate in this study, as discussed in more detail in Chapter 3. Percy et al. (2015) asserted that if researchers are intrigued about studying someone's thoughts, beliefs, opinions, the basic qualitative inquiry would best serve the research design. According to Renate (2018),

basic qualitative research is not rule-bound but allows the researcher to explore uncharted territories, offers flexibility to ask questions, and is open to interpretations. Baxter and Jack (2008) stated that qualitative research analysis could guide clinical and political decision-making in professional practices or evidence-informed decisions. As part of improving practices, basic qualitative research aims to understand educational methods and uncover practical teaching approaches (Merriam & Tisdell, 2016).

Data collection for this basic qualitative study was one-to-one, semistructured interviews with faculty members in an ADN program in the Northeastern United States. Data collection using interviews is appropriate in qualitative research where the purpose is to conduct an in-depth exploration of participants' perceptions (Bradshaw et al., 2017; Yates & Leggett, 2016). A semistructured interview method allows researchers to concentrate on the subject at hand while also allowing for free-flowing discussion among the participants (Rubin & Rubin, 2012). The interviews were audio-recorded with participants' consent. Those audio recordings were transcribed verbatim. Then, the transcripts were analyzed using Braun and Clark's (2006) six-step thematic analysis to identify common overarching themes.

Definitions

In this section, I defined unfamiliar terms used in this research according to their use in this study. These defined terms inform the research and are standardized terms used in the nursing profession.

Critical thinking: In the nursing context, critical thinking is “analyzing data, identifying underlying causes, sorting relevant information, prioritizing care issues, and

providing appropriate interventions” (Mirza et al., 2019, p.69). Critical thinking includes clinical reasoning and is ‘all or part of the process of questioning, analysis, synthesis, interpretation, inference, inductive and deductive reasoning, intuition, application, and creativity” (American Association of Colleges of Nursing [AACN], 2008, p.36).

Clinical reasoning: Clinical reasoning is related to, intertwined with, dependent on, correlated to, and used interchangeably with critical thinking. Clinical reasoning is the process that enables health care providers to collect and analyze information and hypothesize about patient conditions, then seek out and discover possible interventions (Vallente, 2020).

Clinical judgment: Clinical judgment is the outcome “of critical thinking in nursing practice” (AACN, 2008, p. 36).

Concept-based curriculum: A concept-based curriculum aims to teach core ideas, concepts, or principles woven through a curriculum to promote critical thinking, deeper understanding, and more profound learning (Repsha et al., 2020).

Concept-based learning: Concept-based learning is a helpful teaching approach, a learning strategy that offers students ways to learn about foundational concepts, encourages an understanding and organization of information, which will increase their critical thinking, clinical knowledge, and in-depth thinking (Lasater & Nielsen, 2009).

Registered nurse: A registered nurse is a nurse who graduates from a state-approved nursing school, passed the NCLEX-RN examination, and is certified to provide patient care by the state nursing board (NCSBN, 2018).

Assumptions

Assumptions are stipulated propositions that must be accepted as accurate for the research to be meaningful but not verified by demonstration (Merriam & Tisdell, 2016). The assumptions in this study were that the participants would provide truthful and accurate responses to the interview answers. In addition, I assumed the faculty would not omit any information regarding how they support the students' critical thinking but would openly disclose even if the strategies were proven ineffective. These assumptions were necessary because the research questions required exploring participants' perceptions, and self-report was the only available source of information about those perceptions. Another assumption was that I would hold personal biases in check and not influence the findings.

I also assumed that providing detailed and rich descriptions of the study setting, the participants, and the data in Chapters 3 and 4 would be sufficient to allow readers to assess the study findings' transferability to other populations and settings. This assumption was necessary because I did not know the individuals and settings to which readers may want to transfer the results and could not ensure transferability in advance.

Scope and Delimitations

Delimitations are restrictions of a study's scope voluntarily adopted by the researcher (Merriam & Tisdell, 2015). The study setting was limited to one ADN setting in the Northeastern United States. This delimitation may restrict the findings' transferability to other ADN settings and nursing education programs other than ADNs. This focus was chosen because it was accessible to me and because the research problem

addressed in this study required an exploration of perceptions of critical thinking supports in an undergraduate nursing education setting.

The research problem addressed was delimited to supporting critical thinking. This delimitation was likely to restrict the findings' applicability to support other deficient skills in new nursing school graduates. In addition, research indicated that new nurses' critical thinking skill deficits had significant, negative consequences for patient care and patient outcomes, making closing the preparation-to-practice gap particularly urgent, which warranted this delimitation (Bristol, 2019; JCAHO, 2019; NCSBN, 2018).

The target population was the faculty in one ADN setting in the Northeastern United States. This delimitation may restrict the transferability of the findings to other nursing schools programs, and other stakeholders such as nursing students and administrators who hire new ADN graduates. The faculty would have the knowledge and experience necessary to provide rich and relevant data in their interview responses warranting choosing this delimitation. The interview responses would be consistent with the research indicating that critical thinking skills in new nurses and hiring administrators' perceptions of new nurses' demonstrations of that skill was dependent primarily on supports provided by nursing school faculty (Jones & Johnstone, 2019; NCSNB, 2018; Nielsen et al., 2016).

Limitations

The qualitative methodological approach is unable to yield objective findings that are valid independently of the perspectives in which they are grounded, that can be confidently generalized from a sample to a population, or that ensure transferability to

other populations and settings (Denzin & Lincoln, 2008; Merriam & Tisdell, 2016). The study's generalizability and objectivity were not objectives because the findings' potential value depends on their grounding in specific perspectives within a specific context. Thick descriptions of the sample, the study setting, and the data provided in chapters three and four facilitated transferability assessments to the greatest extent compatible with maintaining confidentiality.

The qualitative methodological approach entails the potential of researcher bias to influence the findings (Denzin & Lincoln, 2008; Merriam & Tisdell, 2016). Researcher bias is a threat to the confirmability of the findings, defined as the extent to which findings represent the study participants' opinions and perceptions rather than those of the researcher (Denzin & Lincoln, 2008). To mitigate this threat, I implemented a member-checking procedure in which I had each participant review the defined codes and themes that emerged during the analysis of their transcript and verify their accuracy or recommend modifications. In addition, Chapter 4 outlines all findings in direct quotes from the data, so the reader can independently assess the data analysis integrity. Verbatim transcription of the audio recorded interviews supported this mitigation by ensuring that data were accurately recorded and reported, independent of reliance on my judgment or memory.

Basing findings on an analysis of participants' self-reports entails potential threats to their credibility and dependability. First, the study's findings may threaten its credibility by errors or bias in the participants' responses (Denzin & Lincoln, 2008). Second, dependability, defined as the extent to which findings are reproducible in the

same research context at a different time, is threatened by errors and biases resulting from transitory conditions unrelated to the study topic that might not recur if and when the study was replicated, thus leading to different findings (Denzin & Lincoln, 2008). The thematic data analysis procedure used was able to mitigate this limitation. Identifying common themes that incorporated the participants' experiences and perceptions diminished the likelihood that individual participants' errors or biases distorted the findings.

Significance

There is a preparation-to-practice gap in the literature related to the nature of the needed support for critical thinking in nursing (Ozcan & Elkoca, 2019). This study is significant because it identified how nurse educators supported nursing students' critical thinking and its usefulness to students and patients. According to Huston et al. (2018), the preparation-to-practice gap had been going on for 4 decades and little had changed. Thus, this study was merited to discover the faculty's methods to foster critical thinking. Findings in this study may be significant to researchers if they achieve the study's objective to contribute knowledge to address this gap. The research problem contributed to the practice gap between critical thinking support in undergraduate nursing education and the critical thinking proficiency required for safe nursing practice. The study helped fill the preparation-to-practice gap by revealing strategies that the faculty used to be effective and ineffective in developing critical thinking. Understanding the strategies utilized will inform the nursing faculty and the nursing programs to help students make correct critical thinking clinical decisions when providing care. In addition, the

preparation and support given to a student during training will influence the outcome when they enter practice.

There is the possibility of bringing to light nurse educators who continue to teach, focusing solely on content and giving them insight into developing and promoting critical thinking. Nunn-Ellison et al. (2020) stated that poor clinical judgment, nursing errors, and employers' dissatisfaction with new graduates' skills resulted from educators focusing too much on content. Using the information gathered can help revise the curriculum by eliminating ineffective and outdated courses and end of program learning outcomes. In addition, it can bring to nurse educators' awareness, the effectiveness of teaching methods, and suggestions for incorporating evidenced-based methods discovered during the research that have proven to develop critical thinking and sound clinical judgment. Oremann (2019) stated that the curriculum should also change when the practice environment changes.

The study can benefit nurse educators by evaluating their current knowledge and practice. Nurse educators can reflect on whether their knowledge is up-to-date and follow current healthcare trends to educate nurses. In addition, it can help nursing faculty identify and manage critical thinking gaps that they may have overlooked or may need to integrate into the classroom and the clinical setting. The information can also assist faculty in adopting new teaching strategies, activities, and means of assessments. The students can benefit from the implementation of a well-planned, student-centered curriculum with learning activities designed to practice critical thinking skills. The students can benefit when nursing instructors help them see the patients holistically and

think about numerous aspects of the patients' conditions before making clinical decisions that will harm them. As a result, the students can develop the skills to think critically, make accurate clinical judgments, have a better experience transitioning into practice, and feel more satisfied with their caregiving role. The patients can also benefit from not being harmed, and employers can be satisfied with the nurses' level of competency.

This study's findings could make social change by informing and changing the ADN nurse education programs in the Northeastern state to identify, prevent, manage, enhance, and support critical thinking and clinical judgment skills in nursing students. Therefore, findings in this study can be significant to faculty in the ADN program if recommendations for improving critical thinking support for ADN students are adopted. In addition, it has the potential to show how a well-planned curriculum with effective teaching strategies centered around the student and the patient can decrease harm. Jones and Johnstone (2019) stated that early intervention in nursing students' practice to think critically and make clinical judgment could improve patient outcomes.

The study findings could help educators design suitable educational programs to develop and strengthen critical thinking in nursing students locally and nationally. Thus, this study has the potential to change the preparation-to-practice gap. Potential implications for positive social change include more effective support for critical thinking in ADN students in the study setting, improving the patient care new graduates provide when they enter nursing practice. To the extent that educators in other programs assess the findings in this study as transferable to their settings, supporting critical thinking in

those settings may also be improved, with the potential for corresponding positive social change in the improved patient care that future new graduates provide.

Summary

This chapter introduced the topic, purpose, and nature of the study. There is an urgent need to incorporate adequate support for critical thinking into undergraduate nursing education, but the literature showed a gap in the needed support (Caputi, 2019; Harrison, 2018; Huston et al., 2018; Missen et al., 2016; NCSNB, 2018; Nunn-Ellison et al., 2020; Ozcan & Elkoca, 2019). The preparation-to-practice gap is the lack of critical thinking in undergraduate nursing programs and the critical thinking skills new nurses need in order to provide safe patient care (Bemis, 2018; Greenway et al., 2019; Hickerson et al., 2016; Jones & Johnstone, 2019; Shoghi et al., 2019). This preparation-to-practice gap was essential to address because of the many errors and adverse patient outcomes attributed to critical thinking skill deficits in new graduates (Bristol, 2019; JCAHO, 2019; NCSBN, 2018).

The research problem addressed the preparation-to-practice gap by exploring nurse educators' perceptions of the support given to nursing students to develop critical thinking skills. The study has the potential to guide nurse educators of evidence-based practices on which to base support, implementation, and modifications of curriculum and pedagogical methods to foster critical thinking more effectively in undergraduate nursing students. Therefore, the purpose of this qualitative study was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients.

This dissertation relied on a basic qualitative study to achieve its purpose. The study involved data collection through one-to-one, semistructured, audio-recorded interviews with faculty in one ADN program in the Northeastern United States. A verbatim transcription of the interview tapes was analyzed using Braun and Clarke's (2006) thematic analysis. Findings in this study may be significant for researchers to contribute knowledge to address the preparation-to-practice gap. The findings may also be significant to nurse educators who assess that practice implications are transferable to their settings. Potential implications for positive social change include more effective support for critical thinking in ADN students improving the patient care new graduates provide when they enter nursing practice. Chapter 2 of the study provides a more detailed review of the theoretical and empirical literature relevant to defining this study's topic, the research problem, and the preparation-to-practice gap. The literature review addresses the appropriateness of the methodology, design, and procedures by assessing comparable previous studies.

Chapter 2: Literature Review

This chapter gives an extensive literature review examining how ADN faculty supported nursing students' critical thinking knowledge. The problem for this study was that despite national nursing exams that assess critical thinking, new associate degree graduates do not seem to have fully developed the ability to think critically when providing care to patients. The purpose of this study was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. Critical thinking is the foundation of nursing practice, and nurses must think critically to arrive at conclusions and make decisions that will impact patient safety (Ali-Abadi et al., 2020). According to Moghimi Hanjani and Tajvidi (2019), one of today's biggest dilemmas is the preparation-to-practice gap between what they teach and practice in the medical fields, including nursing. Moghimi Hanjani and Tajvidi also stated that new graduates could not utilize scientific knowledge despite passing core courses in the therapeutic setting. In Herron's (2018) view, new graduate nurses enter practice without the ability to make clinical judgments.

The literature review indicated that a lack of critical thinking contributed to new graduates' failure to transition smoothly into practice. Critical thinking is necessary for effective nursing care, positive patient outcomes, and competency in nursing practice. Ozcan and Elkoca (2019) stated that the lack of critical thinking could negatively affect nursing practice quality, efficiency, competency in service, occupational professionalism, and autonomy. For decades, the new nurses' competency had been an issue, but the latest debate started with the NCSBN study (NCSBN, 2018). The NCSBN conducted a

research study every 3 years to measure the competency level of the new graduate nurses' performance (NCSBN, 2018). The study's recent findings indicated that a preparation gap exists in new graduate nurses' ability to think critically, make safe clinical judgments, and make decisions. As a result, the new nurses' inability to think critically has gotten worse, placing the public's health at risk, resulting in a crisis and a safety issue for patients (NCSBN, 2018).

The following sections of the chapter focus on the critical thinking preparation-to-practice gap and the current literature that established this gap in nursing practice. I outline the conceptual framework used to direct the research and its importance to the problem and purpose of the study. In addition, I establish the relevance of the study's goal to help solve the healthcare issues. I define the concept and present evidence showing how other researchers had studied it. Finally, I discuss relevant seminal research related to the concept and synthesis of research studies related to the research questions.

Literature Search Strategy

The databases and search engines used for collecting relevant literature for this research included Google Scholar, Business Source Complete, EBSCO Host, ERIC, SAGE, ProQuest, Science Direct, and Ovid Nursing Journals. The key terms used in the search included: *clinical reasoning, critical thinking in nursing, associate degree nursing program, nursing practice, entry-level competencies for nurses, clinical competency, national nursing exams, nurse educators, Health Education System, and clinical judgment*. Other terms used were: *nursing theory, clinical skills and practice, quality patient care, nurse graduates, clinical judgment skills, nursing education, NCLEX-RN*

exam, clinical decision-making, competent nurses, cognitive nursing skills, nursing errors, and patient outcomes. The key search terms used included *clinical reasoning, critical thinking, clinical judgment in nursing, associate degree nursing program, nursing practice.* For example, the initial ProQuest search for “*clinical judgment, critical thinking, and clinical reasoning*” returned more than 1000 peer-reviewed journals for the past 5 years.

Peer-reviewed journals and relevant articles specific to the topic of “developing critical thinking in new graduate associate degree” were more widely available from the past 5 years. The literature surrounding the new graduate associate degree’s critical thinking demanded additional search strategies for peer-reviewed journals related to the study’s research title with a more particular Boolean keyword. The most effective interval for including peer-reviewed journals for this literature review was across the past 5 years (2016–2021) to provide detailed information regarding the study topic.

Conceptual Framework

This research embraced the CJM developed by Tanner (2006), who argued that previous frameworks such as those of Florence Nightingale and the nursing process were too linear and no longer helpful in solving critically ill patients’ complex needs. Tanner believed that combining the nursing process and the CJM is a more practical way of educating nurses to think critically and make clinical judgments effectively. Tanner defined *clinical judgment* as a thought process that allows nurses and other healthcare providers to arrive at essential conclusions and outcomes. The CJM has four distinct phases: noticing, interpreting, responding, reflecting, and uses a nonlinear approach to

assist nurses in clinical practice (Tanner, 2006). By utilizing the CJM to enhance critical thinking, the nursing student would notice changes in the patient's condition. Next, they would think about the possible options that are most appropriate for the patient.

Responding is the action the student would take or decide not to take. Finally, reflecting is where the student would look back at the interventions and evaluate the outcomes.

Tanner (2006) proclaimed that in the context of various nursing literature, researchers often use the terms *clinical judgment*, *decision-making*, *problem solving* and *clinical thinking* interchangeably to imply a conclusion or interpretation about the needs of patients, health problems, and concerns. The author used the term *clinical judgment* to refer to the process deployed by nurses and other medical practitioners to make judgments (Tanner, 2006). These judgments are deliberate processes, coming up with alternatives, weighing the alternative against evidence, and deciding on the most appropriate and existing patterns.

In the view of Tanner (2006), clinical judgment is a sophisticated phenomenon. In the nursing context, clinical judgments call for understanding the patient's illness experience, the family, the social, physical, emotional strengths, and the best resources for coping. According to Tanner, nurses care for four or five patients in a typical acute care unit. In addition, the nurse has to manage overly complicated processes such as conflict resolution among families, manage patient placement, provide care information, and coordinate complex discharges during several interruptions that may distract the focus of individual clinical reasoning. In this case, modern CJMs must be responsible for taking these complexities into account to empower teaching nursing (Tanner, 2006).

Tanner (2006) also posited that clinical judgment requires various knowledge types that are generalized, abstract, more applicable to events in nature, and derived from theory and science. Clinical judgment should also be highly individualized and localized, drawn from familiarization with local patients and shared understandings of human beings. For experienced nurse practitioners that encounter the same situations, the required knowledge is available, and they can intuitively know what to do based on immediate clinical recall (Tanner, 2006). However, beginner nurses must be able to reason analytically. They should identify situations where particular aspects of theoretical knowledge apply and develop the practical experience that allows for refinement, adjustments, and extensions of learning from textbooks (Tanner, 2006). According to Tanner, the CJM is vital for multiple clinical situations and events that rapidly change and call for nurses' reasoning, continuous reappraisal, and responses as various situations unfold. It will help nurses identify patterns, interpret, and respond to them (Tanner, 2006). They may also confirm pattern recognition by evaluating patients' responses to the intervention. For the CJM, assessing and intervening, clinical reasoning and interventions result from the nurses' critical thinking (Tanner, 2006).

The CJM was used as a foundational model for this research because it comprised aspects that aligned with the critical thinking skills required in nursing practices. The skills needed for critical thinking for nurses are interpretation, analysis, evaluation, explanation, and self-regulation (Lee & Sim, 2020). In nurses' critical thinking, the definition involves understanding and explaining the meaning of clinical information or a specific event. Next, the analysis phase investigates a course of action based on

subjective and objective information (Lee & Sim, 2020). Finally, evaluation entails assessing whether the information is reliable, relevant, or credible.

Based on the first three skills for critical thinking, nurses can determine a patient's problem based on the critical thinking they deploy for evaluation. Next, by clearly explaining the conclusion, the nurse gives sound, rational views for the underlying problems (Lee & Sim 2020). Lastly, self-regulation is involved when nurses monitor their thinking process, reflecting on effective processes that lead to conclusions (Lee & Sim, 2020).

Educational Implications of the CJM

According to Lasater and Nielsen (2009) and Nielsen et al. (2007), the CJM provides a distinct language that narrates how nurse practitioners think when engaged in sophisticated, underdetermined clinical events and situations that call for judgment. The model identified areas of breakdowns where educators can avail feedback and coaching lessons to aid students in developing insights for their critical thinking (Lasater & Nielsen, 2009; Nielsen et al., 2007). The model also identified specific areas where clinical learning activities may promote additional skills in clinical judgment (Lasater & Nielsen, 2009; Nielsen et al., 2007). Educators use the CJM as a guide and platform for briefing.

During the debriefing process, the students can identify failures, recognize the factors that contribute to failures in the situations such as the lack of clinical knowledge associated with a specific course of recovery, drug side effects, and the presence of interruptions during the simulation period that made the students lost focus (Lasater &

Nielsen, 2009; Nielsen et al., 2007). Lasater and Nielsen (2009) also added substantial evidence that educators' guidance aids students in developing skills and habits of personal reflection and proves their reasoning in a clinical context, provided that the guidance available prevails in a climate of support and collegueship.

Literature Review Related to Key Concepts and Variable

The literature search found a preparation-to-practice gap in the nursing discipline. Bennett et al. (2017) stated that there is evidence that the nurses' training does not always prepare them for various areas of practice. The new nurse needs more clinical experience because they are not prepared. The authors indicated that their education during training differs from the practice setting requirements. According to Salminen et al. (2021), the nurse educator's pedagogical competence should support students in identifying and developing new knowledge, engaging in self-directed learning, and developing critical thinking. However, Sharpnack et al. (2014) stated that despite the tremendous changes in health care over 20 years, nursing curricula are lagging with the changes and thus are not meaningful. Booth et al. (2016) stated that the American Association of Universities found that many educators lack the required preparation, leading to barriers to students' success. According to the Nursing Executive Center (2008), 90% of nurse educators believe that new graduates are ready to transition into their jobs, but only 10% of managers agreed with this statement. Powers et al. (2019) also stated that a survey of 5,700 nurse leaders revealed that only 10% thought new graduates were competent to provide safe and effective care. Many researchers have called for a paradigm shift in nursing education to close the preparation-to-practice gap between educational supports

for critical thinking and the demands of safe nursing practice (Caputi, 2019; Harrison, 2018; Huston et al., 2018; Missen et al., 2016; NCSNB, 2018; Nunn-Ellison et al., 2020).

Critical thinking and clinical reasoning are essential competency gaps mentioned in the literature review. Shoghi et al. (2019), using a qualitative design, purposeful sampling, and semistructured interview questions, found that the preparation-to-practice gap caused severe nursing consequences, negative connotations, and a rapid decline in the quality of services offered patients in medical facilities. Betts et al. (2019) also stressed that a preparation-to-practice gap with negative connotations is present in nursing, leading to a lack of competency among nurses in critical thinking and clinical skills.

Concerns About Critical Thinking

The preparation-to-practice gap has not been addressed adequately over the years. Slaikou (2011) stated that the preparation-to-practice gap is not a new phenomenon, neither was it kept a secret, but discussed, debated, and denied. Many individuals are concerned that new graduates are not prepared to render safe care. Because of these concerns, there has been a significant emphasis on critical thinking and safety. According to Rusch et al. (2019), new nurses are not meeting safety standards in clinical settings. They also stated that a survey of 245 registered nurses revealed that the perception of new graduate nurses was that their ability to think critically, solve problems and work independently were areas of concern (Rusch et al., 2019). As a result, stakeholders and employers have questions and concerns about the new graduate nurses' critical thinking. Although most new graduates demonstrate adequate content knowledge, the critical

thinking skill deficits found in most new nursing school graduates, researchers attributed to neglecting critical thinking support in nursing schools (Nunn-Ellison et al., 2020). Because there was no support for developing critical thinking, many of the graduate's clinical decisions resulted in adverse events.

In Akram et al.'s (2018) perspectives, the main issue in nursing education remains unsolved, the preparation-to-practice gap is getting more prominent, it is not receiving proper attention, and there is little progress made to ensure that nursing students begin to apply their theoretical knowledge to practice. As a result, the nursing students' preparation-to-practice continues to become a significant challenge in nursing education despite consistent efforts to address the real preparation-to-practice gap, contributing to adverse patient events.

Critical Thinking and Adverse Effect

Numerous adverse events resulted from new nurses' inability to think critically. Günay and Kılınç (2018) outlined the effects of having incompetent nursing graduates in acute care settings by illustrating that they impact the lives of patients since the new graduates are given the responsibilities for the care of these patients. Günay and Kılınç asserted that errors in hospitals that include the failure of new nurses to rescue patients are one of the leading causes of death of over 250,000 patients in the United States. Murray et al. (2020) reported that the World Health Organization (WHO), Organization for Economic Co-operation and Development (OECD), and the World Bank (2018) global reports showed that 10% of patients experienced adverse events. They also stated that medical errors are highest during workplace transition with new graduate nurses,

doctors, and allied health professionals. Baumann et al. (2019) also reported that newly graduated nurses' decisions might negatively impact patient care and workplace stability during the transition period.

Many patients receive harm when new nurses are employed. The Director-General (2019) reporting for the World Health Organization stated that patient injury is one of the ten causes of damage and death in the world during care provision. In addition, the report outlined that unsafe care caused 134 million adverse events and 2.6 million deaths per year globally. It is also alarming to know that 50% of medical errors overall, and a majority of the medical errors which resulted in death or permanent loss of function in patients in acute settings resulted from new graduates' deficits in critical thinking and clinical judgment (Bristol, 2019; JCAHO, 2019; NCSBN, 2018). Since patients are so severely affected by a lack of critical thinking, these reports offered evidence and a reason to study how nurse educators addressed and supported the concept of critical thinking in the classroom and clinical setting.

Another healthcare issue that surfaced that required critical thinking was that nurses do not have the experience to care for patients with dual-diagnosis. According to Giandinoto and Edward (2014), nurses do not have the training to care for patients who experienced mental illness symptoms such as suicide, self-harming behavior, aggression, or confusion. Giandinoto and Edward's study stated that the nurses openly acknowledged that they did not know how to take care of those patients. The authors believed that nurses could not give holistic care because of poor mental health literacy and low confidence to intervene in challenging clinical situations. Giandinoto and Edward

concluded that mental health competencies and undergraduate training might not satisfactorily prepare nurses to care for patients with co-morbidity in nonpsychiatric settings. By addressing the critical thinking problem, nurses would be better able to apply it to any medical or psychiatric clinical situation.

Core Competency Critical Thinking

This research study investigated how ADN students are supported by college faculty in their critical thinking knowledge to ensure they are prepared to care for patients. Critical thinking is a priority in nursing education and an integral element. The NACNEP (2010) stated that an adaptable workforce is necessary because of the registered nurses' expanding scope of practice (AACN, 2019). In addition, the NACNEP reported that it requires critical thinking, problem-solving ability, a grasp of basic sciences, examining data, and communicating it to demonstrate competency (AACN, 2019). Furthermore, the National League for Nursing Accreditation Commission (NLNAC) offers nurse educators guidelines to establish learning experiences that encourage critical thinking capability (National League for Nurses [NLN], 2005). The NLN also declared critical thinking a core nursing competency skill.

Nursing Education and Educators

Several authors addressed the shortcomings and failure of nursing faculty to educate nursing students to think critically. According to Stephens and Gunther (2016), nurse educators fail to implement the most effective teaching strategies for critical thinking. Nowak et al. (2016) declared that nurse educators use teaching strategies that do not incorporate student engagement but instead continue to use the traditional PowerPoint

and lecture method. The authors called for examining the processes, identifying best educational practices, multifaceted learning strategies, and collaborative learning to reflect evidence-based educational practices to meet the complex healthcare industry's needs.

Aveyard and Bradbury-Jones (2019) commented that the nursing profession might constantly evolve, but safe quality care is the priority for health care professionals, stakeholders, accreditation agencies, and professional organizations. Critical thinking is a significant educational activity to teach in the classroom, at the clinical site, and a key component for solving new nurses' competency issues (Nowak et al., 2016). Moreover, having nursing faculty that know how to develop and support critical thinking in today's nursing workforce to overcome the preparation-to-practice gap deemed this research study extremely necessary to undertake. These issues also called for taking a look at the nursing curriculum.

Nursing Curriculum

Researchers also critiqued nursing schools' curricula by stating that they are not meeting the present healthcare needs. According to Aveyard and Bradbury-Jones (2019), nursing schools' curricula are currently content-laden, and there is a struggle about deleting content. The authors believe that the curriculum components must be relevant to practice and enhance critical thinking knowledge and skills. The current curriculum should ensure that new nurses receive the proper training, emphasize nursing skills competency, provide the best patient outcomes and the safest care (Aveyard & Bradbury-Jones, 2019). Practical training and skilled competencies are essential to graduate nurses'

development and growth before they practice. There is the expectation that these newly registered graduate nurses meet the minimum critical thinking criteria to start practicing. The NLN (2019) Hallmarks for Excellence statements declared that the curriculum should be current, promote critical thinking and evidence-based practice, reflect social and health trends, and be relevant to new developments. Clark and Hoffmann (2019) concluded that today's nursing curricula do not fully respond to graduation challenges in the clinical setting. Other researchers also examined the nurse's role and stated that they should play a part in their education.

Registered Nurse Responsibilities

The registered nurse must meet the State Board of Nursing requirements and practices within the Nurse Practice Act (NPA). The NPA protects the public from unsafe practitioners. The NCSBN (2021) stated that the State Nurse Practice Act provides standards and guidelines for safe, competent nursing practice. Leaders from the American Nurses Association (ANA) summarized the registered nurses' role as professionals, advocates, innovators, and collaborative leaders (Williams et al., 2016). The authors stated that the registered nurse is responsible for developing their education, growth of their practice, and professional role performance. The New Jersey Board of Nursing Policy Statement (2019) stated that nurses who work with patients, whether their roles are managers, supervisors, or floor nurses, are accountable for providing safe patient care regardless of understaffing, limited qualified staff, or a crisis. These nursing organizations' statements declared that nurses must know how to carry out their duties, and educators must train qualified nurses regardless of the situation. It is crucial to

scrutinize critical thinking, the solution to the preparation-to-practice gap, and the healthcare crisis. Nursing students and faculty must develop critical thinking by understanding their responsibilities.

Rationale for Critical Thinking

The core foundation of nursing is evidence-based practice and critical thinking. According to Carvalho et al. (2017), critical thinking is the most used phrase in the nursing profession's pedagogy and practice. The authors believed that the only dominant consensus is that everyone must develop sound critical thinking skills to be an outstanding, practical, and intelligent registered nurse. The nursing profession keeps evolving from simple caregiving tasks to complex duties requiring highly professional and responsible individuals. This need for critical thinking must inform critical decisions as these decisions affect the outcomes of patients (Carvalho et al., 2017).

Providing safe care in today's healthcare environment is very difficult for nurses. According to Moattari et al. (2014), nursing students' critical thinking ability is an obstacle that nurse educators face. Aggar et al. (2017) stated that the increased mortality rate, chronic diseases, complex comorbidities, complicated chronic diseases, and the nursing shortage require nurse educators to execute policies to transition new graduates into practice. The nurse must think critically and make sound clinical judgments when handling these chronic conditions in situations such as these. However, graduates are not able to successfully perform their duties. Carbogim et al. (2016) concurred that the aging population, complexity of diseases, high level of patient care needed, the treatment modality required, and the demand for these services make it necessary for nurses to

think critically. Contemporary nurse educators and practitioners agree that critical thinking and clinical reasoning are crucial cognitive skills for effective and efficient clinical practice (Lee et al., 2016). However, according to the authors, various research literature showed a lack of consensus of nursing students who possess cognitive knowledge or awareness of clinical theory and critical thinking. In addition, the literature also showed a lack of consensus defining what is critical thinking.

Critical Thinking

Critical thinking has been subject to numerous interpretations resulting in a lack of consensus in defining it (Benner et al., 2008; Scheffer & Rubenfeld, 2000). An international panel of experts on education, practice, and science from nine nations, including the United States, worked together on the Delphi project to reach a consensus to define critical thinking. The panel defined *critical thinking* as analyzing, applying standards, discriminating, information seeking, logical reasoning, predicting, and transforming knowledge (Scheffer & Rubenfeld, 2000). According to Demir et al. (2011), while experts and academics agreed on the value of critical thinking and its existence, the meanings are widely disputed. They believed that philosophy, psychology, and education researchers defined critical thinking based on their discipline.

Meaning of Critical Thinking in Nursing

Critical thinking in the nursing context involves analysis, determining underlying causes, sorting pertinent information, priority treatment, and appropriate intervention (Mirza et al., 2019). Critical thinking consists of universal intellectual values that exceed subject matter divisions such as accuracy, clarity, consistency, precision, sound evidence,

ethical reasoning, breadth, depth, and relevance, according to Siles-González and Solano-Ruiz (2016). For nursing practice, the authors opined that critical thinking is a logical, purposeful process that results in significant and influential outcomes for patients. Critical thinking involves analyzing and interpreting the problem, reasoning to formulate solutions, and applying and evaluating them (Siles-González & Solano-Ruiz, 2016).

The definition of critical thinking covers the nursing process and builds a robust foundation of powerful clinical knowledge (Ghanbari et al., 2017). Ghanbari et al. (2017) also asserted that nurses' critical thinking results from integrating innate curiosity, a robust foundation of theoretical knowledge on humans' anatomy and physiology, disease processes, lab values, and thinking orientation. The authors believed that combining these aspects with a passion for patient care can produce positive patient outcomes. However, this was not what the search of the literature was showing.

Von Colln-Appling and Giuliano (2017) proposed that critical thinking should be a significant component of future nurses' education because it is a part of their day-to-day practice. They also believed that the educators' responsibility is to ensure that critical thinking skills are established, reinforced, and sustained. Baumann et al. (2019) also contended that educators should be asking what they can do in terms of practice readiness for the workplace. They recommended implementing measures to improve complex skills and help new nurses gain knowledge of healthcare complications. Therefore, this study was relevant to address the faculty's collaborative effort to meet students' critical thinking needs and address today's health issues.

Measuring Critical Thinking

The literature search showed a lack of confidence in measuring critical thinking. Moattari et al. (2014) stated that uncertainty in measuring critical thinking might be the problem. When educators use standardized critical thinking tools, the authors found that most of these instruments were more applicable in the general context. Moattari et al. recommended that measurement instruments for critical thinking be specific to nursing, sufficiently developed, and correctly executed. Larsson (2017) discussed another issue measuring in critical thinking. The author believed that evaluators are putting excessive faith in actual multiple-choice tests. In contrast, others declared that these tests could only test straightforward, well-rounded structured questions and do not allow much latitude for alternate views and judgment based on reasoning. Other objections were that the standardized critical thinking tests only measure right or wrong multiple-choice questions while neglecting how critical thinking led to the answers (Larsson, 2017).

Although there are some assessment tools specific to nursing, there is still evidence that nurses have critical thinking problems. Turkel et al. (2016) utilized the Critical Thinking Diagnostic Tool to assess 25 core critical-thinking competencies of registered nurses to identify critical thinking competency issues and ways to improve them. The nurses who participated in their study had different years of experience and educational backgrounds. The participants provided a self-report of their level of critical thinking using a six-point Likert scale. The areas assessed on the critical thinking scale were problem-identification, clinical decision-making, priority-making, clinical implementation, and reflection. Turkel et al. (2016) reported that their study's findings

were congruent with Swinny's 2010 study, which showed that new nurses could not manage critical events or anticipate actual or potential problems. Turkel et al. believed that more research is needed to assess and develop nurses' critical thinking skills to improve patient outcomes. The authors mentioned that nurse educators should pay attention to the evidence they presented in their study and its impact on patients' safety. Turkel et al., and many other authors mentioned in this study believed that patients are in danger when nurses lack critical thinking skills. The authors posited that educators and nurses should continuously develop their critical thinking skills to have a satisfying career and improve patients' outcomes. Therefore, this study was relevant to collaborate with the faculty about critical thinking. In addition, it was essential to understand how the faculty developed, evaluated, and supported the concept.

Critical Thinking and Practice

New graduate nurses must have the foundational skills in critical thinking when they begin their careers. They should reason logically, think critically, decode and integrate information, and implement effective nursing interventions. Aggar et al. (2017) believed that critical thinking is critical to address potential public health needs, implement policies to recruit and maintain new nurses in the primary care environment and create a reliable and qualified workforce that can easily transition into practice. According to Sagkal Midilli and Altas (2020), the barriers to developing critical thinking and critical reasoning originate from the absence of good pedagogy. Besides, they stated that nurses' disposition for critical thinking is low; their critical thinking ability is inadequate, and their problem-solving skills have not yet developed. They recommend

revamping the curriculum to encourage nurses to use problem-solving and critical thinking when they practice, which was the desired outcome for this research study.

Views About Critical Thinking

In many disciplines, critical thinking has many interpretations. However, critical thinking is essential and a requirement in the nursing profession to improve nurses' awareness and enhance nursing knowledge. Because of the ambiguous nature of critical thinking, Carbogim et al. (2016) utilized Rodger's Evolutionary Model of concept analysis, a method used to describe, explain, and clarify concepts in nursing and other health sciences. They used the model to analyze the concept of critical thinking. The authors discovered that critical thinking had several substitute terms, but analytic thinking and critical-creative thinking were the most frequent synonyms used in nursing practice. Carbogim et al. also found that critical thinking involved analysis and comprehending. They believed that understanding the whole is limited to analyzing the parts, making critical thinking the core competency to decipher health issues.

It requires a critical mind to be a successful nurse. According to Abiogu et al. (2020), nursing students cannot connect, synthesize, or integrate their current learning experiences without critical thinking and clinical judgment, resulting in the inability to synchronize, apply, assess, and make valued judgments. The authors concluded that it is disturbing that few research studies addressed how to improve students' ability to think critically, despite its importance. The above statements are exceptionally relevant to nursing practice and the new nurse. Critical thinking is the skill reported lacking in the literature and causing the preparation-to-practice gap. Nurses must use critical thinking to

recognize, analyze the situation, comprehend what is happening, and identify the patient's symptoms before deciding on the treatment (Carbogim et al., 2016). The new nurse needs critical thinking skills (analysis, comprehension) to analyze the clinical situation to comprehend the patients' condition. Without these essential critical thinking skills, patients' lives are in danger. The illustration of the concept by Carbogim et al. showed the relevance of researching critical thinking, obtaining different points of view, understanding how nurse educators apply and enhance it to benefit new nurses, patients, and the nursing profession.

In addition to analyzing the concept of critical thinking, Carbogim et al. (2016) stressed its importance in nursing practice. They reported that critical thinking is necessary to evaluate, examine, classify the patient's condition, and create hypotheses about the symptoms. The authors referred to critical thinking by stating that clinical reasoning is an essential element of critical thinking. Clinical reasoning allows one to make a clinical judgment that results in clinical decision-making (Carbogim et al., 2016). This statement provides evidence that other fundamental nursing practice concepts such as clinical reasoning and decision-making are dependent on the nurses' ability to think critically. The authors concluded that critical thinking includes the capabilities and behaviors necessary for accomplishing diagnostic accuracy, and it allows nurses to fulfill the needs of the changing world.

Knowing how to think critically seems to be the answer to eradicate the preparation-to-practice gap. According to Carbogim et al. (2016), critical thinking and its structural elements are transitional instruments to guide practitioners to be assertive and

create safety and independence in their clinical practice. These are the critical thinkers needed in today's healthcare system to promote patient safety. Wilkinson (2012) believed that nurses require a markedly different solution because of the unique issues they face to meet patients' needs. Wilkinson felt that, unlike other professions, critical thinking is challenging for nurses because they have to be precise in solving problems quickly, encounter deteriorating patient situations frequently and because the nursing profession is practical. Thus, critical thinking could function as a mediating tool to enhance thinking, practice, and the competency of the nurse's ability (Carbogim et al., 2016). As a result of the importance of providing safe patient care, Carbogim et al. stated that more studies are needed because critical thinking evolves with time. The healthcare industry has changed. Nurses have to deal with more chronic diseases and complicated treatment plans. The mortality rates are getting higher. Therefore, there was a need to research the root cause, the lack of critical thinking to help solve these problems.

In today's society, the emphasis is on self-directed learning. Riegel and da Graca Oliveira Crossetti (2018) added that critical thinking is a self-disciplined and self-guided tool. According to the authors, a strong sense of discipline and focus is essential for the crucial thinking aspect to be effective. If thinking is unchecked, nurses could be misguided and deliver poor patient care. In Riegel and da Graca Oliveira Crossetti's view, a constant comparison of nurse practice with evidence-based practices in the nursing profession will help nurses begin to think critically, hence improving patient care quality. Critical thinking alone does not lead to quality patient care, but the nurse must also possess other attributes. Riegel and da Graca Oliveira Crossetti stated that a

combination of nurses' open-mindedness, foundational knowledge of the nature of diseases, continuous learning, passionate heart, and great clinical preceptors could ensure that nurses become critical thinkers in clinical settings. However, despite emphasizing self-directed learning, the authors believe nurse educators are responsible for helping nurses develop critical thinking.

Critical Thinking Development

It is pertinent that nursing instructors assist students in developing critical thinking. Riegel and da Graca Oliveira Crossetti (2018) asserted that a good start to developing critical thinking skills is to have a curious mind that often questions and has a quest for knowledge. They also believed it is vital to understand the human body's intricate anatomy and the general function of different body parts and organs. One essential step for developing critical thinking for new nurses is to ensure that they learn from nurses with a robust, practical experience base (Riegel & da Graca Oliveira Crossetti, 2018). AlThiga et al. (2017) conducted a study to examine nurses' and teachers' views of clinical training, clinical competence, and their role in preparation for clinical practice. The recommendations suggested re-examining nursing students' clinical training and encouraging learning opportunities for their clinical skills. AlThiga et al. also proposed further inquiries in the feasibility and usefulness of clinical instructions for nursing students and assessment tools. Akram et al. (2018) also recommended conducting more qualitative studies to learn more about clinical instructors' perceptions and gather information on clinical education. They believed this would result in an enormous leap in knowledge transfer and critical thinking integration in the classroom and clinical setting.

This information adds to this study's credibility to conduct more research on students' support for critical thinking.

Education and Critical Thinking

Professional training of nurses is imperative for two significant reasons; providing better patient care and meeting the changing health industry demands. Abdullah et al. (2019) reported that education should prepare the nurse for healthcare complexities, labor market demands, economics, technology, human life, and community service. They believed that there is a need for more critical thinking nurses to meet these challenges. They studied critical thinking and problem-solving in new nurses employing a quantitative descriptive study design. They found that nursing students had low scores in critical thinking and problem-solving. Abdullah et al. recommend emphasizing critical thinking starting from their initial training. They also saw that nurse educators' critical thinking needs investigating. In light of their findings, they recommended conducting further research studies on nurse educators' critical thinking and problem-solving practices making these recommendations aligned with the purpose of this study.

Critical Thinking and Clinical Reasoning

Clinical reasoning is an element of critical thinking. The process of clinical reasoning depends on the nurse's disposition of critical thinking and their attitudes, philosophical preconceptions, and perspectives (Lee et al., 2016). Hunter and Arthur (2016) articulated that nurses with sound clinical reasoning skills positively influence patients' outcomes. Nurses with poor clinical reasoning often fail to identify the impending patient deterioration, thus failing to rescue a patient. Inadequate clinical

reasoning is a significant aspect when perceived against the background in the increasing number of patients' adverse outcomes (Hunter & Arthur, 2016). According to Herron (2018), new graduates without critical thinking skills may contribute to adverse patient outcomes.

Reports by NSW Health Incident Management in the 2017 NSW Public Health System list the three primary reasons for patients' adverse outcomes; poor diagnosis of patients, inappropriate management of complications, and failure to institute proper treatment (Hunter & Arthur, 2016). Each of these reasons connects to the nurses' poor reasoning skills in one way or another. Hunter and Arthur (2016) also added that cognitive failure was a critical factor in 57% of clinical adverse events and several other features, including failing to synthesize and acting on clinical information. The authors proposed that nursing begins at the undergraduate level to encourage positive management and recognition of patients' deteriorating life quality (Hunter & Arthur, 2016). Thus, more research was needed to help nursing students use critical thinking in detecting deteriorating changes in patients' conditions.

To protect patients from deteriorating, nurse educators must support critical thinking and reasoning among nurses in training. However, Brown and McCurry (2019) stated that another obstacle for academia is the absence in the literature of strategies on how to enhance higher-level thinking. They also noted a range of inconsistencies among interventions used to increase clinical reasoning in measurement and evaluation. Brown and McCurry's findings from their study also revealed that mastery of basic educational knowledge and transferable skills are necessary but were not sufficient for nursing

students to provide high-level care. The lack of clinical reasoning caused many unfavorable patient outcomes, such as failure to recognize, intervene, and manage patients deteriorating status (Lapkin et al., 2010). The authors also think unfavorable outcomes were associated with below-standard clinical reasoning. Patients need early detection of problems, better long-term results, and lower complication rates. These outcomes can only happen with appropriate interventions and implementing successful preventative measures. Manetti (2019) stated that ongoing assessment of the clinical judgment of registered nurses is essential. The author also believed that nurses require better knowledge of sound clinical judgment to achieve better healthcare quality outcomes and suggested conducting other research studies.

Nursing knowledge is increasing, and the changes in healthcare require integrating critical thinking, clinical reasoning, and evidence-based practice. Hofler and Thomas (2016) stated that new graduate nurses need to synthesize evidence-based knowledge due to new healthcare policy initiatives and patient care uncertainty. They also believed that cultivating an independent practice and high functioning critical thinking nurses required support from organizations. These demands placed pressure on nursing programs to produce nurses who can be efficient from the minute they graduate. The authors believed that it is difficult to change the new health care delivery system; however, nursing programs and techniques can adjust to assist with confidence building and competence for new graduate nurses to transition into practice. They stated that the requirement for critical thinking nurses places a burden on educators for having healthcare practitioners ready to work (Hofler & Thomas, 2016). Sommers (2018) argued

that there is a need to improve internationally critical thinking, clinical reasoning, and clinical judgment in nursing education. This statement declared how extensive and widespread the demand is to address critical thinking globally, which gave merit to conducting this study.

The acquisition of critical thinking will help solve the preparation-to-practice gap. Victor-Chmil (2013) believed that the acquisition of critical thinking skills would help develop the capacity for nursing students to evaluate the data obtained (critical thought), add rationale to the data acquired (clinical reasoning), and act appropriately according to the circumstance (clinical judgment). These skills allow the new graduate nurse to use current and past health problems to create safe, personalized treatment plans for each patient. Scheffer and Rubenfeld (2000) posited that critical thinking is the prerequisite for high-quality patient care. Ali-Abadi et al. (2020) believed that the application of critical thinking should enable nurses to meet the complex and diverse requirements of clinical nursing practice. However, when Ali-Abadi et al. investigated and compared the nurses' critical thinking on the medical-surgical and the intensive care unit, they found that nurses working on these units have poor critical thinking skills. They concluded that educational institutions, clinical settings, and in-service training had not improved the nurses' critical thinking. They recommended implementing different teaching and learning strategies and conducting evidence-based research to enhance nurses' critical thinking reinforcing this study's purpose.

Summary and Conclusions

This basic qualitative study outlined a competency issue with new graduate nurses who do not seem to have in-depth expertise and critical thinking skills, given the implementation of national exams that measure critical thinking among nursing graduates. In addition, the study investigated how the college faculty supported ADN students' critical thinking knowledge to ensure that they are prepared to care for patients. To carry out a successful literature review of the relevant variables included in this study, I used various databases and search engines to collect the relevant literature for this research. They consisted of databases such as Google Scholar, Business Source Complete, EBSCO Host, ERIC, SAGE, ProQuest, Science Direct, and Journals. Key terms used to prepare the relevant literature review included clinical reasoning, critical thinking in nursing, associate degree nursing program, nursing practice, entry-level nurse competencies, clinical competence, nurse educators, clinical judgment, clinical skills and practice, and quality patient care.

Research findings from this preliminary search indicated that the preparation-to-practice gap had prevailed for four decades, and little had changed. Because there had been little change with such a life-threatening issue, this highlights the study's need to explore the faculty's tools to support critical thinking. The literature provided proof that there was a preparation-to-practice gap, an existing disparity between nursing theory and nursing practice, a global competency issue, controversy within the nursing community, and damaging care safety issues for the public (Hawkins et al., 2018; Missen et al., 2016; NCSBN, 2018). There was also evidence that 50 % of new nurses cause medical errors,

and 65% of these errors result from poor clinical judgment (Bristol, 2019; NSCBN, 2018). The preparation-to-practice gap is an imminent challenge for the nursing profession and affects patient safety.

This research intends to help fill the gap in practice by documenting techniques the faculty used that have proved successful and unsuccessful in improving critical thinking. Understanding the nursing faculty's approaches and the challenges they face will educate the nursing faculty, improve the nursing program by helping students think critically, and make sound clinical judgments as they provide care to patients. In addition, the preparation and encouragement provided to students can affect their actions and outcomes when they practice nursing. Furthermore, the study's findings intend to bring about social change by informing and changing the nursing education programs on how critical thinking and clinical judgment skills are identified, prevented, managed, enhanced, and supported. Finally, the study findings could demonstrate how to avoid harming patients by executing a well-planned nursing curriculum with appropriate instructional strategies focused on the students' and patients' needs. discuss the intent to achieve these goals in the following chapter. For the next chapter, I provide information on the research method, the design and rationale, the researcher's role, the data analysis plan, the trustworthiness of the study, and the ethical procedures.

Chapter 3: Research Method

This research study used a basic qualitative design. The purpose of this qualitative study was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. Qualitative research is interested in participants' perspectives, feelings, and beliefs. It allows for various data collection, such as interviews, that the researcher will use to support the research questions (Merriam & Tisdell, 2016). For this chapter, there are discussions about the research design and rationale, the researcher's role, the methodology, issues with trustworthiness, ethical procedures, and the chapter culminated with a summary.

Research Design and Rationale

The research questions for this research study guided my exploration of how nursing faculty supported nursing students to think critically. The research questions are,

RQ1: How do faculty support students' critical thinking to provide care to patients in an ADN program in a Northeastern state?

RQ2: What barriers prohibit faculty from developing critical thinking in nursing students in an associate degree program in a Northeastern state?

Central Phenomenon

The central phenomenon of this study was critical thinking and an investigation of how nursing faculty supported critical thinking in nursing students. The literature review revealed that according to researchers and educators, critical thinking is a universal skill. However, they also thought it must be discipline-specific (Dos Santos Martins Peixoto & Dos Santos Martins Peixoto, 2017; Scheffer & Rubenfeld, 2000). As defined in the

nursing context, critical thinking helps identify the source of the problems, address critical issues, provide a thorough analysis, find a solution, and resolve the issue.

Moghimi Hanjani and Tajvidi (2019) argued that critical thinking is evolving, and it depends on the context where it takes place. They also posited that teachers and students adapt reasoning to the logical-purposeful and results-oriented process. Furthermore, national and international nursing organizations emphasized critical thinking and recognized it as a tenet for the foundation of nursing practice (Papathanasiou et al., 2014). For these reasons, Kalb et al. (2015) believed there is an immediate urgency to teach critical thinking in nursing schools.

Research Tradition

The nature of the study followed a basic qualitative design. Based on guidance from Merriam and Tisdell (2016), the qualitative design is the most common of all research designs in education. Percy et al. (2015) stated that researchers trying to understand people's subjective opinions regarding real experience should consider using a generic qualitative approach. The flexibility of this research method provided opportunities to investigate the problem. Merriam and Tisdell stated that intellectual interest in a phenomenon motivates basic qualitative research. The researcher conducting basic qualitative research is interested in how the participants interpret their experience and the meaning they apply to it.

Rationale for Research Tradition

This type of research was appropriate for the study and aligned with the faculty support for critical thinking of ADN students. Merriam and Tisdell (2016) stated that the

basic qualitative study's primary goal is to know more about the phenomenon. According to Creswell (2014), the qualitative research method explores a central phenomenon, different views, and meanings to the study participants. This design fit the study well because the participants described, explained, and gave sense to the phenomenon, while I saw the process and interpreted the result. In addition, inquiring how faculty fostered critical thinking provided insight into the lack of fundamental thinking problems, obtained new perspectives, and gathered additional information.

The phenomenological, ethnographic, grounded theory, and narrative research study approaches would not have been appropriate for this study because those approaches are used to study other types of research (Merriam & Tisdell, 2016). The phenomenological study aims to answer questions about meanings and understand the participants' lived experiences (Patton, 2016). Researchers also choose this method to study a particular group's day-to-day existence. According to Merriam and Tisdell (2016), a phenomenological study is suitable for addressing emotion, affect, and life experiences. However, in this research, I was not trying to find out the essence and underlying structure of the phenomenon, understand the interaction of individuals, build a theory, or tell people's stories. Therefore, the basic qualitative research was the most appropriate to answer the research questions.

The qualitative design was appropriate for an in-depth understanding of educational processes, improving practice, and expanding knowledge (Merriam & Tisdell, 2016). In addition, the design was relevant to the study because it aimed to uncover strategies, discover techniques, inform curriculum revision, help fill the nursing

preparation-to-practice gap in a Northeastern state. The nursing faculty is responsible for preparing nursing students with specific critical thinking skills to begin their practice. However, numerous researchers presented evidence, documented in previous sections of this study, showing inadequate preparation of student nurses.

According to Bradshaw et al. (2017), qualitative research is significant when the phenomenon is directly related to those investigated. Therefore, the participants' perspectives are imperative in qualitative research to explore. Thus, the basic qualitative design allowed for interviewing the faculty, obtaining insight into their perceptions, self-reported behaviors, and intentions. It also allowed investigation of the problem in its context. Since the study intended to create social change, the participants' perspective was vital because the faculty are the ones who will implement the findings and recommendations that resulted from the inquiry. As a consequence of the inadequacy of critical thinking and the announcement by the NCSBN of a new NCLEX-RN exam with a greater level of difficulty in 2023, it was essential to start investigating ways to improve students' critical thinking (NCSBN, 2018).

Role of the Researcher

As the researcher, I played a direct role as the research instrument, impacting data collecting and analysis (Geddis-Regan et al., 2021). First, I conducted the interviews according to the research design and the questions. Then, I collected the data, wrote notes, and recorded the participant's answers with their permission. Finally, I transcribed the data, analyzed it using Braun and Clarke's six-step thematic analysis, presented the findings as stated by the participants, and monitored for any bias and assumptions that

influenced the participants and the research results. For example, Asselin (2003) posited that the researcher should gather data with open eyes and assume that they do not know about the phenomenon in question. In this situation, I bracketed assumptions and was aware of biases. In addition, I exercised introspection by analyzing feelings and attitudes to avoid prejudices and preconceptions that would influence understanding the data and the results.

Professional Relationship and Biases

I have a professional working relationship with the participants. I work with the nursing instructors for the same organization and have equal responsibilities. According to Geddis-Regan et al. (2021), a researcher's own experience, professional experience, and academic experience can impact data interpretation. For this research study, the participants and I are responsible for teaching different nursing topics and taking students to clinical sites for their practical experiences. There were no ranks, supervisory roles, or anyone exerting power over each other. Four of the faculty have a master's degree, and four have a doctorate. The possibility of researcher bias in this study would have been in collecting, interpreting, and presenting the data to support my prejudgment. Another way would have been to lead the participants to answer the questions in a certain way. Geddis-Regan et al. (2021) stated that reflexivity is essential in clinical research to manage ethical issues surrounding the position, identity, trust, and disclosure process. I managed bias by understanding how a researcher's viewpoint can influence the outcome, not encouraging one finding over the other, and using reflexivity.

Ethical Issues

The ethical concern for this study was that I worked with the participants and carried out the research in the workplace. According to Hull (2017), when researchers have insider knowledge, it can cause preconceived notions, cloud objectivity, and affect the research findings and the researchers' ability to see the truth. However, Creswell (2014) stated that despite suggestions to avoid site-based research, research conducted on personal sites is unavoidable and required in some applications. To address this issue, Hull recommended using *reflexivity* that is critically reflecting on the self as a researcher. I was honest and open, and I acknowledged all biases about the research study process because biases can affect the study's findings. There were no challenges that arose from the interview process. I would not have ignored challenges if any occurred but would have undertaken self-reflective reporting of all decisions. I would have used a reflective journal to log details of how I negatively influence the findings with prejudiced, subjectivity or make the research findings seem more positive than the actual findings. Ravitch and Carl (2016) recommended asking reflection data generation questions such as: How do I present myself, the research topic, the goal, and what informs those choices? Applying reflexivity helped understand, evaluate prejudices or preconceptions, and focus on the essence of interaction to control bias results.

Managing Research Bias

I used member-checking to help to avoid biases in the research study. Member-checking is a technique used by sending the data analysis transcripts to the participants to verify their accuracy. If there were discrepancies, responding to the faculty member's

concerns or questions in person or by email would be the way to address this issue. Revisiting the data to look for the omission of the faculty member's perception and misrepresentation would be another way to solve this issue. Careful examination of the faculty members' interview transcripts, checking the notes line by line, coding the data again, and looking for themes as previously done would indicate any mistakes. Finally, sharing the new information by sending the revised findings to the participants for another review and confirmation would verify the accuracy of the transcripts. I would also discuss the feedback with the nursing faculty who disagreed with the study's findings.

According to DeCino and Waalkes (2019), member checking increases accuracy, strengthens credibility, reflects on the topic, and creates change. Member checking helps the reader understand how I conducted, interpreted the data, and influenced the study's conclusion. In this research study, I sought information to take ownership of critical thinking issues that affected instruction, curriculum, and healthcare services. I approached the data collection process, understanding that the faculty are experts in their own experiences. I was aware of influencing the participants and how it could affect them. Merriam and Tisdell (2016) also stated that the researcher must be reflective, consider positionality, explain their biases, disposition, and assumptions regarding the research study. The position taken for this study was that of an inquirer, seeking to obtain information and remain authentic as possible to the participants' experiences.

Bracketing is another method that researchers use to prevent biases. Dorfler and Stierand (2020) defined *bracketing* as "the researchers' attempt to hold in abeyance their

pre-understandings and assumptions to attain experiences before making sense of them” (p. 1). I utilized bracketing by setting aside any presupposition surrounding critical thinking, focusing on its essence to understand it from the participant’s perspective. Bracketing helped with the internal suppositions regarding previous knowledge of critical thinking and assisted in interviewing the faculty with an open mind. Bracketing previous understandings, attitudes, inclinations, and convictions helped obtain a more comprehensive understanding of the participant account. Bracketing also helped when transcribing the notes. Recollecting the interview process increased awareness of missed bracketing during the interview. Finally, bracketing was beneficial during the data analysis phase because it helped make sense of the findings (Dorfler & Stierand, 2020).

I offered the participants an incentive of a gift card worth \$10. At the end of the interview, I gave them the incentive to prevent them from feeling obligated, influenced, coerced, or pressured to participate in the research study. This token showed appreciation for taking the time out of their busy schedules to participate in the research study. Information that the participants can withdraw from the research study was in the informed consent. At the beginning of the interviews, I reminded the participants that they could withdraw during the research study.

Methodology

The population for this research study was nursing faculty from an ADN program in a Northeastern state. The nursing faculty were from diverse backgrounds and ages, and the diversity and experiences generated rich data. Therefore, I used a purposeful sample for this research study. The criteria for using the purposeful sampling were, having

participants who possessed specific knowledge (nursing), had relevant knowledge about the phenomenon of interest, were well-informed, and could provide pertinent information to answer the research questions (Campbell et al., 2020). In addition, I used a purposeful sample to select a homogenous sample for this research study based on the shared requirements of the faculty's job description, role performance, and who could best answer the research questions.

The reason for choosing this type of sample rested upon Pattons' (2015) criteria that a purposive sample allows the researcher to gain a significant amount of knowledge about the issues central to the research study's purpose. The goal of selecting the purposive sampling was to identify the individuals with the experience that shed light and yielded the most relevant information to answer the research question. I chose this sample because the faculty teach nursing students who may lack critical thinking skills. I selected the nursing faculty because the literature called for further research studies in qualitative and quantitative studies focusing on developing strategies to support nursing students' critical thinking (Lee et al., 2016; Wosinski et al., 2018). The participants were clinicians who understood that critical thinking is a necessary ability. They were selected based on nursing students' critical thinking needs, and that critical thinking is crucial for decision-making, diagnosis precision, proper patient management, and positive patient outcomes. The nursing faculty provided rich descriptive perceptions of how they supported students' critical thinking.

Participant Selection

The following criteria made the faculty meet a homogenous sample for this research study. The faculty met the requirements because they held a master's degree or a doctorate in nursing education. They were full-time or part-time instructors who taught nursing students in an ADN program. They were familiar with the phenomenon of critical thinking. Weekly, the nursing faculty took nursing students to clinical sites to take care of patients. Teaching and working in hospitals made them experts in patients' and students' needs. The faculty worked in acute care settings on nursing units such as medical-surgical, cardiac, pediatric, maternity, psychiatric, and orthopedic. The variety of faculty specialties, knowledge of patients' pathological diseases, hospital settings, policies, procedures, and expectations provided valuable data from a cross-section of perspectives, backgrounds, clinical units, and experiences.

Number of Participants

There were 10 full-time nursing faculty. The goal was to obtain at least eight faculty members to participate in the research study. Patton (2015) indicated that the sample size depends on the purpose of the study, what you intend to find, its usefulness, what is at stake, credibility, available time, and resource. According to Ravitch and Carl (2016), for qualitative research that uses a purposeful sample, the goal is not to generalize but to rigorously, ethically, and thoroughly answer the research question, making the sample size less important. The rationale for this number of participants was that I want to use full-time or part-time instructors who teach in the nursing program, write and execute the curriculum, evaluate the course and the nursing program outcomes. Creswell

(2014) also stated that the basic qualitative study focuses on a small number of people within a particular department and within a given period.

Merriam and Tisdell (2016) stated that a tentative sample is appropriate for a dissertation. Patton (2015) recommended specifying a minimum sample size for thematic analysis. Although this statement may be correct, participants can withdraw from the study before and during the research. In addition, different nursing programs execute their curriculum in different ways. For this reason, I used the participants from the specified Northeastern ADN nursing program to understand their perceptions of how they supported the students' critical thinking.

Identify Participants

Identifying the participants was not difficult because everyone worked for the nursing department. I contacted and recruited the participants using the faculty Listserv after approval from Walden University and the research site's institutional review board (IRB). I also obtained permission from the director of nursing. The email invitation included an electronic letter explaining the study's purpose and inviting them to participate. The letter informed the participants that the interview was voluntary, asked permission to record the interview, and explained that they could decide not to participate at any time. I asked that they sign a consent form if they agreed to the terms. I ensured to respect their privacy, keep the information confidential, and preserve their identity.

Instrument

The data collection instrument was the researcher-developed semistructured interview questions. Numerous authors documented the value of interviews in qualitative

studies. For example, Aurinni et al. (2016) stated that interviews are a way to collect knowledge about human behavior, belief, and feeling. Ravitch and Carl (2016) believed that interviews allow the researcher to obtain rich, meaningful, and relevant data. According to Merriam and Tisdell (2016), interviewing participants enable researchers to enter their perspectives. This research study aimed to obtain the faculty perspectives about how they supported nursing students' critical thinking. Therefore, interviews were the most appropriate collection instrument since they allowed me to get the participants' views.

Source and Sufficiency of Data

I used an in-depth semistructured interview approach to address the research questions. The interview and questioning technique were more flexible and gave more autonomy to ask pertinent questions. The data collection instrument was the interviews. The interview questions were open-ended and based on the research questions. I followed the instructions taught in the research classes at Walden University and the guidelines stated by Aurinni et al. (2016), Merriam and Tisdell (2016), and Rubin and Rubin (2012) to help formulate the interview questions and design the interview protocol (see Appendix). Aurinni et al. (2016) posited having different sections to the interview protocol. They stated that the protocol should have an introductory paragraph. Then, the body should include the warm-up, central, and cool-down questions. Aurinni et al. also believed that transition statements should be between sections, some probing questions, and ending the interview with a closing remark. Following this questioning technique was advantageous because it allowed digging deep into the participants' mindset. The

open-ended questions were helpful because they enabled discussing the topic in detail, used cues or prompts, probed to elaborate, and asked follow-up questions. The nursing program serves a diverse student body, thus formulating the right questions to elicit how the faculty supported critical thinking in this diverse population was essential to understand. Therefore, the focus was on critical thinking and sought answers to how the faculty helped nursing students achieve this level of thinking.

When the interviewees agreed, I recorded their answers to the interview questions on an audio recorder. Audiotaping helped me listen to what the participants said, respond accordingly, and not be distracted by writing down every word of their answers. The tape recording allowed the discussion to flow, captured the entire interview, helped analyze the data collected using the interview questions, and helped ensure no cues were missed or overlooked. There were no historical or legal documents used as data for this research study.

Besides the data collected from the transcripts of the recorded interviews, I took notes during the interviews and wrote reflections following them as an additional data source. The information collected during the interview by taking notes, recording the interviewees' responses, and writing reflections were sufficient data collection instruments to answer the research questions. Merriam and Tisdell (2016) proposed writing reflective journals because they may contain insights suggested by the interviewees and the researchers' thoughts. As the research instrument, I considered different variables affecting the data collection process. For example, I could judge based on personal views, concept knowledge, biases, and thought processes. The impact bias

can have on the researchers' thought process could influence the construction of the interview questions. For example, including only questions supporting the literature review that new graduates are not prepared to practice and no questions to discover the rationale. Such questions can distort the data collection, interpretation, reporting, and dissemination of the findings. I was open about the questions and did not ask questions that embarrassed the faculty or lowered their self-esteem. Due to cultural sensitivity and the collegial relationship with the respondents, they may feel uncomfortable during the interview. I treated the participants with respect and made them feel comfortable. I had a dialogue with the faculty, reminding them of the venue, confidentiality, informed consent, and the opportunity to withdraw from the study. This process was done with the faculty to build trust and guide future decision-making.

The basis for creating semistructured interview questions was that they represented the most common instrument for qualitative research and health education research studies (Bearman, 2019; DeJonckheere & Vaughn, 2019). I wrote, modified, and reworded questions to fit the interview context best that provided more suitable responses. According to DeJonckheere and Vaughn (2019), the purpose of developing semistructured interview questions is to gather information from the primary informants. They have personal experiences, attitudes, opinions, and beliefs related to the topic of interest. Semistructured interviews allowed asking direct questions that link to the research questions and permitted faculty members to discuss their experiences.

Content validity refers to the instrument's relevance and whether it represents the phenomenon. I established content validity by ensuring that the semistructured interview

questions asked about the participants' perspectives and aligned with the research question. Therefore, all the interview questions elicited how the faculty supported nursing students' critical thinking. Content validity also involves evaluating the instrument's relevance using an expert panel. Almanasreh et al. (2019) recommended using an expert panel with substantial training involving the target population and professional credentials in the related area. According to Merriam and Tisdell (2016), the researcher can pilot the interview questions with a friend or colleague. Therefore, I used an expert panel of registered nurses with years of teaching and clinical experience to review the data collection instrument for the relevance of the items to answer the research questions. As mentioned before, the participants' responses, notes taken during the interviews, and the reflective data were sufficient. I analyzed the data into codes, patterns, categories, and themes until it saturated and answered the research question.

Procedures for Recruitment, Participation, and Data Collection

I followed the research protocol by applying for approval for this study. Once Walden University's IRB authorized the study, I also obtained permission from the research site to carry out the research. I contacted the director of nursing and discussed the purpose of the research study. I asked for permission to use the Listserv to communicate with the participants since we had a professional working relationship. When I got permission, I emailed the full-time and part-time faculty the informed consent, which served as the invitation letter, and asked them to participate in the study. I explained that the research was educational and had all participants sign the informed consent. I also explained why I chose them to participate, their commitment, and that

participating would be voluntary. I informed the faculty that their identity and the data would remain confidential. A coding system would prevent anyone from tracing back the information to them, and they could opt out of the study without any reprisals. I informed the faculty that I would send them the information I gathered without revealing their identity in the study's aggregated findings

Location of Data Collection

The original interview setting was at a community college in a Northeastern state. These interview meetings would be in a private conference room. I chose this location to prevent undue stress on the faculty because they came to the college weekly to work. If any faculty members were uncomfortable with this location, I would find another private, convenient location that suits the participants' time and schedule. The interviews would be face-to-face. However, if there was a problem conducting face-to-face interviews, the plan was to conduct these interviews via Zoom and follow up with phone calls and emails if needed. However, the interviews were via Zoom because of the nature, severity, social distancing, and the participants' preferences related to the COVID-19 pandemic.

Frequency, Duration, and Recording of Data Collection

There was a one-time occurrence for the interview sessions, and they lasted between 40 to 60 minutes. I recorded the interview sessions using an audio recorder. I reminded the participants that I would record the conversation and explained that they could decline if they were uncomfortable. These recordings captured all of the interviews, which were helpful when analyzing the data. In addition, there were opportunities for follow-up questions and member checking for accuracy of the information. Candela

(2019) stated that member checking is an essential validity measure for accuracy, disagreement, or agreement with the data analysis. Finally, I forwarded the study's transcripts to the participants to verify whether they accurately represented their perceptions.

Study Exit and Follow-Up Procedure

When the participants were about to exit the study, I referred to the interview protocol for the wrap-up questions. Aurini et al. (2016) recommended thanking the interviewee for taking the time to talk with you, emphasizing an appreciation for their time, and making it known how valuable the information they gave contributed to understanding the issue. Yin (2017) recommended that the researcher let the participants have the last word. I asked if they wanted to add any information or if they had any questions. I reminded the participants to call the telephone number on the consent form if they had something that they wanted to add or asked about the interview. I told the participants that I would send them the transcript to review within 1–2 weeks. This process was member checking and was essential to verify the accuracy of the research findings. Finally, I offered the participants a \$10 gift card and told them I would contact them if I needed additional information. Grant and Sugarman (2004) stated that rewards such as gift cards help reimburse any incidental costs of participating in an interview process when used correctly. However, only two of the participants accepted the card.

Data Analysis Plan

To connect the data to specific research questions, the researcher must analyze the data to find themes. Thematic analysis is one method used to discover meaningful

information in qualitative data. I used Braun and Clarke's six-step thematic analysis to analyze the data for this study. However, before the coding began, I hired and worked closely with a transcriptionist to ensure accurate and verbatim audio recordings transcriptions. I requested that the transcriptionist sign a confidentiality form, which I locked away with all the other documents that the participants signed. The type of coding I used was open coding. Open coding is the initial process for labeling concepts, defining, and developing categories (William & Moser, 2019). Open coding for this study began with the preliminary reading and rereading the data, made comments next to what seemed essential to answer the research questions, and discretely labeled them. After several revisions, I imposed a structure by looking for similarities and differences in the code and grouped them into categories. Next, I stopped coding and proceeded to the next level of conducting a thematic analysis.

Braun and Clarke's six-phase framework are techniques used for conducting thematic analysis in qualitative data. Braun and Clarke (2006) posited that the steps to perform a thematic analysis are becoming familiar with the data, generating initial codes, searching for themes, reviewing, defining, and writing up the themes. Therefore, Braun and Clarke's step-by-step thematic analysis was suitable for this research study because it provided a logical process to analyze the data and the readers to see how the themes emerged. Furthermore, this explanatory thematic framework offered by the authors was clear, detailed, rigorous, and provided a solid starting point to analyze the data.

Step 1 of the thematic analysis was becoming familiar with the data. According to Braun and Clarke (2006), researchers need to immerse themselves in the data to

understand the complexity and breadth of the information to obtain the best result. Therefore, the first step I took in the data analysis process was to examine all the interview notes. When all the transcripts were available, I began to scrutinize them. At this phase, I applied Braun and Clarke's (2006) recommendations to read and reread the transcripts, get familiar with all the data, make notes, identify relevant quotes and repetitious words, search for meanings and patterns, and make jottings. These transcripts required extensive and repeated examination of the data and multiple readings. After multiple reading attempts, I examined the participants' answers to specific research questions, recognized patterns, and attempted to interpret patterns and keywords, hoping to understand the data.

The second phase entailed generating initial codes. For this data analysis phase, I began with organizing the data. Braun and Clarke (2006) recommended arranging the data in a meaningful and systematic way. I started looking for main ideas, concepts, and patterns and used broad code names initially. Braun and Clarke explained that coding allows the researcher to cover large amounts of data and reduce them to small chunks of information with meanings. I used open coding to initiate and modify codes as I examined different data segments. The coding method was also dependent on selecting data that addressed and is relevant to the research questions. I also looked at the notes and compared them to the transcripts for accuracy as I analyzed the data. This process started showing the connection of the data to specific research questions. I used different labels, abbreviations, color identifiers such as highlighters and pens to differentiate the codes.

The third phase of the data analysis is to search for themes. Maguire and Delahunt (2017) described a theme as a pattern that captures important facts or significant information about the data or the research question. Braun and Clarke (2006) explained no hard and fast rules about what makes up a theme. To determine the theme for this research study, I sorted similar codes and placed them in categories. First, I noted where some codes fit together to form themes. Next, I moved codes around to find themes that best reflected the correct data analysis in answering the research question. According to Maguire and Delahunt, themes can tell the same story from different perspectives or stories that connect, showing a pattern in the data relevant to the research question. I utilized the reflective journal as an analytic lens to avoid biases, personal assumptions, and goals throughout the analysis process.

The fourth phase of the data analysis was to review the themes. First, I reviewed, modified, and refined the preliminary themes. Next, I merged the data by cutting and pasting the data relevant to each theme on an Excel spreadsheet. Then, I decided whether I wanted to keep, combine, refine, simplify, separate, or discard initial themes. Next, I followed Braun and Clarke's (2006) suggestions to check if the themes make sense, the data supported them, themes overlapped, themes within themes, the prevalence of themes, or other hidden themes. Finally, I made a second analysis to ensure the data correctly supported the themes. I also planned to utilize qualitative data analysis software, NVivo, to analyze the data. However, instead, I only hand-coded the data.

The fifth phase was to define the themes. Braun and Clarke (2006) posited that the researcher should identify the themes' essence at this phase. Therefore, I explained

each theme and showed how they relate. I accomplished this by analyzing the collected data extracts for each theme and integrated them into a cohesive and consistent representation of the participants' stories. There were no subthemes.

Braun and Clarke (2006) distinguished between semantic and latent analysis. A semantic thematic analysis focuses on the surface meaning of the data and the things explicitly stated by the participants. A latent thematic analysis focuses on the researcher's underlying assumptions and ideas to analyze the data (Braun & Clarke, 2006). According to Braun and Clarke, a thematic analysis usually focuses on these themes. This research study focused on the semantic thematic analysis, where the findings depend solely on what the participants reported. I did not look for anything beyond what the participants said or include any ideas or assumptions that could be biased. The latent thematic analysis would not be appropriate because it would not describe the participants' perspective but include theorizing, which does not apply to this research study.

The final stage was writing up the findings from the data analysis. Braun and Clarke (2006) described the last write-up as telling a complicated story to convince the readers of the data's merit and validity. Braun and Clarke also suggested to "provide a concise, coherent, logical, nonrepetitive account of the story the data tell" (p. 23). First, I provided enough evidence and documented how the findings emerged logically. I used direct quotes from the participants, examples, excerpts, and sufficient evidence of themes. This process provided compelling evidence that the research study results connect to the themes discovered within the data. In addition, I provided an audit trail with convincing proof showing the steps during the study and how I arrived at the

conclusions. An audit trail makes the research inquiry, strategy, data collection, data processing, and findings transparent. If there were no audit trail, the research study would be questionable. Finally, I compared this study's findings with the literature to see if the results supported, contradicted, or added new knowledge to the current nursing knowledge.

Trustworthiness

Credibility, dependability, and confirmability are techniques used in qualitative research studies. These techniques enhance the rigor of the research study. According to Cohen (2006), credibility occurs when the research study findings accurately reflect the participants' perceptions. Member checking was the process I used to establish credibility for this research study. I carried out member checks by asking the participants to examine and verify that the transcriptions were accurate accounts of their perceptions. The research study is credible if there is a fit between the respondents' views, representation, and description of their perceptions (Nowell et al., 2017). Obtaining feedback from the participants would reflect any differences between the interpretation of the data and the participants' experience. The dissertation committee also conducted peer debriefing of the data analysis to ensure the themes are inherent in the research study's data.

Dependability

A research study is dependable after the researcher establishes credibility. Dependability enables the reader to follow a logical and traceable process when reading the research study (Cohen, 2006). To achieve dependability, I ensured the readers could follow an audit trail to see how I collected the data, methods used, the decision process,

the results, and an explanation of the findings. Nowell et al. (2017) also suggested using an inquiry audit to analyze research dependability.

Confirmability

Confirmability ensures that the study results are not figments of the investigator's imagination but derived and grounded from the data (Nowell et al., 2017). I presented evidence showing the methodology, analytic techniques, findings, and conclusions agreed with the data rather than my personal views. Nowell et al. (2017) suggested using an audit trail to determine how I conducted the study. This audit trail information was in the notes I wrote, participants' transcripts, the reflective journal, and the memos made throughout the analysis process. It also included the reasons for using the conceptual framework, methodology, and data analysis. Confirmability showed a step-by-step research study process where other researchers could confirm the study's findings if they desired.

Ethical Procedures

The importance of gaining approval for ethical principles and guidelines for protecting human subjects in research studies is well-established in the Belmont Practice Act. As the researcher, I avoided causing distress, anxiety, pain, harm, or any negative feelings to the participants. As mentioned previously, I informed the participants of their rights to privacy, confidentiality, and withdrawal from the study at any time they wished. I provided them the opportunity to make changes to their transcripts during or before the study's publication.

IRB Approval

Before conducting the research, I applied to the IRBs at both Walden University and the community college in the Northeastern state to approve the research study. The institutions also determined whether the research study posed a potential risk or harm to the participants and the institution. I also included the assigned IRB number from Walden University 07-27-21-073065 in the informed consent form provided to participants.

Ethical Concerns

The possible ethical concern foreseen was the faculty's commitment to doing the interviews. Commitment to the time may be stressful for them. They may also experience emotional discomfort when participating in the interviews. I took measures to prevent undue stress for all the participants by scheduling the interviews based on each faculty preferred date, time, and availability. This process adhered to their schedules, confidentiality, and decreased stress on time constraints.

As a precaution against emotional distress and other ethical concerns related to data collection, I reminded the nursing instructors that they could withdraw from the study if the interview questions made them feel uncomfortable. In addition, if they felt pressured to answer the questions or uncomfortable with the recording, I reminded them that withdrawing from the research study was without penalty or reprisal. I gave them the name and phone number of the campus counselor and support persons they could reach if there were any problems while conducting the interviews. There was a large quantity of data to analyze and overwhelming codes. Breaching confidentiality of information was likely to occur. Correct labeling prevented confusion and sending someone else's

statement to the wrong individual for member checking. It ensured that the participants' information remained confidential.

Treatment of Data

I saved all the informed consents, transcripts of the recording, and all other typewritten notes on a personal computer with a backup system that is password-protected and in a file that is also password protected. The tape recordings of the interviews and handwritten notes are locked away at home in a file cabinet that no one else has access to the key. All the data's original hard copies are secured, and I will shred them in 5 years. Furthermore, I will permanently delete all data stored on the hard drive after five years of publication.

Other Ethical Issues and Justification for Incentives

A previous section of this chapter discussed the ethical issue of conducting a research study in one's work environment. Hill (2017) stated that the researcher conducting backyard research knows the norms, the people, values and beliefs, and the program's history. This knowledge can influence the researcher's ability to see the truth generated in the study's findings. It can cloud objectivity. I used reflexivity to focus on the study's purpose and answers to the research questions.

Hill (2017) also stated that research in your work environment might be for a promotion or tenure. This study's researcher is a tenured faculty and shares the same rank as all the other faculty as joint coordinators of a nursing-level course. Getting answers to the research questions was related to advancing and enhancing the institution's nursing program, which was the sole intent of this study. The participants received a \$10 gift card

as an incentive for taking the time out of their busy schedules to answer the research questions. The participants did not know this information beforehand, and it did not influence their answers to the research questions

Summary

This chapter provided detailed information about the research method, design, rationales, and the researcher's role. Details related to the methodology, instrument, procedure for recruitment, participation, and data collection provided detailed information on how the research process proceeded. A thorough plan associated with Braun and Clarke's (2006) six-phase process detailed how I generated and analyzed the data to elicit codes, categories, and themes to answer the research question. The sections labeled Credibility, Dependability, and Confirmability explained how I achieved trustworthiness. Specific activities for protecting human subjects, such as signing consents, privacy, confidentiality, and withdrawal from the research process, are also provided. The final section of this chapter addresses the treatment and storage of the data, incentives given to the participants, and the ethical issues of researching in one's work environment. Upon approval of the proposal, the data gathering process began as described in Chapter 4, following the research plan's adoption.

Chapter 4: Results

The purpose of this qualitative study was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. The research questions and supporting interview questions allowed me to explore the perceptions of the nursing faculty and achieve this goal. The research questions were as follows:

RQ1: How do faculty support students' critical thinking to provide care to patients in an ADN program in a Northeastern state?

RQ2: What barriers prohibit faculty from developing critical thinking in nursing students in an associate degree program in a Northeastern state?

This chapter focuses on the setting of the study, data collection, data analysis, results, evidence of trustworthiness, and a summary of the research questions.

Research Setting

The intended setting for the research study was in a conference room at the community college or via the Zoom video-conferencing platform (<https://zoom.us>). However, because of the COVID-19 pandemic, all participants requested that I conduct the interviews via Zoom to minimize COVID-19 exposure. The participants chose the times and the dates they preferred for the interviews. They chose a comfortable section of their homes with no noise or distractions. The interviews were audio-recorded using Zoom. There were no personal or organizational conditions influencing the participants or their experience that affected the interpretation of the study results.

Participants Demographics

The study population included eight full-time nursing faculty from a community college in a Northeastern state. The participants' ages ranged in years, and they originated from diverse parts of the world: Europe, the United States, and the Caribbean. Among the participants were Whites, African American, and Hispanic instructors. Table 1 outlines demographic information about the participants.

Table 1

Demographics of Nursing Instructor Participants

Categories	Participants (N = 8)
Gender	
Women	8
Men	0
Age range in years	
31-40	1
41-50	3
51-60	4
Rank	
Full-time	8
Part-time	0
Tenured	7
Tenure-track	1
Highest degree in nursing	
EdD Education	1
DNP	3
Master of Science Nursing	4
No. of years working as a nurse	
11-20	1
21-30	7
No. of years teaching nursing students	
5-10	1
11-20	5
20-30	2
No. of years teaching at the institution	
5-10	3
11-20	5

Data Collection

The data collection process began after Walden's University IRB approval and the community college research committee gave their approval. With permission from the college research committee and speaking with the director of nursing, I got permission to use the college Listserv to obtain the participants' email addresses. I then emailed the consent form to the nursing faculty and invited them to participate in the research study. The consent form also served as the invitation letter. The study's inclusion criteria comprised full-time or part-time nursing educators with a doctoral or master's degree in nursing, familiarity with critical thinking, and experience taking nursing students to the clinical settings. If the educators were interested in participating in the study, they were to reply to the email stating they consented within 1 week.

Response times from the participants ranged from the same day to 3 weeks. Eight full-time nursing instructors consented to participate in the study, and some did not respond. In addition, I sent the interview questions to a panel of experts for their evaluation. Members of the expert panel were not part of the sample of participants. Instead, they only gave feedback, clarified, and validated the interview questions before the interviews began. The panel of experts responded with their feedback within a week. Based on the participants' availability, they arranged interview dates and times to fit their schedules. The interview scheduling and conducting the interviews took about a month to complete.

I interviewed the participants via Zoom video-conferencing because of the potential for exposure to COVID-19 and the participants' preferences. In addition, the

participants preferred the privacy and safety of their homes. Their homes had a serene atmosphere with nothing to disturb them. There was only one Zoom meeting with each participant for the interviews. The length of each interview lasted between 40 and 60 minutes.

Before the interviews began, I reviewed some sections of the consent form with the participants. These included the voluntary nature of the study, privacy, confidentiality, rights not to participate, stop the interview at any time, change their minds at a later date, and use of the contact information if they had questions. In addition, all the participants were aware that there would be a recording of the interviews. Therefore, they could refuse if they desired and not be treated differently or penalized. As a result, all the participants were comfortable participating and recording the interviews using the Zoom video-conferencing system.

I allowed the participants to ask questions before the interviews began or express concerns. The two main research questions and the supporting interview questions guided the interview to answer the research questions. In addition, there were probing questions interspersed throughout the interviews where appropriate and necessary to elicit additional information, explain, clarify statements, and make meanings clear. Finally, the participants could ask questions and add any relevant information not discussed before completing the interview. All recordings of the interviews were via Zoom.

I also took notes, observed nonverbal communication, and noted thoughts and feelings about the information obtained and whether the interview questions and answers provided an in-depth exploration of the research questions. The variations from the data

collection plan presented in Chapter 3 were that the interviews were not conducted face-to-face in the conference room, and I did not utilize NVivo software. However, Zoom video conference was anticipated and mentioned in Chapter 3 as the alternative method.

In Chapter 3, I indicated that hand-coding and NVivo software would be the means to code the data. However, I only hand-coded the data because the cost of the software was too expensive. Hand-coding made the process of coding, categorizing, and generating the themes understandable. It made analyzing the data meaningful, and I could see the connection of the data without assistance from the software. Hand-coding made sense and made it transparent to write up the findings. In addition, only two of the participants accepted the \$10 gift offered to them. The others stated that they were happy to participate in the study and refused to take the \$10 gift. There were no unusual circumstances encountered during the data collection process, and nothing out of the ordinary happened.

Data Analysis

To identify, organize, and provide insights regarding patterns of meaning across the entire set of data, Braun and Clarke (2006) suggested using thematic analysis. Thus, I employed Braun and Clarke's six-step thematic analysis to identify important information. Qualitative analysis involves three main stages: transcription, open coding, and axial coding. Transcription involved transforming the data collected through audio-recording into text. I hired a transcriber and worked closely to ensure accuracy and no discrepancy between the verbatim transcription and what the participants stated. Before

engaging, I requested that the transcriptionist sign a confidentiality form to affirm commitment to maintaining participants' confidentiality.

After successful transcription of the audio files, I conducted member-checking. I sent the transcripts to the participants via email, requesting that they review the content to see if it accurately represented their perceptions and make corrections if needed. I also requested that they return the transcripts within 1 week. In addition, I included the telephone number on the consent form and gave them the option of discussing any concerns over the telephone if they had questions. It took some of them more than 1 week to return the transcripts. None of the participants requested changes or clarification based on their reviews.

After completing member-checking, open coding was the next step. According to Williams and Moser (2019), open coding is the initial labeling of pieces of text that portray a particular meaning. On the other hand, axial coding refers to collapsing initial codes identified through open coding into categories and themes (William & Moser, 2019). In the current study, I used open and axial coding following Braun and Clarke's (2006) six-step process of thematic analysis, which I described in more detail in the following section.

Step 1: Become Familiar With the Data

While the transcriptionist transcribed the data, I listened to the recordings several times. As a result, I recalled similar responses from some participants. Then, I followed Braun and Clarke's (2006) thematic analysis approach when the transcripts were available. The first step of Braun and Clarke's approach to thematic analysis is

familiarization, which involves reading and rereading the transcripts to get the overall picture and understanding of what the participants communicated. I read the transcripts about three times. I also read the transcripts while listening to the audio recording to ensure accuracy, seek clarification, and familiarization. I would pause and skip back and forth to make sure what I heard matched the transcriptions. Next, I did another round of reading, and as I read, I started noting comments against paragraphs or lines of texts related to the study's purpose and research questions. Again, the primary goal of the initial coding cycle was to find essential and relevant meaningful text portions for subsequent analysis. Finally, as I continued reading and rereading, I highlighted similarities between the participant responses in different colors and used words or phrases as identifiers of the similar information.

Step 2: Generate Initial Codes

The second step was to generate the first set of codes from the data. Braun and Clarke (2006) recommended open coding over line-by-line coding. During the open coding phase, I highlighted segments of the data applicable to the phenomenon under investigation, the study's purpose, and research questions as recommended by Braun and Clarke. Saldaña (2016) described a code as a short phrase or word that summarizes or captures the essence of data. Therefore, I looked for repetitious words, phrases, and statements that emerged during the readings of the transcripts. Next, I developed codes based on the research questions. For example, the first research question asked about support for critical thinking. Therefore, I searched the data for only information that stated how the faculty supported students' critical thinking. As they became visible, I

highlighted what looked and sounded the same and continued this process as I read through the data. I used different labels, abbreviations, color identifiers such as highlighters and pens to differentiate the codes. I went over the data several times during this stage, performing the above steps numerous times on each participant's transcript. This second step took more than a month to complete. Upon discovering that the data were recursive, I knew that data saturation had occurred. Because of the repetition of data, I stopped coding.

Step 3: Search for Themes

The third stage marked the commencement of axial coding, which involves collapsing codes into categories that portray a broader meaning than the initial codes. First, I transferred the initial set of codes identified in the transcripts to an Excel spreadsheet to visualize them and categorize them more accurately. Next, I focused on previously coded passages and tried to create categories. Then, following Braun and Clarke's (2006) and Maguire and Delahunt's (2017) recommendations, I sorted the codes with similar meanings and placed them into categories. This second cycle of coding combined the initial codes to form groups of related codes. The categories emerged as I transferred, regrouped, and sorted the codes. I repeated this process until I identified enough categories to articulate themes. Finally, I used this method to identify all of the themes for this research study. In total, I identified 67 categories, which I further collapsed into 10 themes.

Table 2 represents an example of how I moved codes and grouped them, resulting in a list of categories and emerging themes.

Table 2*Second Cycle Coding for Categories and Themes*

Second cycle codes	Categories	Themes
Hospital and clinical restrictions Limited practical routines Clinical restrictions Facility restrictions Hospital limitations	Clinical and facility restrictions	Organizations' restrictions and limitations
Restrictions on medication administration Prohibited to perform procedures Prohibited from administering IVs Students restricted to do Accu-chek Limitation on time in clinical facilities	Restrictions against certain procedures	
Limited time to develop critical thinking Limited time to include all essential clinical aspects plus critical thinking Limited time for each student	Limited time in clinical facilities	

Step 4: Review Themes

For the fourth phase, I continued combining and modifying categories into themes. I checked the categories for coherence and made sure they matched the collapsed codes. I also moved categories around to answer the research questions and ensured each theme portrayed a particular meaning. As a result, I grouped related categories to form associated themes. I also collapsed some categories and separated others. For example, some categories the participants mentioned used open-ended, why, thought-provoking, NCLEX style, random, multiple-choice, and alternate format questions. I collapsed these questioning categories because they were teaching methods and came up with the theme of inquiry-based questioning. To account for the other teaching methods that the participants used to support critical thinking, I separated them into different categories: interactive methods, hypothetical scenarios and case studies, and simulations. Again, I

made sure the categories supported the themes and the perspectives of multiple participants. Finally, I reviewed the themes relating them to the research questions, the purpose of the study, and the reflective journal. The essence of reviewing the themes was also to ensure that the data supported them, they made sense, and the themes answered the research questions.

Step 5: Define Themes

In the fifth stage, I assigned a relevant name to each theme to give it meaning. The naming process did not require collapsing, splitting themes, and moving categories and codes around. Instead, it necessitated reading all of the compiled extracts for each theme to see a consistent pattern emerge. I then examined the theme for relevance to the data and whether it reflects the meanings found in the data. Next, I ensured that the themes had a relationship with each category and underlying codes forming them. Then I examined the themes for depth, richness, coherence and looked at the coded data extracts for each theme to see that a trend emerged. I then moved on to writing up the results.

Step 6: Write up the Themes

Finally, Step 6 began with a complete set of themes and entailed the final analysis and report writing. I presented the value and credibility of the research by creating a story and presenting the facts in an easy-to-understand manner that makes sense to the reader (Braun & Clarke, 2006). Thus, I embarked on writing the report, which included a description of how the themes fulfill the purpose of the study and answer the research questions. I provided a transparent, logical, non-repetitive narrative that the data tells across the themes. I provided extracts from the data with vivid examples indicating the

theme's recurrence. I also included excerpts in the report that answered the research questions on how the faculty supported critical thinking and barriers they encountered.

Results

Reading through the transcripts multiple times led to identifying commonalities among participants. These commonalities were coded based on words or phrases that appeared frequently. Once coded and merged to form similar categories, the categories established the themes that characterize the participants' perspectives. The following sections describe the themes from the data analysis that answered the research questions. There were no discrepant cases to factor into the analysis.

Research Question 1

The first research question was "How do faculty support students' critical thinking to provide care to patients in an ADN program in a Northeastern state?" Table 3 represents the themes obtained from the data analysis that addressed this question.

Table 3*Themes and Categories From Qualitative Data Analysis for Research Question 1*

Theme	Categories
Analytic process	Ability to analyze and assess bits of information Thinking clearly and accurately to analyze data Ability to analyze the choices available Ability to take key nursing concepts and analyze them An organized way of applying and, or analyzing information
Inquiry-based questioning	Asking questions Recap questions on what was done previously Asking the why question Test & rationale questions Thought provoking questions NCLEX style questions Question and answer sessions Open-ended questions Students ask instructor questions
Hypothetical scenarios and case studies	Use of hypothetical scenarios Use of case studies Real life examples and case studies Evidenced-based research case studies Unfolding case studies Using real life scenarios Real life experiences
Simulations	Incorporate simulation in the curriculum Importance of simulations Constant use of the lab for simulation Simulate clinical situations in the lab Virtual simulation Simulation exercises from the textbooks
Interactive methods	Group discussions Individual and group evaluation Working in groups Presentations Study groups Cooperative learning
Exhibit change in thinking and performance	Seen in testing and clinical performance See transition and growth Think critically, priorities appropriately and manage time Types of questions asked Handle situations differently Analyze what is going on

Note. These themes and categories emerged from qualitative analysis of nursing faculty interview data related to Research Question 1: How do faculty support students' critical thinking to provide care to patients in an ADN program in a Northeastern state?

Before seeking the answer to the research question, I wanted to know how the faculty defined critical thinking. The literature review stated that no single definition of critical thinking exists (Benner et al., 2008; Scheffer & Rubenfeld, 2000). Therefore, the first interview question directed to the participants explored how the nursing faculty defined critical thinking. It was essential to hear their perceptions and see any similarities in their answers. Throughout the discussions of the result of the study, I referred to participants as P1, P2, P3, P4, P5, P6, P7, and P8.

Theme 1: Critical Thinking is an Analytical Process

The interview question posed to the participants was How would you define critical thinking? The participants gave different definitions of critical thinking as it relates to nursing. However, the central theme for this question was that critical thinking is an analytical process. Table 4 provides the quotes from the participants, the categories, and how the theme emerged.

Table 4

Responses, Categories, and Themes for the Question “How Would you Define Critical Thinking?”

Participants responses	Categories	Theme
P2. “So, I think critical thinking is the students having the ability to analyze and assess bits of information that they gather.”	Ability to analyze and assess bits of information that they gather	Critical thinking is an analytical process
P3 “So, I have always thought about it as you know thinking clearly and accurately to analyze data in real-time you know, at the bedside.”	Thinking clearly and accurately to analyze data	
P4 “The ability to analyze the choices available which come through assessments, interactions, and communication.”	Ability to analyze the choices available	
P5 “It is ability to take key nursing concepts and then analyze them to come to certain judgments.”	Ability to take key nursing concept and then analyze them	
P6 “Well, my definition of critical thinking is an organized way of applying or, and analyzing I would say and also evaluating the information.”	An organize way of applying or, and analyzing	

The data analysis revealed a common theme among some of the participants’ definitions of critical thinking. Five participants (62.5%) stated that critical thinking included analyzing. In addition, the findings were in line with the literature review in chapter two stated by Carbogim et al. (2016). They revealed that critical thinking is a process of analyzing and interpreting information. The authors believed that the only way to grasp the whole is to dissect the parts. Hence the ability to analyze is a vital part of critical thinking to diagnose health problems, as stated by the participants. Also indicated

in the literature review was that critical thinking had many definitions, which is evident in the different responses given by the participants.

Theme 2: Inquiry-Based Questioning

The interview question that sought to find answers to how the nursing faculty supported the students' critical thinking was; What do you do in the classroom to support nursing students to develop critical thinking? According to the data analysis findings, the theme that emerged was that the instructor used inquiry-based questioning. The inquiry-based questioning was in the form of using open-ended, why, and thought-provoking questions to assist students in developing critical thinking.

Open-Ended Questions. The participants reiterated the essence of asking open-ended questions and agreed that open-ended questions help improve nursing students' critical thinking. P8 stated that using open-ended questions got students thinking and reflecting. P8 said, "So, you know you ask them open-ended questions. Not cueing them on which way they should have gone, just so that they can think about it and kind of self-reflect on their actions." P6, on the other hand, agreed on using open-ended questions to get students thinking, "I add a lot of open-ended questions, you know to get the students to open up about whatever their views are." P6 further explained asking students random questions to stimulate their thoughts, "So, I will not just give them information, I will ask them, what do you think, what will you do, what kind of response would they give based on a scenario." P4 said, "I like to interject a lot of questions. Open-ended questions into my lectures about a potential situation they might encounter, where they can occur, and

hear what their thoughts are and how they would handle a situation” P5 added that. “I try to do a lot of open-ended questions, avoid those yes, no questions.”

Why Questions. Besides open-ended questions, P2 noted that asking students the “why” questions assisted them in thinking critically. In particular, P2 stated,

So, eventually, what I think, and this is what I was also taught, not so much in the nursing program from what I remember, but throughout my nursing career was you continuously ask that why. What are you going to do for that patient? Why, and then they give you an answer? And then why is that answer, the answer you gave and keep going until they finally get to that oh, that ah-ha moment. So, that kind of question directs them towards that final correct answer, I hope.

The other participants gave similar responses. P1 reiterated the importance of asking why questions to get nursing students to think critically. “When you are giving meds, they need to be fully aware of why you are giving what you are giving, and when should you not be giving what you are giving, and think through it.” In addition, P7 expressed similar views and asked the students to “Add some rationales for why we do what we do. Why are you washing a patient, and why washing them now? What medications are you giving, and why are you giving them?”

Thought-Provoking Questions. P2 supported the use of thought-provoking questions to support students’ critical thinking. P2 explained the constant use of thought-provoking why questions to stimulate students’ thoughts until they get to that “ah-ha moment.” Likewise, P5 stated,

But then, one of the things that I always ask is, I ask, what are you curious about with this disease process? Is there anything? Like now, I have given you all the information, but what are some things that you are curious about? What are some things that concern you about this disorder? So, I try to ask questions where it almost triggers higher-level thinking.

P5 further explained the use of thought-provoking questions by stating,

And then I give them questions that they are all going to answer. So, for example, what are some common fears in that developmental stage? What are some milestones? How would you as the nurse assess? What is the difference between assessing an infant versus assessing an adolescent right? How would you approach the child?

P1 disclosed a strategy used to provoke students' thinking by changing questions. P1 stated,

I sometimes take the same question, I change a little bit in the question, which changes the answer, and they are like oh my God, how does that work? And I am trying to explain to them that one little thing in the question changes the entire meaning of the question. And that helps them understand how it is not just one thing all the time.

P7 stated utilizing "question and answers sessions." P3 added, "We use some questions, click style questions." P4 wanted them "to think outside the box and apply what they have learned, even in answering questions." Finally, P8 asserted, "And you know I also use a lot of NCLEX style questions throughout the lectures to help them, you

know, use their clinical reasoning as well.” P6’s summation was, “Because we can assess critical thinking even in testing, so, rather than just giving straight multiple-choice questions, we give alternative format questions that challenge them to make those same priorities, to make decisions based on a scenario.”

The participants spoke at length about their different questioning techniques. The theme of using questioning in different ways and formats dominated as one of the strategies instructors used to support nursing students’ critical thinking. All eight participants (100%) used questions to find out, stimulate, provoke or support nursing students’ critical thinking. According to Nappi (2017), educators can help students develop the critical thinking abilities they need when confronted with new challenges by creating and implementing challenging nursing questions.

Theme 3: Hypothetical Scenarios and Case Studies

The interview questions posed to the nursing faculty to address the research questions and explain how the faculty foster critical thinking were: please describe how you utilize teaching methods to support critical thinking? Please describe some activities or assignments where you have students practice critical thinking? As per the third theme, participants indicated that hypothetical scenarios and case studies were common approaches to support critical thinking in the students. P8 explained the importance of having hypothetical scenarios:

So, you know, preparation, planning ahead, you know, having their game plan prepared. Obviously, when they prepare ahead of time, it is a hypothetical

scenario because they do not have a patient. They are just looking at, for example, pathophysiology based on a patient they will have eventually during the semester.

P8 elaborated further on implementing the hypothetical scenario:

So, I give them a pre-assigned list of, say, scenarios or diseases that they have to complete. And I call it the patho page. It is really just, you know, a description of the pathophysiology, what the signs and symptoms of that patient might look like. What are some of the diagnostic tests, what are some of the nursing and medical treatment? And what are some hypothetical nursing diagnoses?

According to P8, the long-term benefits of these scenarios are important:

So, I want to make sure they get to use that, and I always tell them, “even if you do not see that specific patient this semester, you will surely see it before you graduate.” So, knowledge is never wasted. Just because you prepare for something and did not get it that day or that week does not mean you are not going to get it, you know, down the line.

P2 had similar perspectives as P8. According to P2, the case studies and scenarios are part of the lecture content material. P2 stated,

So, in the classroom, we do the case studies and the scenarios or the simulations in the lab. The case studies are part of their content lecture, and the students do the scenarios either by role-playing or the simulations that coincide with the lectures.

According to P1, case studies help students think critically and make effective clinical decisions. P1 shared, “I love case studies. Because as they are unfolding, you are

giving the students like little cues, so you are prompting them to be able to see if they see those cues to make good decisions, right?” P1 also stated the preference for real-life case studies extracted from recognized nursing websites. P1 said, “Another thing in the classroom is I like to do almost like real-life case studies. They are from the Agency for Healthcare Research and Quality (AHRQ) website. They are like morbidity and mortality case studies.

P1 further added that the real-life case studies from AHRQ reflect the many things that could go wrong in a typical clinical setting. As such, the case studies provide cues that students could use in the clinical setting to think and re-evaluate their decisions. P1 reiterated,

Again, I love those AHRQ morbidity and mortality presentations. I use them a lot in all the levels. There are tons on medications and overdoses, and you know, things that go wrong in the clinical world. And the students, I think, gain a lot of value from them because it helps. The scenarios are set up where there is a lot of questions. There are a lot of things that are going wrong, and it is teaching them that when you see those things, you have to stop, take a second, re-evaluate, and critically think about what is going on with the patient and what has to change.

P4 views and choices of case studies are similar to P1. P4 integrated case studies in teaching, but only evidence-based research case studies. According to P4,

When I look at a case study, let us say I try to pick something that has some, I would say a lot of meat and potatoes, right. Meaning it got a lot of evidence-based research that supports why we are doing something.

P4 admitted integrating only appropriate high-quality case studies. P4 indicated using the AHRQ website just as P1 stated. These case studies are real-life and research-based. According to P1, “I usually tend to go to the agency for health care research in quality, morbidity and mortality website where they have really done the legwork with case studies and have mapped out how it has turned out.” P4 also added that the case studies listed on the AHRQ website include a clear rationale behind certain clinical decisions. “They provide the evidence for it that supports why these decisions are being made. So, it is all there for you, you know.”

However, according to P4, using case studies alone does not guarantee learners will grasp the concepts and apply them in clinical practice. Instead, P4 insisted that any case studies used in the lectures must be grounded in science and not based on intuition. P4 stated,

I have some really great case studies that are supported by evidence. But I think that it is really key that you have the supporting evidence and that the students realize that whatever activity or assignment you are giving them is not just some fluff in the air but is supported by science. So, I think it is key.

One of the participants believed that case studies help students reflect on their learning. According to P6, “There are two things that I use mostly, and those are case studies. I love to use those especially, and my very favorite is the reflection exercises.” Similarly, P3 justified using case studies, contending that feeding students with too much theoretical knowledge without real-life examples of case studies into real-life clinical practice do not help develop critical thinking. P3 stated,

You know we can stand there and talk and talk and talk and teach, but if we do not do something to help them integrate that information into some useable form, they are not going to be thinking critically about it. So, we use case studies.

P3 also added that case-study-based learning would force institutions to re-evaluate their curriculum, integrate more case studies, and help students develop critical thinking. P3 declared,

And I think that you know changing the inflex to be more case study based is forcing schools to look at how they, you know, are teaching. And you know, when we focus more on teaching that way toward case study-based learning, I think that is going to help improve their critical thinking.

P7 agreed with using scenarios as a strategy to support critical thinking. However, P7 will not readily provide students with information and said,

So, I will not just give them information. I will ask, what do you think? What will you do? What kind of response would they give based on a scenario? So, like case studies, those are great to add to lectures.

P7 explained the technique used: “So, there are scenarios, you can change the scenario up, you know, like switch it around and ask, so what if, what if this was the case?”

The last participant, P5, expressed enthusiasm for case studies and stated, “I really love to use case studies also, Joyet. And that is another thing I forgot to mention before when I said flipping the classroom. I love case studies.”

All the participants (100%) mentioned using case studies, whether hypothetical scenario, evidence-based, real-life or unfolding. The National League for Nursing (NLN,

2019) recommended unfolding case studies. While all participants did not specify the type of case studies, P8 was specific. P8 stated, “You know I like to use unfolding case studies also so that they can see, kind of connect the dots with the client’s situation, the client’s condition, the pathophysiology of the disease, and the care that they should be providing.” P1 also stated, “I love case studies. Because as they are unfolding, you are giving the students like little cues, so you are prompting them to be able to see if they see those cues to make good decisions, right?”

Theme 4: Simulation

The participants indicated that simulations were one way to support students’ critical thinking. According to P4, “I think that simulation has been a huge part of the clinical experience especially, when we look back at when we fell into this Covid mode in March 2020.” P4 added that simulation exercises allow students to develop critical thinking skills:

I think that embracing more of the use of simulation and the use of the clinical lab on campus is a great environment for students to practice. It is not only their skills, their hands-on skills, but communication skills, and help foster and develop their clinical thinking while knowing that they will not endanger anybody, right.

They are not going to hurt a real patient.

P4 added, “Whether it be, you know, a simulation type on online, a computerized piece of equipment or the mannequins, or working with one of the lab instructors, I think that has helped a lot in developing critical thinking.”

Simulation training can help students develop critical thinking and have minimal interruptions common in real-life clinical settings, according to P1. P1 also stated that simulations were of great help during the COVID-19 pandemic:

And when I was talking, I did not even mention simulation for orientation like what we are always doing. We did a bunch of simulations in the lab when we could not go in for Covid, and I found them to be really awesome for students to get them to think critically. And it gives us the time, and it does not give us the interruptions you have in clinical to get them to do that. Because you know in clinical, you are constantly interrupted.

P3 mentioned using simulation but did not go into details. However, as stated previously, P3 stated, “We use some questions, click style questions to do that, and sometimes simulation.” Also, P3 said at one point, “We do some things in the community with the health department and then simulation in the lab” to help support nursing students’ critical thinking.

P2 also stated using simulation in the lab or the simulations that come with the textbook to support critical thinking. P2 made the following statement:

So, in the classroom, we do the case studies and the scenarios or the simulations in the lab. The case studies are part of their content lecture, and the students do the scenarios either by role-playing or the simulations that coincide with the lecture.

P5 mentioned using simulation to develop critical thinking and stated,

So, we have virtual simulations that we could use. It is part of our book that we have. So, we can give a student activity on a virtual simulation. So, the virtual simulation does provide an opportunity for critical thinking, but what I like to do most is, I love to do more of it, the simulation in the lab where we could simulate a, you know, certain patient scenario. And you know, maybe assign three or four students to that patient. And watch how they work together with providing care or whatever is going to come through with that simulation. So, I think simulation is very important to help with critical thinking.

P5 expressed the love for simulation but also believed certain variables come into play for simulation to be effective. P5 stated,

But in order to build that confidence, they need to have time in the facility. They need to have the time to be in simulations. Simulations allow them to make mistakes and know that they are not going to hurt anybody.

P7 also held similar perspectives about simulation exercises. According to P7, the institution's simulation laboratory helps students develop critical thinking skills through trial and error. However, most importantly, P7 indicated that the simulation environment was safe. According to P7,

Other things we do for the program are like simulation exercises, whether it is on the computer, virtual sim, or simulation exercises in the lab where they actually get to practice. So, we have a really good sim lab at our school, and the students get an opportunity to use the high-fidelity simulation mannequins. And that helps

them to, in a safe environment, make mistakes, think it through, trial and error kind of thing. So, that helps them to develop their critical thinking skills.

The result showed that all eight participants (100%) used simulation as a teaching method to support critical thinking. The INACSL Standards of Best Practice: SimulationSM Simulation Design. (2016) described simulation as an educational approach that produces or recreates an environment to reflect real-world circumstances. The faculty described creating these settings in the lab, the classroom, virtual, or simulation assignments from the textbooks. In addition, evidence from the landmark NCSBN National Simulation Study showed that prelicensure nursing programs could substitute up to 50% of traditional clinical experience with simulation (Hayden et al., 2014).

Theme 5: Interactive Methods

As per the fifth theme, the interview question was: Please describe some activities or assignments where students practice critical thinking? The participants reported utilizing interactive methods. Some methods were individual assignments for discussion, group assignments, and post-conference presentations. The following paragraphs discussed the participants' responses.

P8 indicated allowing students to work in groups. According to P8, when students work in groups, they hear each other's opinions, which helps them clarify their thinking.

P8 declared,

Oh, sure, of course. So, generally, you know some of the techniques out there are, you know discussions, and group discussions. Because I think that when students hear each other's thought processes, that helps them clarify their own thinking

P2 stated that she encourages her students to work in groups as a way of helping them develop their thinking. P2 also recommended that nursing students establish a community where they learn concepts and skills together as a group. P2 stated, "However, encouraged is study groups. And you know I think they should develop some type of student nursing community within our college, you know, my campus, where they can get together and learn as a group."

P1 also had similar perspectives as P2 and P8. Notably, P1 indicated that asking students questions as a group. P1 stated,

I will have them all in post-conference present their patients. And then I will ask them as a group, all right, now, of all these patients, if you were the nurse, prioritize them. Who is the most important patient you would see first, second, and third?

P6 acknowledged that making students work in groups was an excellent strategy to develop critical thinking and apply it. P6 revealed,

Well, I have done this a couple of times. I divide my students say in groups depending on how large the classroom is, three or four groups. And then, in their assigned groups, I give them say a critical thinking assignment. They read the assignment, communicate with each other in their groups, and are encouraged to

give their individual opinions and answers. Not just listen to what the other person said.

P3 typically allowed the students to work in groups and gave them critical thinking exercises. P3 stated,

Yeah, group work too, and you know sometimes I will give them; I use a lot of different resources, and I have a book that has critical thinking exercises. So, we will do those handouts in group work and then have the groups present their answers.

P4 assigned group work but preferred the online environment. P4 stated, “Even as a small group having them put something together and then present it so that the whole class can participate in whatever that small topic was, I have tried that as well.” However, P4 found working with groups online much more convenient, something realized during the COVID-19 pandemic. P4 stated, “You know, with Covid, we have had to take on this new virtual environment, and honestly, I find virtually, it is much easier to break students up into smaller groups that foster that case discussion type of atmosphere.”

P5 spoke about flipping the classroom and breaking the class into groups as a teaching strategy to develop critical thinking. P5 stated, “So, I flip the classroom, so I break the classroom into groups, right? And then I give them questions that they are all going to answer.” P6 assigned critical thinking assignments to groups of students and stated, “And then in their assigned groups, I give them a critical thinking assignment.”

P7 believed in giving the students group work to collaborate and make decisions. P7 stated,

Again, in case studies, we use simulations group discussions which is a good strategy. Because you bounce ideas off of each other, the students will talk to each other and then present. So, whether I give them a case study to work on as a group and then have them come up with a decision as a group, they have to talk to each other first.

The data analysis showed that all the participants (100%) used interactive methods in different group assignments. These interactive methods explored, discovered, and collaborated in the learning process, supporting the students' critical thinking abilities. These group activities were in the classroom, clinical setting, or independent outside group assignments.

Theme 6: Exhibit Change in Cognition and Performance

Six participants shared a common theme answering the interview question; How do you know that the teaching methods you use are enhancing the students' critical thinking? The emerged theme showed that the participants saw the students exhibited a change in their cognition and performance. P1 stated,

To me, sometimes critical thinking, you can evaluate them based on how they are testing, right? Because the test questions all mimic a clinical scenario. You can also evaluate how they are performing clinically. Are they able to take care of two patients? Can they critically think and prioritize appropriately, manage their time well, and be able to realize what is important versus what can wait? You can also evaluate this in their assignments.

P2 believed that the student's clinical performance and test scores are good indicators of developing critical thinking abilities. P2 explained,

So, I think I know when the students have developed or are developing their critical thinking by evaluating their clinical performance. You know, doing their performance evaluations. And, of course, by their exam scores. Also, when they come to me with a question. You know, when a student comes to you with a question, they are talking about a patient, and they are asking a question.

P3 perceived the teaching methods used to enhance the students' critical thinking as challenging. However, she knew that the students developed critical thinking because of their performance in clinical and responses during the semester. P3 replied,

Well, that is the challenge, right? I mean, that is hard to measure. And I guess clinically; I think it is easier, honestly, to measure because of how they answer you. That usually changes, you know, from the beginning of the semester to the end of the semester.

P4 stated that to determine if the teaching approach developed critical thinking in students is to observe how they think week by week. P4 described the process as follows:

I may not see it in week one, but maybe by week three or four, you see the wheels turning in their heads, and they are thinking through that process. And, they are able to make an informed decision or make even a better choice than they did the first time.

P5 knew that critical thinking teaching was successful and stated, “I think well, for me, I feel as though you know, seeing how the students do on standardized testing, that is one way.” Some other ways as described were the following:

I see that they become a little more independent, and I like to hear how they begin to endorse the care of their patient. And then, what I also find is that they start to mimic what they see other students doing. So, it is really a nice growth in the student. You kind of start seeing those light bulbs go off.

P6 indicated that students critically think when they handle and analyze situations differently. P6 stated,

Well, students reflect their knowledge in the way they handle the future situation or in the way they actually begin to ask you pertinent questions. So, you know, just the way they ask questions, the way they handle themselves. It shows me that it is a reflection of a new ability that they analyze and evaluate a situation if they start asking the right questions. And if they start handling situations differently, that shows me that they are developing critical thinking skills.

P7 believed that if students can swiftly analyze what is going on, prioritize, and give rationale, these are indicators that the students are developing critical thinking. P7 indicated,

So, if we are doing a good job, by the time that fundamental student is a senior student, they have the ability to assess quickly, to make priorities, to give you rationales, to explain what is going on, actually to do patient teaching and make sense. So, you know it is working; you know the methods are working if you see

that transition. You see growth, and you see them improving their time on doing an assessment; you see them manage their time better and making good priorities. So, I believe that kind of proves what we are doing is working.

P8 stated, “I think I know when I start seeing self-directiveness.” In addition, P8 commented,

But when I see they are connecting dots, that they are, you know, thinking about their reasoning, and sometimes I hear them thinking out loud. But I can actually see how their thinking process is going and how they are critiquing their way of thinking in saying wait, no, no, wait.

The participants’ responses and the six themes explicitly answer the first research question, which sought to investigate how the faculty supported students’ critical thinking in providing care to patients. The themes ranged from defining critical thinking, which showed that the participants were familiar with the phenomenon. They described numerous strategies they used to support critical thinking. It was clear to them that what they were doing was helping to foster critical thinking and related how they knew that those strategies helped support students’ critical thinking.

Research Question 2

While the preceding section outlined the strategies participants employed to promote critical thinking in nursing students, the following paragraphs focus on the factors that hinder nursing students’ development of critical thinking. The research question asked: What barriers prohibit faculty from developing critical thinking in nursing students in an ADN program in a Northeastern state? Four major themes emerged

from the data analysis to answer this research question. The participants reported the high number of students compared to available resources, organizations' restrictions and limitations, lack of motivation, and the need for more professional training. Table 5 represents the categories and themes obtained from the data analysis for the second research question.

Table 5

Themes and Categories Obtained from Qualitative Data Analysis

Themes	Categories
High number of students compared to available resources	High student-to-teacher-ratio Large class size Large clinical groups, unavailable clinical sites Shortage of nursing faculty Seven to eight students with ten patients
Organizations' restrictions and limitations	Limited clinical sites Limited time in clinical facilities Limited number of patients to assign Restricted to care for certain patients Restriction against performing procedures Restricted to go to critical care units
Lack of motivation	Lack of willingness and desire to learn Teach it to me culture Students' resistance and attitude Not self-directed learners Lack of critical thinking on part of the student Student memorizing content Focus on passing exams rather than learning concepts
Professional training	Critical thinking Test writing Professional development activities Specialty certification Continuing education Conferences

Theme 1: High Number of Students Compared to Available Resources

The high student-to-teacher ratio was a barrier to developing critical thinking in nursing students. The two interview questions that generated this theme were: Could you describe any barriers you encounter when you integrate critical thinking into the learning environment in the classroom? Could you describe any barriers you encounter when you integrate critical thinking into students' learning in the clinical area? Despite the availability of opportunities and the faculty's teaching strategies, they believed there were challenges with the number of faculty to students.

P2 stated, "I think the program has great opportunities for the students to learn the skills, the skills lab. I can say something; this is my perception. I am sorry, Joyet, but the lack of faculty maybe." On the same point, P1 responded, "So, you have, sometimes when you are in a big classroom, the biggest challenge is meeting the needs of everybody in those specific moments." P1 noted feeling strained despite the willingness to continue working:

I feel like sometimes I need like three of me to do a good job. I mean, you know, in clinical. It is just difficult to manage all the time when there is always something going wrong, especially with the high acuity patients that we take care of, which is a huge problem.

P1 reaffirmed that barriers resulted from teaching so many students while caring for critically ill patients making it less effective in training and assessing the students' progress and critical thinking abilities. P1 continued,

And also, you know, when you have seven or eight students, and you have, you know, ten patients, the patients are very, very sick. Sometimes I feel like, especially when I am teaching, it is hard to provide students with good learning experience when there is just one of you.

P6 also reported that the most significant barrier was attending to or training a large group of students. According to P6, “Barriers that I encounter personally are usually related to the number of students being too large. Like it is just, sometimes it is a large number of students that you are trying to integrate as you say.” P7 held the same sentiments about many students and insufficient time and faculty. According to P7,

So, you are not able to give the students as much time, each of them as much time. And that comes from also the fact that we do not have enough faculty. I think in clinical we should have a ratio of only maybe five to one, five students to one instructor; that would be ideal in terms of especially trying to build their critical thinking because that is foundational. So, I think you need fewer students to a faculty, so that is a problem.

Similar to P7, P3 posited, one crucial barrier to developing students’ critical thinking skills was understaffing experienced in many schools. For example, P3 recalled having ten students on the nursing units. P3 further explained that training ten students to think critically was unrealistic. According to P3, if nursing instructors have ten students, “that is a lot harder to work on critical thinking with each one individually.”

An analysis of P4’s response made it evident that having many students was a significant barrier to supporting critical thinking in the classroom. P4 shared,

Because you are driven by objectives that need to be met on the course content, you may want to try these new strategies. But, yeah, it depends on how large the class is, you know. It is a barrier to integrating those critical thinking types of strategies into the classroom environment.

Six of the eight instructors (75%) spoke about the high student-to-teacher ratio barrier to support critical thinking. P4 summed up the danger, the burden placed on instructors, and the inattention given to students. P4 stated,

So, sometimes you are maxed out at the larger size, which could be about maybe seven to eight students. And so, I think size really plays a big part in, a barrier you know. Because there are students that might need more help than other students and it almost feels like you are investing all of your time because you do not want that student to be unsafe with patients. So, the size of the group definitely is a barrier.

Theme 2: Organizational Restrictions and Limitations

The nursing faculty voiced their disapproval of healthcare organizations' limited provision of clinical sites, restrictions from specific units, prohibited to perform skills and procedures, which is a significant barrier for the students to develop critical thinking. The first participant, P4, raised concerns, indicating that hospitals in the surrounding areas gave priority clinical placements to the Bachelor of Science (BSN) programs over the ADN programs. Additionally, the BSN students get top priority nursing units. According to P4,

I would say I think in our regional area, there are many programs and many institutions that are magnet facilities. Therefore, there is this certain expectation or percentage of nurses that need to be hired that must come from a BSN background. Since we are an ADN program, many of the priority units are assigned to the BSN programs, and by the time our program gets the availability of what is left, there is hardly anything left.

P6 shared the same sentiments as P4. In addition, P6 indicated unfair clinical placements and hiring practices as a significant concern and barrier to developing critical thinking in the students. P6 stated,

You know, my personal view on, say our particular community college versus the BSN programs. Right now, it is a little bit unfair that the hospitals that we use give preference to the BSN program. So, I do not know if that is what you want, what you are looking for, but I do not think that the way they decide who gets clinical placements and hired is a fair way of doing it.

In addition, P6 was concerned about the large amounts of funds expended in training BSN nurses from foreign countries who leave without providing services to the local community for at least a year depriving the ADN nursing students of their opportunities. P6 stated,

You have a lot of BSN program nurses that are being hired, and they are from outside of the county. They come into the hospitals, they get trained, funds used to train them, and in less than a year, they are gone.

Generally, students sharpen their clinical critical thinking by engaging in practical activities and hands-on skills. However, the response by P6 indicated that the policies and procedures instituted by hospitals limit the number of exposure students receive during practice. Instead of the nursing student performing the skills while the instructor observes and evaluates, the students are the observers, and the instructor has become the student.

P6 stated,

The organizational barriers that they have now, like policies and procedures preventing students from taking part in doing things hands-on, critical procedures, to me, they are just really putting us way back in nursing. Things like the central line dressing; they are not allowed to touch it. Like you, as the instructor, has to stand there, do the dressing change, and the students observe. It would not be the same as you know if they were doing the procedure themselves. It is just, to me, a barrier. It is a big barrier among the hospitals. And so many things are getting involved. Simple things, as I said, an Accu-chek, a nurse is not able, and the nursing students are not able to do Accu-checks. In the hospital, the nurses' aides are the ones who do the Accu-checks. So, I do not understand that at all, you know. That is the barrier that I have in the front of my mind right now.

P8 also identified clinical restrictions as a challenge in making a critical thinker out of a nursing student. For example, P8 commented, "A lot of times restrictions. They need to go off to another unit; they need to go for a procedure, you know." These are the restrictions according to P8. Adding onto restrictions, P8 explained, "Sometimes they do not allow students to interact with certain patients or do certain procedures or certain

skills just because they are trying to protect the patients, which I understand.” P8 went on to say that,

But they are a little restrictive too in the way that they, you know they tell us when we can be there, what we can do, what we cannot do. What patients we can have or interact with, and what procedures we can do.

In addition to these restrictions, P8 commented on another barrier:

Sometimes, patients are VIP patients, so they do not want the students to come near them. Sometimes patients are very difficult and very demanding, so they do not want students to deal with those patients. You know that kind of stuff.

These kinds of limitations and restrictions, according to P8, limits students’ exposure, development, and use of critical thinking.

P2 shared the same sentiments and asserted that the availability of patients to assign impacted student development of critical thinking. Unfortunately, according to P2, “there are not very many to choose and to assign.” P2 explained, “So, the students at the clinical site are not allowed to insert foleys. So, of course, they are not allowed to initiate an IV. So, they rely heavily on the lab to learn those skills and think critically.” P2 further explained, “And of course, now that we are part of the pandemic, there are limitations that we cannot assign students to the Covid-19 positive patients.” P2 described the disadvantages:

The clinical site for many students does not allow students to rotate out to the critical areas of the hospital. So, they do not get the experience of critical care, what they are doing in the critical care area or what is happening in the

emergency department. Those are great learning opportunities in those units, but unfortunately, now we cannot do anything.

P1 identified hospital limitations as a significant barrier to students developing critical thinking. According to P1, despite hospitals being care facilities, most impede student learning activities, hence critical thinking. P1 stated,

In terms of how they do not promote students' critical thinking, I think that it is very limited in what we can do now versus what we could do ten years ago. So, they are limited to giving IV pushes or flushing IV sites. There are many things that are no longer part of you know, routine nursing care for students that do not promote critical thinking but inhibit it.

P7 commented that hospital barriers are also a problem with the number of students allowed and the procedures they get to perform. P7 stated,

Some hospitals say you can only have six students, or five or seven students, limiting what we can do. Or we can only have certain patients because, you know, we are not allowed to take these patients. You are not allowed to give these kinds of meds, and you are not allowed to do a lot of things. So, I think hospital policies might be a barrier as well.

In addition to what the other participants experienced with the limited number of patients and the skills they could not perform, P5 stated that the hospitals were cutting down on the number of hours they were allowed to be at the facilities. P5 said,

I found, and I do not even know if you have experienced this over time, that we are getting less and less clinical time in the facilities. And so, it is very difficult

when you are told you know; you can only be here for seven hours, right? Or even less, six hours and students are assigned a patient or two, and it is hard to do these critical thinking exercises with them when we get really busy, right.

The participants outlined the barriers they encounter when integrating critical thinking into students' learning in the clinical area. All eight participants (100%) had a common theme that the limitations imposed by the hospitals that hire new nurses were a significant barrier in their training to developing critical thinking.

Theme 3: Lack of Motivation

The interview question for this theme asked the participants: What characteristics do you believe nursing students lack that prevent them from thinking critically?

According to the responses from the participants, the students themselves are a barrier to the effective development of critical thinking. P2 believed that some students are unwilling to learn hence cannot develop critical thinking, which goes hand in hand with their desire and passion for the course. P2 stated,

So, I think some of them lack the desire, do not have the motivation to do anything outside of the classroom, and do not continue learning once they leave the classroom. They do not stay to participate in practicing skills or study groups. They also do not want to hold themselves accountable when they do not do well. Instead, they quickly blame somebody else for their lack of knowledge. I guess you know they only want the information they need to pass the exams. They do not want anything else to help them think critically.

According to P7, some students are less interested and lack the natural motivation and curiosity of knowing certain things:

Well, I think students lack a natural motivation. Some of them, not all, lack a natural curiosity. They do not ask why and they do not want to know. Again, they only want to know what I need to do to pass the test, and I will be happy. They are content with that, and I think that prevents them from really developing the critical thinking skills they need. They want it easy. This is what I am seeing with the newer group of students that we are having, the younger generation. I would say. You know, tell me what I need to pass the test, and that is it.

P3 also referred to the lack of motivation displayed by nursing students. P3 indicated that some students insisted on being taught everything and recalled situations receiving negative comments from students claiming that they were unprepared and had to teach themselves everything in the nursing program. P3 remarked,

I think they are quick to want someone else to answer the question for them and not think about it. And there is a little bit of a lack of motivation to learn things for themselves, instead, teach me. Like it is a, you know, teach it to me. You are not teaching me well enough, and I have to do this. You know we have had comments like, I have to teach myself everything in this nursing program. But I think that you know it is like a culture with the current generation.

P8 believed that the students are not self-directed learners, thus lacking the motivation to learn. P5 reiterated,

I am not sure why; I really could not tell why, but they are not self-directed learners. Maybe it is a generational thing. I really do not know. I feel that when you do not know something, you should always try to troubleshoot it, find out some information, and then come to your instructor, and discuss it.

Four participants (50%) echoed the same sentiments that motivation was a characteristic nursing students lacked, preventing them from thinking critically. It is vital to have intrinsic motivation because it is the drive needed to achieve goals. In the literature review, Riegel and da Graca Oliveira Crossetti (2018) asserted that a good start to developing critical thinking skills was to be curious, ask questions, and have a quest for knowledge.

Theme 4: Professional Training

The questions that led to the theme of inadequate professional training were: What professional training do you believe nursing instructors lack that might prevent them from helping students think critically? What do you see as lacking in the nursing program curriculum regarding developing critical thinking in the students? P8 stated,

I do actually think that as the faculty, we sometimes do not have the tools needed to teach our students critical thinking. Because even though we might have the experience to know how to reason, I do not think we really necessarily know how to teach our students that skill. And I mean, we do have the opportunity to, you know, involve ourselves in developmental activities. But I do not think it is something that we do necessarily all the time or often.

P8 explained that instructors may have years of experience but may not have a background in teaching, and for this reason, more training is necessary. P8 stated,

But I think more training specifically on how to help the students be critical thinkers will be great, will be very useful. Some of us come from the bedside, you know, bedside nurse is what we do, we have a lot of experience, and we do have great nurses obviously, but sometimes the background is not teaching. So, maybe we do not have that piece of being a critical thinker, and you know, to help our students become critical thinkers.

P1 made it personal and admitted that there is a need for professional training and writing test question. According to P1,

In terms of professional training, another thing that would be helpful for our program is professional training, test-taking strategies, and test-writing. Because I think that is a good way of getting students to think critically. Creating test questions that mimic real-life scenarios to understand why the correct response is what it is; again, individualizing it for the patient. I mean, for myself, I worked really hard on getting better at writing test questions, but I still think I need to work on it.

P2 also personalized this question, referring to not having specific training in critical thinking:

I will speak for myself. I did not have specific training while receiving my master's in critical thinking. Maybe, what was I going to say? Maybe, some type of courses should be offered, or the faculty should participate in critical thinking

courses or conferences to help them develop how to teach critical thinking. And also, maybe studying, preparing, and achieving their specialty certification in education, which is a goal of mine.

P3 shared, “Well, again, I think we could probably do more training in critical thinking, how to promote that, and the theorist who is important, you know, around that Tanner and ambassador.” P3 explained that the “Tanner ambassador” was the theorist and commented, “We do use some of that, but I would be surprised if all of our faculty know that there are new evaluation tools based on Tanner.”

P5 shared the same views as the previous participants and remarked,

Well, I do not ever recall in my master’s program; I do not recall learning how to teach critical thinking. We need to attend different types of training or programs that teach how to teach critical thinking. But I think if we had more opportunities to go to seminars, that would be really helpful.

P5 also remembered having some professional developmental days but still believed the faculty needed more training. P5 stated,

I know we used to do professional development days, and I know before Covid, we had spoken about having somebody come in and just do a full day on critical thinking skills, teaching critical thinking. So, I think that would be beneficial for us.

P6 believed nursing faculty might know the meaning of critical thinking but lack training. P6 stated,

Well, we are teaching, and we are learning. And if you are teaching and learning. I think you still should pretty much get involved in something that keeps you, like continuing education. So, I think nursing instructors may know the meaning of the word critical thinking, but they may not have any training necessary to teach the skills themselves to students. So, they should be required to improve their skills through continuing education. They should attend webinars and conferences and so on. So, if they are not learning or they are not keeping up on their education, then they are not going to be able to, you know, help the students.

Six participants (75%) believed that nursing instructors lack professional training in critical thinking. The type of training varies from not knowing how to teach critical thinking, writing test questions to assess critical thinking, or using new tools to evaluate critical thinking. They were not afraid to own up to their weaknesses and needed help.

Evidence of Trustworthiness

Qualitative studies necessitate the establishment of trustworthiness. Therefore, researchers must demonstrate credibility, transferability, dependability, and conformability (Lincoln & Gupta, 1985; Shenton, 2004). According to Shenton (2004), numerous strategies such as triangulation, prolonged involvement, member-checks, reflexive note-keeping, and participants' own words help generate credibility. For example, this study utilized member-checking, thick description, panel of experts, reflective note-keeping, and quoted the participants' own words in detail as often as possible to establish credibility.

Credibility

There are many methods to establish the credibility of a study. According to Lincoln and Gupta (1985), member-checking is one of the most important things a researcher can do to ensure the validity of their findings. This study utilized member-checking to establish credibility by having the participants review the narratives of their interviews. The participants reviewed the transcripts and confirmed that the information accurately reflected their thoughts, feelings, and points of view.

Thick description establishes credibility as it helps convey the actual situation investigated (Amin et al., 2020). For this study, detailed direct quotes from the interviews were references used to show the depth of the data, determine if the extent of the findings is accurate, and how the reader could apply the study findings in various contexts. Thick description is also a descriptive and evaluative method. The readers will be able to make their interpretations because of the thoroughness of the description. A panel of expert nurses with a master's degree and more than 30 years of nursing, teaching, and clinical experience also examined the interview questions, gave feedback, and verified their validity to answer the research. Thus, using the expert panel added to the credibility of the research process. The expert panel was not part of the sample who participated in the study.

Reflective note-taking and debriefing are other tactics used to show the credibility of a study. For example, I used reflective note-taking to keep track of initial impressions of each data collection session and any trends that appeared during the interview process. Lincoln and Guba (1985) believed that the researcher's ability to keep track of evolving

conceptions is crucial to building credibility. In addition, reflective note-taking helped provide emerging patterns and themes that informed the study's analysis, findings, and discussion. I met regularly and consulted with the committee chairs throughout the data collecting and analysis process. Shenton (2004) stated that other people's experiences could extend the investigator's perspective and focus on flaws. As a result of their observations, I was able to rethink interpretations, put existing beliefs to the test, and identify biases or preferences. The regular feedback helped make the study's analysis, findings, and discussion sections credible.

Transferability

The term "transferability" refers to whether or not the findings of a study are noteworthy and may apply to other situations or studies. Qualitative research has a wide range of views about the transferability of the results. For example, Shelton (2004) believed the findings are specialized to a small number of specific locations and persons, and it is impossible to establish that the findings and conclusions are transferable to other situations and populations. However, Lincoln and Guba (1985) believed that researchers should provide sufficient contextual information so that the reader can make the transfer to their situations. Although this study cannot be generalized, it provided thick descriptions of the setting, participants, themes, direct quotes, data analysis, findings, and discussions so that the reader can transfer the results to their context. Yin (2017) also believes that future researchers can build upon the study.

Dependability

A step-by-step process is necessary where the reader can follow to demonstrate that a research study is dependable. Merriam and Tisdell (2016) stated that showing dependability rests on the researcher describing its methods and results in detail. According to Shenton (2004), the researcher should provide detailed descriptions of the study's procedures, allowing future researchers to replicate the study if necessary to achieve the same results. This study provided an audit trail. The reader can see and follow the outline and alignment of the study components. There is evidence of a gap in the literature, a problem statement, and a literature review to validate these claims. Clearly stated research questions and supporting interview questions verified by the committee chairs and a panel of experts is included. An in-depth methodological description, data collection records, the analysis process, findings, and results presented in this study showed how the researcher claimed dependability. In addition, the researcher's role and status in the research were explicit.

Confirmability

Confirmability shows that the findings of the study resulted from the participants. According to Colorafi and Evans (2016), impartiality and objectivity are two terms used to describe confirmability. Consistent with qualitative research, researchers must guarantee that the findings originate from the participants' perspectives rather than those of the researchers. This study left an audit trail, making it possible for the reader to follow the process step-by-step to understand the researcher's decisions. The methodology, analytic techniques, findings, and results originated from the data. This chapter provided

clear and detailed documentation of how the researcher recorded the participant's perception of critical thinking, transcribed, member-checked, coded, found themes, quoted participant's responses, and interpreted the findings for readers to follow.

Summary

The study's purpose was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. This chapter presented the data results with 10 themes uncovered during the data analysis that answered the research questions. The faculty's strategies to support critical thinking skills among nursing students included inquiry-based questioning, hypothetical scenarios and case studies, simulation, and interactive methods. They spoke about these in-depth, explaining how and why they used them. They also provided evidence detailing how they knew that the strategies helped the nursing students change their thinking and performance. The findings are sufficient evidence to support that the answers given by the participants and the themes answered the first research question.

Although the participants could verbalize how they supported the students, they also revealed the barriers to developing critical thinking. Among significant barriers that emerged from the data analysis included large student numbers compared to available resources, organizations' restrictions and limitations, lack of motivation among students, and insufficient training for the instructors. Nevertheless, the analysis was thorough, gave examples in the participants' own words, and answered the second research question. The next chapter is chapter five, the final chapter for the study, which comprised the

interpretations of the findings, limitations of the study, the recommendations, the implications, and the conclusion.

Chapter 5: Discussion, Conclusions and Recommendations

The purpose of this qualitative study was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. Nurses must think critically to save patients' lives, and the education they receive should include critical thinking in the classroom and clinical settings. Furthermore, there is a relationship between critical thinking and clinical competency (Kaddoura et al., 2017). As a result of the insufficient critical thinking skills in new graduate nurses, patients' lives are in danger resulting in a public crisis, according to the NCSBN (2018) report. There is also a dissociation between what nursing students learn in the classroom and what they experience in reality in the clinical setting (Mirza et al., 2019), resulting in nearly 7,500 nurses citing a lack of critical thinking abilities as the primary source of problems in their practice (Li & Kenward, 2006). This deficiency in critical thinking among nurses, the dangers to patients, and the gap in the literature linked to suitable supports for critical thinking needed to be addressed through an exploration of the following research questions and a report of relevant findings from nursing faculty:

RQ1: How do faculty support students' critical thinking to provide care to patients in an ADN program in a Northeastern state?

RQ2: What barriers prohibit faculty from developing critical thinking in nursing students in an associate degree program in a Northeastern state?

Summary of Key Findings

The previous chapter discussed the findings from the qualitative data analysis. Ten themes emerged from the data. The first theme outlined the nursing instructors'

definition of critical thinking. Five themes answered the first research question describing the instructors' support for nursing students developing critical thinking: (a) hypothetical scenarios, (b) inquiry-based questioning, (c) simulations, (d) interactive methods, and (e) students exhibited a change in cognition and performance, signifying that these strategies were effective. The remaining themes directly answered the second research question describing the barriers that hinder the effective development of critical thinking. Some of the obstacles were a high number of students compared to available resources, organizational restrictions and limitations, a lack of motivation, and lack of professional training.

In addition, the participants articulated different questioning techniques describing how they support critical thinking, including the use of open-ended, random, why, NCLEX style, multiple-choice, alternate format, and thought-provoking questions. Hypothetical scenarios and case studies were part of the strategies used, including real-life case studies, evidence-based research case studies, and unfolding case studies. Also included were the many types of simulation activities such as simulation in the lab, classroom, and virtual. Interactive teaching strategies involved group discussions, individual presentations, and group presentations. The participants were sure that these teaching strategies were effective because they saw the students transition and grow, thinking critically, prioritizing appropriately, analyzing what was happening, handling situations, and asking pertinent questions.

However, the participants encountered barriers preventing them from successfully supporting critical thinking. For example, they reported a shortage of nursing faculty,

high student-to-teacher ratios, large class sizes, large clinical groups, and unavailable clinical sites. In addition, they experienced limited time in clinical facilities, a limited number of patients to care for, being prohibited from rotating students to critical care units, and students being restricted from performing essential procedures and giving certain medications. Furthermore, the students were not motivated to learn. The participants stated that students lacked willingness and desire to learn, were not self-directed learners, memorized the content, and focused on passing the exams rather than internalizing the concepts. The students also had a teach-it-to-me culture, blamed others for their failures, and failed to acknowledge their weaknesses.

The study participants also took responsibility for their shortcomings in fostering the critical thinking they value. They admitted needing professional training in teaching critical thinking. They stated that they would benefit from critical thinking training, test writing training, professional development activities, attending more webinars and conferences, and having specialty certifications. Participants also mentioned uncertainty that all faculty members may not be aware of new evaluation tools and lack of knowledge of nursing theorists. Another participant was candid about not having a master's degree in nursing education but leadership and management that may prevent effectively supporting critical thinking.

Interpretation of the Findings

Some interview responses from the nurse educators corroborated the information from the literature review. The literature review for this study revealed that numerous definitions of critical thinking have resulted in disagreement about its definition in most

disciplines (Benner et al., 2008; Scheffer & Rubenfeld, 2000). The literature review also showed no single definition in the nursing profession, but definitions for critical thinking have common elements in all disciplines. This statement was true for the participants in the study for their definitions of critical thinking. The participants' definitions differed but had a common theme, analyzing. They also use terms such as assess, organize, interpret, and evaluate. These are components of critical thinking (Mirza et al., 2019; Siles-González & Solano-Ruiz, 2016).

In addition, the literature review revealed that Carbogim et al. (2016) used Rodger's evolutionary model of concept analysis, a strategy for describing, explaining, and clarifying nursing and other health-related concepts. They discovered that critical thinking had several terms, and of these terms, analytic thinking and critical-creative thinking were the most frequent synonyms used in nursing practice. The findings in this research study confirmed that the majority of the nursing instructors were in line with defining critical thinking.

Inquiry-Based Questioning

This study investigated how the nursing faculty supported the students' critical thinking. Overall, all eight faculty members identified using inquiry-based questioning to support critical thinking. As stated by the participants, they used "open-ended, random, why, NCLEX style, multiple-choice, alternate format, and thought-provoking questions." Therefore, one can deduce that some of these questions are higher-level forms of questioning that evoke students' thoughts, require them to think, and give rationales. For example, P5 stated, "I try to ask questions where it almost triggers higher-level thinking."

P8 added, “in exams, rather than just giving straight multiple-choice questions, we give alternative format questions that challenge them to make those same priorities, to make decisions based on a scenario.”

The current study’s findings regarding using questions to support the development of critical thinking among nursing students are consistent with existing literature. Past literature indicated that the use of different questioning methods assists nursing students in developing critical thinking skills. For instance, Makhene (2019) found Socratic questioning to be an essential method of building necessary thinking skills in nursing students. Socratic questioning involves asking students questions intended to challenge their assumptions behind a particular claim or get to the root of their thinking regarding a concept. Lee et al. (2013) also stated that questioning, group discussion, and concept mapping are the most frequent strategies to develop critical thinking making the participants’ techniques consistent with the literature.

On the other hand, the findings disconfirm Brown and McCurry’s (2019) statement in the literature review that an obstacle for academia is the absence of strategies for enhancing higher-level thinking. Also, these findings shed some doubt on Stephens and Gunther’s (2016) statement that nurse educators fail to implement the most effective teaching strategies for critical thinking. The participants’ different questioning techniques and the teaching strategies discussed below align with Nowak et al.’s (2016) call in the literature review for nursing instructors to use multifaceted teaching strategies to educate nursing students to meet the complex healthcare industry’s needs.

Hypothetical Scenarios and Case Studies

The use of hypothetical scenarios emerged as a critical theme for assisting students in developing the critical thinking necessary for caring for patients. The findings regarding hypothetical scenarios in developing critical thinking skills are consistent with the literature. Nursing experts highly recommend using these strategies. For example, the NLN (2019) recommended unfolding case studies. The participants stated that they use case studies that “got a lot of evidence-based research, unfolding case studies, real-life case studies, and real-life case studies from the AHRQ website.” The current investigation showed that the faculty are using evidence-based techniques in compliance with the nursing organizations’ recommendations. The findings also aligned with Riegel and da Graca Oliveira Crossetti’s (2018) recommendation that evidence-based practices will help nurses think critically and improve the quality of patient care.

Scenario-based learning is a practical approach to assist nursing students in thinking about the theories they learned and applying them to specific nursing situations to identify patient symptoms and administer treatment. As a result, students develop critical thinking skills through exposure to challenging problems that trigger their thinking. Ahmed (2019) confirmed that hypothetical scenario-based learning allows nursing students to develop the critical thinking necessary to administer patient care in real-life nursing practice. Participants in the current study held similar contentions. For instance, P8 indicated that hypothetical scenarios and case studies trigger students to think and filter out theoretical knowledge to apply to specific situations. P8 stated,

So, they will find that when they come in, there are things that are going to be applicable; there are things that are not going to be applicable. But they are able to connect some of the information they had before that they prepared with, and we have discussed in pre-conference to the client's situation.

Simulation

As per the current study's findings, simulation gives nursing students a chance to develop the critical thinking necessary for real-world nursing care. The participants spoke about "simulations in the lab," "simulations that do coincide with the lectures," "simulation exercises," "simulation type online," "simulation for orientation," "simulations that come with the textbook," and using "high-fidelity simulation mannequins." Simulation has shown to be an excellent tool for developing critical thinking in previous studies, and this study's findings also supported those theories. For example, Masha'al and Rababa (2020) found that simulation enhanced students' ability to gain critical thinking. In addition, simulation is considered a substitute for 50% of clinical experience and approved by the NCSBN (Hayden et al., 2014).

The faculty spoke about the limitations and restrictions they faced in the hospitals where students could not perform skills. However, the findings showed that the faculty utilized simulation in all settings to help students gain communication, collaboration, problem-solving, decision-making skills in a safe environment, thus supporting critical thinking. In addition, the conceptual framework for this study, the CJM, and recommendations from Lasater and Nielsen (2009) and Nielsen et al. (2007) proposed that educators use the CJM as a guide and platform for briefing simulation activities.

Therefore, this study also generated some crucial information where nursing instructors and nursing schools can use simulation and the CJM to develop critical thinking.

Interactive Methods

In the current study, all participants used interactive methods to support critical thinking in nursing students. In addition, all of the nursing faculty involved the students in group discussions. As mentioned before, group discussion was one of the most used teachings strategies to support critical thinking (Lee et al., 2013). Group assignments effectively build critical thinking in nursing students. For example, P6 indicated that giving the students assignments in groups allowed them to collaborate, provide appropriate responses and not just listen. This finding disconfirms for these nurse educators Nowak et al.'s (2016) statement in the literature review that nurse educators continue to employ the traditional PowerPoint and lecture approach instead of including student engagement. The participants stated that students “work in groups,” have “group discussions,” “come with decisions as a group,” and “encouraged in study groups.” These findings also disconfirm Harrison’s (2018) position in the literature review about using a traditional lecture-focused curriculum. The “flipped classroom” was another approach mentioned by participants, which also disconfirmed the conventional way of teaching.

Exhibit Change in Cognition and Performance

Throughout the literature review, several researchers posited that new nurses do not have the critical thinking ability to recognize, analyze situations, comprehend what is happening, and decide on the appropriate treatment for patients (Carbogim et al., 2016; Facione, 2020; NCSBN, 2018). These were areas of concern. However, all the

participants stated that they knew that their strategies to support critical thinking were effective and gave details. For example, P1 gave detailed descriptions of what every nursing instructor would want to see their students doing. According to P1, the students should be able to,

Take care of two patients, ... critically think and prioritize appropriately and manage their time well; be able to realize what is important versus what can wait; how they answer you; make an informed decision or make even a better choice than they did the first time; more independent; ask you pertinent questions, handling situations differently.

The participants' answers are all indicators that learning has or is taking place by the students exhibiting a change in their thinking and performance.

High Number of Students Compared to Available Resources

The participants revealed that the lack of enough nursing faculty was a barrier to the support they gave to the students to develop critical thinking. In addition, they reported that the high number of students compared to available resources was a barrier, thus hindering the quality of teaching intended to assist students in developing critical thinking. First, the lack of adequate faculty reduces the ability of instructors to meet the needs of the student, especially in the clinical setting. For example, they reported having seven to eight students, with only one instructor taking care of very ill patients. Having many students strains the instructors and is a disadvantage to the students. P1 described it vividly:

I feel like sometimes I need like three of me to do a good job. I mean, you know, in clinical. It is just difficult to manage all the time when there is always something going wrong, especially with the high acuity patients that we take care of, which is a huge problem.

The faculty believed that the lack of support for critical thinking resulted from teaching so many students while caring for critically ill patients, making it ineffective in training and assessing their progress and thinking abilities. The shortage of nurse educators is a well-known fact. In addition, throughout the literature, numerous researchers wrote about the high level of care needed for patients, the complexity of diseases, increased acuity of hospitalized patients, more chronic diseases, shorter hospital stay, supporting the participants claim that these are barriers to support critical thinking (Caputi, 2019; Carbogim et al. 2016; Lee & Sim, 2020 & Nielsen, 2016). From the report given by the faculty that students are forbidden to take care of specific patients, one can assume that the students are not involved in these high acuity patients' care.

The findings indicated that the number of nursing students exceeds available resources, thus hindering the quality of teaching intended to assist the students in developing critical thinking. Although past studies reported inadequate faculty as a significant challenge for academic achievement among students, these studies focus on academic performance rather than the development of critical thinking skills as the outcome of interest (McMahon et al. 2016 & Nash et al. 2017). The current study incorporated new knowledge into existing literature by identifying inadequate faculty as a barrier to critical thinking, specifically in nursing students.

Organizations' Restrictions and Limitations

Organizations' restrictions and limitations presented another barrier for nursing instructors to support critical thinking. The findings of this study revealed restrictions placed by hospitals on access to patients as a significant barrier to effectively developing critical thinking in nursing students. The participants reported that nursing students could not interact with certain patients, perform procedures or practice specific skills. These skills are central line dressing change, performing Accu-checks, initiating intravenous fluids, inserting Foley catheters, or administering certain medications.

In addition, the literature review confirmed that 92% of managers stated that new nurses were not competent in 36 skills (Hickerson et al., 2016). However, hospital management prohibited nursing instructors from teaching the students to perform these skills in the clinical setting. According to the participants, they are getting mixed messages. The nursing instructors could not understand why they could not do an Accu-check with the students, while the nurses' aides could perform the skill. Nursing instructors could not perform routine nursing care with their students and concluded that these barriers put them way back in nursing.

The current study extends knowledge in the existing literature. Its findings indicate the relatively more significant number of nursing students and the restrictions to patients and procedures as substantial organizational barriers to instructors' effort to develop critical thinking skills in nursing students. According to Billings and Halstead (2016), nurse managers seek skilled nurses with multidisciplinary training to provide

adequate and timely treatment. However, administrators do not make provisions for nursing students according to the findings of this study.

Lack of Motivation

The current study revealed that developing critical thinking among nursing students was a barrier because they lacked the motivation to learn. According to the participants, students “lack the desire,” “unwilling to learn,” “do not continue learning once they leave the classroom,” “do not want to hold themselves accountable,” and “blame somebody else for their lack of knowledge.” Additionally, the students focused more on rote learning rather than understanding concepts and theories, which affected their ability to develop critical thinking. Riegel and da Graca Oliveira Crossetti (2018) stated that critical thinking was a self-disciplined and self-guided process in the literature review. However, this study’s findings showed that nursing students lack motivation and are not self-directed learners. The lack of these characteristics participants contributed to barriers for developing critical thinking. With these barriers, students set themselves up for failure.

These findings did not confirm what Williams et al. (2016) stated in the literature review that registered nurses are accountable for their education, advancement in their practice, and professional growth. The findings also did not confirm Riegel and da Graca Oliveira Crossetti’s (2018) view that one must have a strong sense of discipline and focus for critical thinking to be successful. However, findings regarding passion, desire, and attitude and their effect on critical thinking in nursing students are consistent with existing literature in several aspects. For example, Samia Saud Al Furaikh et al. (2017)

reported that such negative attitudes made students adopt undesirable learning strategies such as memorization, which ultimately made them perform dismally in terms of their academic achievement.

Professional Training

As stated in the literature review, the American Association of Universities found that many educators lack the required preparation, causing barriers for students (Booth et al., 2016). Also, Sagkal Midilli and Altas (2020) posited that ineffective pedagogy prevents students from developing critical thinking and reasoning. One participant revealed that instructors might have critical thinking experience but, “I do not think we really necessarily know how to teach our students that skill.” Another participant stated that instructors “may have years of experience, but may not have a background in teaching.” In addition, the participants identified that they needed help in other areas: professional training, test writing, and more professional development. Also, in the literature review, Abdullah et al. (2019) indicated that nurse educators need to investigate their critical thinking. The findings of this study confirmed the literature review and the participants’ admission that they needed professional training in critical thinking.

Findings in Context of Conceptual Framework

Tanner’s CJM provided the conceptual underpinning for this research study. It is rooted in the assumption that it can help nursing students develop a pattern to think critically and make correct clinical judgments. This pattern is noticing, interpreting, responding, and reflecting. According to Gonzalez, Nielsen, and Lasater (2021), teaching and learning activities based on conceptual frameworks provide students with practice in

applying their clinical reasoning skills. For this study, the nursing instructors indicated that they used “simulation,” “reflective learning,” “pre-conference,” “post-conference,” “linked course content with clinical assignments,” “recognizing similarities and differences,” “real-life scenarios,” and “talk them through as teaching activities.”

Applying Tanner’s CJM of noticing, interpreting, responding, and reflecting when implementing learning activities could allow the student to see the rationales and follow a pattern.

Tanner (2006) recommended simulation as an activity and using the CJM as a guide for debriefing after the simulation. Combining simulation activities and the framework could help students identify missed opportunities and notice changes in patient’s conditions and the variables that may have contributed to those missed opportunities. For example, during a simulation activity, students will notice changes in the patient’s condition. Next, they will analyze and interpret the causes of the problem. Then, they will respond according to their interpretation. Finally, they will reflect on what they did to see if their decisions were accurate. Applying Tanner’s CJM of noticing, interpreting, responding, and reflecting when implementing the activities above could allow the student to see and follow a pattern of what, how, and why. In addition, it could help students recognize when they may have jumped to conclusions without enough facts.

Another teaching strategy recommended by Tanner to improve student’s critical thinking, clinical judgment, decision-making using the conceptual framework, and suggested by the nursing faculty, was reflection. Reflection could occur during and after

the event. Nielsen, Stragnell, and Jester (2007) also stated that students' ability to reflect on clinical practice had improved due to faculty using the CJM as a guide. Reflection during the activity serves to validate or disprove the nurse's assessment and improve the response at the moment. It is also essential for nurses to reflect on their experiences afterward to make sense of difficulties and better remember their choices. The findings showed that helping students acquire the habit and skill of reflection can improve their clinical reasoning. In addition, it guides nursing professors on how to help students diagnose problems, identify areas for improvement, and plan learning experiences that address these issues (Tanner, 2006).

Limitations of the Study

The limitation of this study was purposeful sampling from one ADN program in an area. Therefore, this representation does not accurately depict the area's ADN nursing schools. However, this research study was a basic qualitative study focusing on a small number of people within a particular department and within a given period (Creswell, 2014). In addition, ADN nursing programs have varied methods of implementing the curriculum and teaching nursing courses. Therefore, the findings from this study may not represent nurse educators' perceptions of all associate degree programs. However, other researchers can use the same data to validate or expand on the study's conclusion.

The sample size of eight nursing instructors was also factors considered. As a result, the study's limited sample size and findings may not represent the whole population. There were 13 full-time faculty members in the nursing department at the study's implementation. The number of part-time faculty varies depending on their

availability and the number of students. There were only ten full-time faculty members left in the department and two part-time faculty at data collection. The decreasing number was due to the non-renewal of tenure-track positions. In addition, part-time faculty decreased because of the COVID-19 pandemic in the hospitals. While the limitations were unavoidable, due to the research's design and nature, they did not impact the findings because of the research alignment, ethical consideration at every stage, member-checking, and thick description.

Researcher bias is a threat to confirmability that must be avoided. Because of the vast volumes of information gathered and evaluated, my biases could have influenced the results. Therefore, I enlisted the help of a panel of experts to review the interview questions and make the necessary changes. To avoid biases, I followed the predetermined procedure for conducting the interview, executed member-checking, adhered to feedback from the committee chairs, and bracketed all biases.

Recommendations

The study findings identified different ways ADN nursing instructors supported critical thinking in nursing students and the barriers they faced. The results from the study showed that hospital policies, restrictions, and limitations were barriers for the nursing instructors. These facilities have restricted nursing students from practicing skills, floating to specialty units to observe procedures, and limited the time spent on the nursing units. These restrictions prevent the development of student's critical thinking and exposure to actual patients' clinical scenarios. Further investigation of this problem is

needed to inform about the consequences of the present situation, the imminent danger, and long-term complications for nursing students, patients, and the healthcare system.

This study underscores the necessity for ongoing critical thinking development training and opportunities that thoroughly create a strong understanding of supporting it in all areas of students' learning. There has been a long delay of more than four decades to fix this problem. Designing guidelines to educate critical thinking should receive national attention. There is a need for further research studies, not to state that nursing instructors should teach the students to think critically, but explicitly design a blueprint on teaching critical thinking. This blueprint should have a layout of objectives, learning outcomes, teaching methodologies, and means of assessment. Then, nursing instructors who struggle to teach critical thinking could use or emulate one to fit their students' learning needs.

This research study provides a basis for future scholars to expand the literature on the factors that prevent students from developing critical thinking skills. The current study based its findings on how nursing faculty support students' critical thinking. However, future scholars should include both students and faculty to expand the pool of results and recommendations for solving the problem.

Implications

This study's findings could benefit nursing schools, students, nursing faculty, patients, and the nursing community to bring about social change. The current study's findings could assist nursing faculty in making effective instructional decisions, removing barriers to critical thinking, and implementing better plans to support critical

thinking, clinical judgment, and decision-making for their students. Critical thinking is vital for new nurses as the nursing profession evolves. As a result, it has become increasingly crucial for entry-level nurses to display essential thinking skills early in their practice.

The study's findings revealed strategies nurse educators used and the barriers they encounter to support new graduate nurses' critical thinking in an ADN program that other instructors could use if they desire. The faculty used various methods of instruction and activities, such as lectures, simulations, case studies, discussions, role-play, reflective learning, and questioning, which are proven strategies to help students develop their critical thinking abilities. In addition, these methods can bring positive social change in the student's knowledge and performance. These changes will be evident in the quality of care given to the patients, relayed through patient satisfaction surveys results, reports from stakeholders' satisfaction with the nursing workforce, and shorter hospital stays.

The current study's findings also revealed strategies that the nursing faculty did not use to help support critical thinking. Some examples are concept-based learning, problem-based learning, inquiry-based learning. This research study can help improve practice and healthcare by presenting alternative methods of instruction that can help students apply knowledge and develop critical-thinking and problem-solving abilities. In addition, using a concept-based approach utilizing concepts maps would bring positive social change for the nursing faculty by moving away from content-laden courses towards a student-centered approach that will construct knowledge required for change in everyday practice. Alfayoumi (2019) found that student's capacity to recognize and

respond to significant cues, difficulties, necessary actions, or interventions improved using the concept-based approach throughout their nursing courses. In addition, students were more independent in their reasoning and judgment as they gained control over their clinical reasoning (Alfayoumi, 2019). By utilizing this approach, instructors, students, and patients will benefit and cause positive social change in communities and nursing practice.

Educators can introduce a problem-based learning approach into nursing courses that will benefit nursing students in developing critical-thinking and problem-solving skills. Providing students with a knowledge-based foundation and developing sound clinical reasoning and problem-solving skills to use in real-life situations are the primary objectives of problem-based learning, according to Hmelo-Silver, (2004). Problem-based learning places the students in a real-world scenario where they encounter a problem and attempt to solve it with the information they already possess (Iwaoka et al., 2010). According to Jang et al. (2021), problem-based learning improved emergency department patient safety by increasing the knowledge of triage nurses and improving the accuracy of classification in the emergency area.

Furthermore, Millianzi et al. (2021) stated that students exposed to problem-based interventions had a 1.291 greater chance of demonstrating self-directed learning preparedness. They also believed that problem-based learning could change nursing students' learning styles and, as a result, their academic and professional outcomes. The current study could assist nursing instructors by offering alternative teaching strategies to foster active and lifelong learning, promote self-directed learning, and develop critical

thinking (Ali, 2019). In addition, the students' problem-solving abilities will contribute to positive social changes in their practice and prevent danger to patients' lives.

This study showed that some students were not proactive, not motivated, and depended on the instructors to teach to the test. Another possible positive social change from this study is that the instructors could use an inquiry-based learning approach to combat this problem. Inquiry-based learning emphasizes that instructors place the responsibility on the student, encourage them to inquire, develop knowledge of the concepts independently, and build critical thinking (Fрати, 2020). This approach could help students become self-directed learners and obtain the essential thinking ability to change how they practice.

The study's findings revealed overcrowded classrooms, large clinical groups, and a lack of critical thinking training for nursing educators. With this in mind, nursing administrators have the opportunity to make changes to the number of students enrolled and the number of faculty they hire. They could also offer frequent in-house training for the faculty in critical thinking to better prepare the nursing students. Also, funding and encouraging nursing schools to conduct in-house training will help college faculty review and tailor the curriculum to the needs of the students. These suggestions, if implemented, could bring social change for the faculty, students, patient, and the communities they serve.

Recommendations for Practice

The nursing faculty at the community college should include concept-based learning in their curriculum. The findings showed that only one nursing faculty

mentioned using concept maps as a teaching strategy to support critical thinking. Tanner's (2006) conceptual framework recommended using concept maps to develop critical thinking, clinical judgment, and decision-making. Concept-based learning activities using concept maps could increase students' clinical reasoning behavior and greater independence in making clinical judgments (Alfayoumi, 2019).

Additionally, nurse educators will not effectively attend to the students' different levels of learning in overcrowded classrooms, thus failing to impart critical thinking. Moreover, training and assessing large groups of students can be strenuous to the nurse educator, and in most instances, lead to burnout and low-quality teaching. As a recommendation, college administrators should make the salary of nursing faculty more competitive to attract more qualified and trained nurse educators. Having enough nursing faculty will deal with overcrowded classrooms, large clinical groups, nursing faculty burnout, and more time to train students to think critically.

According to the result of this study, most faculty members believed they needed training in critical thinking. Therefore, another recommendation is for administrators to plan and budget for training in critical thinking for the nursing faculty. The training should be on an ongoing basis and mandatory. This training should be for new hires, full-time, part-time, tenured, and tenure-track faculty. The healthcare sector and the healthcare system are constantly evolving due to new diseases and evidence-based practice. In keeping up with the ever-changing healthcare industry, it is necessary to adapt. Thus, continuous training in critical thinking is crucial. Fawaz et al. (2016)

recommend educational training and updating the curriculum regularly to keep abreast of educational changes.

Conclusion

The purpose of this basic qualitative research was to investigate how students are supported by college faculty in their knowledge of critical thinking to ensure they are prepared to care for patients. I collected and analyzed the data, presented the results, interpreted the findings, explained what the nursing faculty found best to support critical thinking, which answered the two research questions. Given the uniqueness of some of the supporting factors and barriers to critical thinking in this study, adjustments in the classroom, clinical setting, hospitals policies, and nursing curriculum are evident. In addition, evidence-based practice is a dynamic and ever-changing part of the healthcare industry, and so is the healthcare system. Hence, nursing schools and hospitals must work together to provide opportunities to bridge the gap for students to develop critical thinking and adopt evidence-based clinical skills that will allow them to practice effectively.

In addition, the findings confirmed that the nurse educators used a variety of teaching strategies to support critical thinking. They used evidence-based research. They aligned classroom content with clinical assignments and evaluated students based on their thinking and performance. The evidence is clear that the instructors have tried to support critical thinking for this body of students. However, it is not reassuring to know that the organizations whose existence depends on new graduate nurses are the same ones prohibiting them from gaining the experience needed to be efficient in their profession.

The BSN students will not fill the nursing shortage predicted by the Bureau of Labor Statistics Employment Projections. Torpey (2018) reported for the U.S. Bureau of Labor Statistics predicted that every year through 2026, there would be a need for 200,000 new nurses to fill all open positions due to large numbers of baby boomers retiring.

Unfortunately, nursing instructors alone do not have the resources to rectify the critical thinking gap. Therefore, the Board of Nursing, hospitals and nursing schools should start a dialogue about fixing these problems for the public's safety.

Adopting and implementing the themes identified by college faculty as supporting critical thinking would see nursing graduates skilled in and capable of using critical thinking to provide quality services to patients. On the other hand, the identified barriers though appearing to be subtle present nursing schools with the opportunity to review the skills of their faculty, the number of nursing students per class, and how well the staff is motivated to train nursing students on critical thinking. These suggestions if taken seriously and implemented will bring positive social change.

Finally, evidence from this research study indicated that the preparation to practice gap existed for four decades, and little has changed. (Huston et al., 2018). It is also evident that the current strategies are not working. Nursing schools can no longer wait on nursing organizations for directions. Evidence from this study showed that the students and nursing instructors are underserved in the community hospitals with placement problems, limited access to nursing units, patients, and procedures. This study can bring social change to underserved nursing programs and students by assisting the nursing faculty in their teaching strategies that are the best substitutes to supplement the

experiences the students will not receive in the hospitals. There is the possibility of changing the students' practice habits to serve the public. In addition, other nurse educators can use this study to kick-start their investigations into the issues surrounding nursing students' lack of critical thinking to aid social change in their programs, students' education, patients' care, and community health. Different factors can have an impact on this study's outcomes. Therefore, more research is needed to help nurse educators better assist nursing students in developing critical thinking. Overall, besides presenting the opportunity for further investigation, the current study could act as a benchmark for nursing schools to improve students' critical thinking for social change in delivering quality care to individuals in communities.

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Appendix: Interview Protocol

1. Introduce self.
2. Thank the interviewee for participating.
3. Explain how long the interview will take.
4. Describe the project's purpose.
5. Explain how I am going to use the information.
6. Review informed consent and ethical requirements such as confidentiality, privacy, anonymity, and the right to withdraw from the study at any time with the participants.
7. Remind the participants that the interviews will be recorded, and I will be taking notes.
8. Ask the participants if they have any questions before the interview begins.

Warm-up Questions

1. Could you please state your name?
2. Please tell me about the area of nursing that you teach?

Research Question # 1

How do faculty support students' critical thinking to provide care to patients in an associate degree nursing program in a Northeastern state?

Interview Questions

1. How would you define critical thinking?
2. How important is critical thinking to you in the nursing courses that you teach?

3. What do you do in the classroom to support nursing students to develop critical thinking?
4. What are the criteria used at the clinical sites to make assignments that help to develop students' critical thinking?
5. Please describe how you utilize teaching methods to support critical thinking?
6. Please describe some activities or assignments where you have students practice critical thinking?
7. What do you do at the clinical site to help nursing students develop critical thinking?
8. How do you know that the teaching methods you use are enhancing the students' critical thinking?
9. Please describe how the nursing education the students receive in the classroom and at the clinical site prepares them to think critically?
10. What other opportunities outside of the classroom and the clinical site do you use to help develop student's critical thinking?
11. What other opportunities outside of the classroom and the clinical site do you use to help develop student's critical thinking

Research Question # 2

What barriers prohibit faculty from developing critical thinking in nursing students in an associate degree program in a Northeastern state?

Interview Questions

1. Could you describe any barriers you encounter when you integrate critical thinking into the learning environment in the classroom?
2. Could you describe any barriers you encounter when you integrate critical thinking into student's learning in the clinical area?
3. Please elaborate on how the clinical sites may or may not promote students' critical thinking?
4. Please describe any organizational barriers, policies, or procedures that prevent supporting critical thinking for the nursing students.
5. What characteristics do you believe nursing students lack that prevent them from thinking critically?
6. What professional training do you believe nursing instructors lack that might prevent them from helping students to think critically?
7. What do you see as lacking in the nursing program curriculum regarding developing critical thinking in the students?
8. What is your perception of the National Council of State Board of Nursing statement that new graduate nurses are not able to think critically and make clinical judgment?
9. What do you believe are the most important factors that lead to the decline of support for critical thinking skills in nursing students?

10. What collaborative effort do you believe the college, other departments, and the nursing department can implement to support nursing students' critical thinking?

Ending the Interview

Establish that the interview is coming to an end.

Closing Question

1. Is there anything you would like to add regarding your experience with critical thinking in the classroom and the clinical site?

Tell participants how their contribution has provided insight into how they support critical thinking.

Provide participants with information on how to follow up with the researcher.

Explain that the results of the study will be sent to them for member checking.

Thank the faculty for participating in the interview.

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