NURSING FACULTY EXPERIENCES WITH INTERACTIVE LEARNING IN THE ASSOCIATE DEGREE NURSING CLASSROOM

by

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Abstract

The purpose of this basic qualitative study was to explore associate degree nurse faculty perceptions and experiences with the use of interactive learning in their classroom. Interactive learning is an approach to teaching and learning that promotes student learning with an active process. The implementation and continued use of interactive learning can be difficult for nurse educators who may be influenced by their previous perceptions and experience with use. There is a plethora of knowledge on the benefits of interactive learning with students, yet there is a gap in literature specific to nursing faculty experiences in the nursing classroom. The sample consisted of 14 nursing faculty members who taught lecture in associate degree programs nationwide. Data were collected through semi-structured, face-to-face virtual interviews to explore faculty experiences with interactive teaching techniques. Data analysis revealed three reoccurring themes. The first theme was varied strategies of interactive learning that included case study, gamification, and small group work. The second theme was confidence and competence in the faculty, influenced by perceptions and student feedback. The final theme identified was challenges, which included time and resources, administrative support, and peer support. The knowledge gained from the findings can encourage increased support and training for faculty and encourage resistant educators to consider an interactive approach to teaching and learning. Recommendations include further research exploring faculty experiences using a quantitative or mixed-methods approach, as well as a consideration of faculty teaching in online or baccalaureate programs.

Dedication

I dedicate my dissertation to my family, who has provided unconditional love and support in my educational journey. A special thank you to my parents, who have raised me to believe any goal is possible and the importance of perseverance. My father, Joe, taught me the importance of work ethic, inquiry, and dedication, and my mother, Bonnie, shared her passion for nursing and caring that inspired me to be the nurse I am today. Special recognition to my brothers, Anthony and Michael, for always understanding and supporting my choices to commit to this long crazy journey. A heartfelt thanks to my ever-supportive friends Jen, Deb, Maxine, and KP. You always believed in me even when I doubted myself, and your confidence in me made this possible.

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CHAPTER 1. INTRODUCTION

The topic of this study was related to the experiences of faculty with interactive learning in the associate degree nursing classroom. Interactive learning is an approach to teaching and learning that promotes student learning with an active process. There is a transition that allows students to become actively involved in their learning outside of the traditional classroom lecture. The active teaching and learning methods require the educator to change the environment from authoritarian to participatory while changing the learning process from passive to active. Chapter 1 includes a description of the background of the study, the need for the study, the purpose of the study, the significance of the study, the research question, and the definition of terms. A brief description of the research design is provided to support the need for further understanding of the phenomenon being explored with attention to the study's assumptions and limitations.

Background of the Study

The role of an educator is to provide knowledge, encourage scholarship, and evaluate students' learning. The nursing educational community and the National League for Nursing (NLN, 2016) charged nurse educators to find new ways to reach students to encourage learning. There is a need to reach students in various ways to promote learning in students who differ in learning styles (Kantanen et al., 2019). Implementation of interactive teaching and learning can be a difficult adjustment for an educator. An educators' experiences influence the implementation and possible effectiveness of the interactive experiences in the classroom (Seng,

2014). There is a gap in knowledge and published literature exploring the educator's experiences with implementing active learning approaches.

Recommendations in educational theory and best practice methods for nurse educators promote a classroom with interactive learning techniques (American Nurses Association (ANA), 2018; Battle & Tyson, 2018; Buxton et al., 2016; Ellis, 2016; Gerdes, 2018; NLN, 2016). Although the literature supports the benefits of interactive learning for the students, there is a lack of research addressing how teachers utilize interactive techniques and what can be done to increase educators' comfort with the approach (Kantanen et al., 2019; Miller & Metz, 2014). Nursing educators reported that many instructors had the concepts, plans, and desire to implement the interactive classroom approaches but struggled with full implementation (Ellis, 2016). The use of interactive teaching methods is minimal in nursing classrooms than in other disciplines (Mather & Marlow, 2017). Nurse educators reported a lack of a clear definition of active learning, lack of support from administration, low participation from students, and lack of time for preparation (Miller & Metz, 2014). The target population for this study is nursing faculty teaching in an associate degree traditional nursing program.

The research literature on the student benefits of active learning are numerous, yet there is a gap in the literature regarding nursing faculty experiences and perceptions of the use of active learning in the classroom. Ellis (2016) measured nurse educators' characteristics that used interactive teaching techniques and considered the positive and negative experiences, including the barriers to implementation. The use of interactive classroom methods in nursing requires the educator to have an internalized commitment to the student learning approaches and classroom's change. Ellis (2016) sought clarification of the nursing faculty's

beliefs about the interactive classroom and their use of the concepts, as studied in other disciplines, but extraordinarily little in nursing. The results indicated that nursing faculty had the ability and desire to implement interactive classrooms but continued to struggle with full implementation (Ellis, 2016). Additional factors included the amount of material to be taught, and the lack of administrative support contributed to the challenges (Ellis, 2016).

Earlier researchers questioned faculty implementation of the interactive teaching methods in the nursing classroom and found mixed results (Seng, 2014; Song, 2019; Van Horne & Murniati, 2016). Nursing faculty comfortable with student-focused interactive learning reported an influence of their educator's philosophy, previous knowledge, and administrative support. Nursing faculty were motivated by intrinsic rewards, which contributed to the implementation of interactive techniques effectively. The faculty reported feeling isolated from the nursing faculty who were not implementing the interactive approaches (Van Horne & Murniati, 2016). There was evidence that the interactive classroom is beneficial for the educator and students but noted the struggles faculty had with the lack of support from peers and administration (Cabral & Baptista, 2019; Miller & Metz, 2014). Critics of active learning methods in the nursing classroom reported that it is not practical for nursing students or medical professional students who must pass a competency exam and demonstrate safe care to ill patients (Bingen et al., 2020; Miller & Metz, 2014).

Hesler (2019) concluded that nursing students reported feeling less engaged in classes than students in other disciplines due to the high stake's outcomes required to become licensed nurses. Some nursing students preferred the traditional lecture approach with passive learning. Nursing students' reported feeling pressure to master the content required to demonstrate the

ability to provide safe and competent care in the classroom, clinical, and licensure exam. Nursing faculty understand the need to reach students in various methods to promote learning. Still, they struggle with implementing interactive classroom methods while challenged to help students become functional in a complex care environment (Bernard, 2015). Nursing theorists and accrediting bodies for nursing schools recognized the gap in teaching and learning styles in the nursing classroom and suggested a change in teaching methods away from traditional lectures while incorporating more interactive teaching approaches (ANA, 2018; NLN, 2016). Patricia Benner, nursing theorist, recognized and promoted the idea that disengaged students become disengaged nurses, while an active learning classroom fosters engagement and encourages active use of the new knowledge (Benner, 2015).

Theoretical foundations are the pinnacle underlying of teaching and learning for adult nursing students. The use of the theory of andragogy by Malcolm Knowles (1970) and novice to expert theory by Patricia Benner (1984) provided the study's theoretical foundation with a specialized educational approach. Andragogical tenants support the interactive learning approaches with best practices, while the novice to expert developmental stages influences both the nursing student and the educator in their abilities to demonstrate mastery. Nursing faculty who used active learning in their classrooms showed a continuum of growth in Benner's novice to expert scale with the increased use of interactive techniques while incorporating the best practices of andragogy by Knowles (Alligood, 2016; Billings & Halstead, 2019).

Need for the Study

The research literature on interactive learning indicated it is an effective method to deliver information while promoting education and accountability for the student, yet it is not known why there is an inadequate use in the associate degree nursing classroom (Cheng et al., 2018; Patrick et al., 2016). There was little research done with a focus on faculty perceptions of the use of interactive learning in the nursing classroom (Morales, 2017; Tsang & Harris, 2016). The study described in this dissertation included an exploration of nursing faculty experiences, either positive or negative, with the use of the active learning techniques. Understanding the nursing faculty experiences of interactive learning in the nursing classroom could decrease literature and research gaps in nursing education.

Purpose of the Study

The purpose of this basic qualitative study was to explore nursing faculty experiences with interactive learning strategies in the associate degree nursing classroom. Exploring nursing faculty experiences of active learning may bridge the research gap that identifies why nursing faculty is not using the approaches and the challenges they face with implementation. The information gained from the study was anticipated to contribute to the nursing education community highlighting the need for faculty to explore their use of active learning and identify needs for future contributing research.

Significance of the Study

This study was anticipated to provide insight into nursing faculty perceptions of active learning in the nursing classroom. The perceptions may contribute to the limited existing body of knowledge by exploring nursing faculty experiences in the ADN classroom with qualitative inquiry (Miller & Metz, 2016; Turner & Cole, 2017). This study may inform educators about the nursing faculty's experiences using interactive learning methods in their classrooms. The shared experiences of nursing faculty support educators considering changes to their nursing classroom.

The information from this study was expected to contribute to the NLN and ANA's call to reform the nursing classroom in meeting students learning needs in various methods (ANA, 2018; NLN, 2016). The benefits of exploring faculty experiences using interactive learning support the increased critical thinking and competence in nursing students who may contribute to the community healthcare system (Benner, 2015; Ellis, 2016; Morales, 2017). It is unknown if the results of the study will encourage changes to the nursing classrooms, but it may support the consideration process of nursing faculty who are resistant to the use of active learning and change instructors' beliefs (Huda et al., 2016). The shared nursing faculty perceptions support professional development programs for nursing faculty or additional training in active learning.

Research Question

How do nursing faculty describe their experiences with interactive teaching in the classroom with associate degree nursing students?

Definition of Terms

Active Learning

Active learning has a variety of definitions and interpretations. For this study, the following definition is used to describe active learning. Miller and Metz (2014) defined active learning as an instructional approach in which students become engaged and participate in the classroom with activities such as case study, games, discussions, group presentations, and debates.

Case Study

A case study is defined as a presentation of a problem-solving scenario with the intent to develop problem-solving abilities with the use of knowledge, concepts, critical thinking, and skills (Bradshaw et al., 2019).

Debate

Debate is defined as the discussion of a question by considering opposing arguments (Merriam-Webster, 2019).

Discussion

Discussion in the nursing classroom includes assisting students' learning process and the articulation of new knowledge, solving problems, evaluating logic, and providing feedback in a meaningful way (Hoover et al., 2018). Discussions can occur in the classroom or online.

Games

Games used in education involve competition or achievement used to test the knowledge or skills of the student. The use of games promotes increased engagement and active learning (Bigdeli & Kaufman, 2017).

Group Presentations

Group presentations allow small groups of students to work together to prepare and deliver an oral content-based presentation (Gerdes, 2018).

Research Design

The study incorporated a basic qualitative design to explore nursing faculty experiences with the use of interactive teaching strategies in the classroom. Qualitative research allows for an understanding of an individuals' perception and experiences with the researcher as the primary tool for data collection (Merriam & Tisdell, 2016; Salkind, 2017). The use of a basic qualitative design that included semi-structured interview questions allowed the researcher to understand and make meaning of the experiences based on common themes during data analysis (Merriam & Tisdell, 2016). Qualitative research methods used in nursing education can increase the professional knowledge base while providing a focus on the participants' meanings, attitudes, and opinions (Lewis, 2017). According to Moser and Korstjens (2018), a qualitative research design promotes gathering information through interviews and analysis of the data for an understanding of the lived experience. The use of a qualitative research method allowed for the exploration of faculty perceptions and experiences of interactive teaching strategies in the nursing classroom.

Assumptions and Limitations

Considerations of methodological, theoretical, and topic specific assumptions and limitations were explored before conducting the study. A researcher's assumptions can guide a study topic of interest and influence the limitations of a study with bias (Merriam & Tisdell,

2016). Assumptions and limitations are considered weaknesses of the study, and identification of both allows for verification, duplication, and expansion of the study.

Assumptions

Assumptions in research are made when there is no specific way to verify information that is accepted as factual related to participants in the study (Creswell, 2015). One assumption was that a qualitative approach with open-ended interview questions was the best method to gather detailed experiences. There was an assumption that the participants honestly answered all the questions based on their experiences with active learning. Another assumption was that all participants did not review active learning theory, research, and practices to add to their interview responses. An additional assumption was that the participants' level of experience teaching in a nursing classroom was based on their CNE certification. Finally, the assumption was made that the participants used similar types of interactive learning activities in their classrooms and had varied yet similar experiences.

Limitations

The use of qualitative research for a study can limit the scope of inquiry and include bias. It is possible for bias to be found in the researcher and the participants (Buetow, 2019). Participation was restricted to the purposive sampling of faculty employed nationwide in nursing programs. The use of random sampling may have helped avoid bias but would not have produced the desired results (Creswell, 2015). Another limitation was that all the participants recruited taught full-time in an associate degree of nursing program and maintained a CNE certification. Due to the requirements for participation, the size of the study was limited and may not reflect all the experiences of all associate degree faculty using interactive learning techniques. An

additional limitation is that the researcher may have an internal bias due to being the primary collection instrument in qualitative research. A final limitation with internal bias is the researcher's history of teaching in the ADN environment using interactive learning techniques with students.

Delimitations

The use of delimitations allows the researcher to purposefully include boundaries and narrow the scope of the research study by design (Creswell, 2015). Faculty who taught in a bachelor's degree nursing program were not included in the study. Nursing faculty who worked part-time, adjunct, or in an administrative role were not eligible to participate. The specific requirements for participation in the study may have created a bias towards the research findings. All interviews were completed online using Zoom™ technology with the audio recorded; no in-person or telephone interviews were conducted. Finally, the interview questions were a delimitation as they were created to narrow the scope and responses of the participant to allow for manageable data collection.

Organization of the Remainder of the Study

Chapter 1 introduced the research topic, purpose, and background, including the gap in literature related to the study on faculty perception of interactive learning in the nursing classroom. Chapter 1 also included the importance of the study research design, definition of terms, and a brief review of the methodology supported by the study's research question. Chapter 1 concluded with the assumptions and limitations of the study.

Chapter 2 includes a review and report of literature on the topic, including the literature gap and the need for continued research on faculty perception of active learning in the nursing

classroom. Chapter 3 provides a detailed presentation of the research methodology and design used in the study. The third chapter also includes data collection and analysis processes. Chapter 4 contains the results of the study sample and data analysis. Chapter 5 concludes with the study findings, a discussion of results with literature influences, and recommendations for future research.

CHAPTER 2. LITERATURE REVIEW

This qualitative study was conducted to identify the faculty experiences with interactive teaching methods in their associate degree nursing classroom; specifically, to understand if their experiences encouraged or limited their continued use of interactive teaching methods in their classrooms. Chapter 2 includes a detailed description of the search methods and locations used to conduct the literature review. The chapter also includes a discussion of the theoretical underpinnings that guided the study. The chapter provides a literature review undertaken to identify the recent studies published on faculty experiences with interactive teaching methods in nursing education. Chapter 2 concludes with a synthesis of the research findings with a critique and summary of the previously published studies.

Methods of Searching

The Capella University's online library was the primary site used to begin research on the topic of faculty perception of interactive learning in the nursing classroom. The databases used in the search included: Academic Search Premier, ProQuest, Ovid, Nursing Full Text, Cumulative Index to Nursing and Health-Related Literature (CINAHL), Medline, ERIC, Google Scholar, Science Direct, and Dissertations at Capella. The use of AND, advanced search options, and including only peer-reviewed studies narrowed the offerings. The search of the literature was limited to published documents between 2014 and 2021 in the English language. The keywords used in the search included: "student-centered learning," "interactive teaching," "nursing classroom teaching methods," "teaching strategies," "nurse faculty," "active learning," "faculty perceptions," "self-directed learning," "nursing education," "teaching," and "flipped classroom." Author searches were used to read Malcolm Knowles's (1970) and Patricia Benner's (1984)

seminal works. There was a noted gap in the literature of faculty experiences with interactive learning in the nursing classroom. Much of the literature focused on student experiences, student learning measurements after specific activities, and student recommendations for activities. The literature gap supported the need for the study exploring faculty perception of interactive learning strategies in the ADN classroom.

Theoretical Orientation for the Study

Theoretical foundations are the pinnacle underlying of teaching and learning for adult nursing students. A combination of educational and nursing theories guides recommended educational reform using theory for best practices by education and nursing professionals, accrediting bodies, and theorists (American Nurses Association (ANA), 2018; Ellis, 2016; Prosser & Trigwell, 2017). The educational community, specifically the nursing education community, struggles to present a large amount of knowledge to nursing students using methods to meet all learning needs and appeal to the new generation of learners. Nursing educators can and should use a combination of educational and nursing theory to support teaching and learning methods to meet student learning needs and promote evidence-based learning and critical thinking (Ellis, 2016; Knowles et al., 2015). The contributions towards a framework for research in nursing education, specifically the dissertation study, included the constructs of the theory of andragogy by Malcolm Knowles (1970) and novice to expert theory by Patricia Benner (1985). An explanation of the theories provided alignment with the study's focus of faculty perception of interactive teaching methods in the nursing classroom, followed by the application of the combined theories to the study.

The profession of nursing is an art, and science, with nurse educators called to incorporate the art of caring with the science of nursing to assist students in their journey into the profession. There is no dedicated theory created for nursing education that requires the educator to use a combination of theories as a foundation for best practice standards and research in nursing education. The expectation of nurse educators is to prepare nursing students for thinking critically, incorporating science into patient care, providing knowledge, encouraging scholarship, and evaluating learning (Culyer, 2018; NLN, 2016). Key tenets of andragogy and novice to expert theories are addressed below, followed by content regarding how these theories related specifically to this dissertation study.

Andragogy

Malcolm Knowles (1970) brought andragogy to the forefront of adult education with the concept of learner-focused with the idea that adults learn differently than children and should be taught differently. The andragogical theory's foundation actively involved adults in the learning process, which changed the focus of education from teacher-centered to learner-centered and valued experience, motivation, and goals (Abeni, 2020; du Plessis, 2020). Knowles's learning theory included four principles applied to adult learning and six assumptions of the adult learner. The four principles for andragogical theory that apply to adult learning have the following tenants: adults need to be involved in the planning of their instruction; experience is valued and acts as a basis for learning activities; learning is more valuable when it has relevance to professional or personal life, and adult learning focus is not content-oriented, but problem-focused (Knowles, 1970)

Knowles' (1973) six assumptions of andragogy identified characteristics specific to adult learners that change the teaching and learning focus from a pedagogical approach to a learner-centered approach. Knowles' original theory began with four assumptions and was developed into six in later publications and research (du Plessis,2020). The first assumption is self-concept, viewed as self-directed, which evolves with maturity movement away from a dependent personality and learning techniques. The second assumption is learner's experience, which recognized that adults gather experiences in their lives that contribute to resources for learning (Abeni, 2020). The third assumption is the readiness to learn, which Knowles posited was influenced by life tasks and social roles that impact learning. Knowles et al. (2015) described assumption four as the orientation to learning, which allowed the shift of learning from single-centeredness to problem-centered for immediate application of the knowledge. Assumption five is the need to know, which assists the adult learner in exploring the new content's importance by answering why, what, and how. The final assumption is motivation to learn, identified as an internal focus that contributes to intrinsic value, internal motivation, and a personal payoff (Knowles et al., 2015). The assumptions presented by Knowles assist educators in recognizing adult learning needs and incorporate adult learning principles in designing educational activities and programs for teaching and learning.

Novice to Expert

Patricia Benner (1984) created the novice to expert theory as a structured model of developmental stages for nurses to master and obtain expertise in the profession. The basis for this theory is from the Dreyfus model of skill acquisition, which explained the tension between theory and practice of all professions and mastery levels (Benner, 1984). Benner's theory

contains five stages of expertise, ranging from novice to expert. During this process, a student or professional nurse will move forward or backward in stages influenced by years of practice, development of critical thinking and decision making, planning and organizational capacities, along with intuitive and analytical abilities (Davis & Maisano, 2016). Benner's novice to expert theory outlines the process for a nurse's growth and development through professional stages of competence and mastery.

Benner's theory has a foundation of nurse's development as a progression from theoretical knowledge to clinical practice as forms of "*knowing*." The causal relationship of theory to practice assists the nurse in transforming "*knowing how*" to "*knowing that*," which is supported by evidence-based practices, theoretical foundations, and scientific formulation that transformed a nurse from basic learning to expert practice (Benner, 1984; 2015). The theory has five stages that exemplify the progress from novice to expert with recommendations for advancing education and practice to attain the next level with the goal of reaching the final stage of expert. The nurse can move forward or backward in the five stages with events such as moving to a new specialty practice area, promotion, or role change, and advancing education, which would move the expert nurse back to the novice level to begin the developmental stages.

Benner's theory's novice level described a new nurse who has limited exposure to a practice area with the need for skill development. The novice is inflexible and limited in knowledge requiring rules to guide their performance (Benner, 1984). The advanced beginner demonstrated marginal performance and had some experience to gather baseline knowledge or recognize experiences pointed out by a preceptor or educator (Payne, 2015). Benner's theory's competent level represented a nurse working two to three years in a practice area who is

consciously aware of their role, influences, and can think on the level of long-term goals or plans (Benner, 1984). The competent nurse can apply abstract thinking to all aspects of care and professional role, including contemplation and analytical considerations. The proficient level of novice to expert theory explained the nurse as a practitioner who can view the entire situation rather than individual parts with perspectives from previous experiences. Payne (2015) posited the proficient nurse as one with speed and flexibility and the ability to modify responses and identify accurate issues of a problem with a holistic approach. A proficient performer is typically a nurse who has three to five years' experience with a specific patient population. The pinnacle level of Benner's theory was expert. The expert nurse had an extensive background of experience that acts as a guide to decision making with the ability to rule out insignificant details and focus on the situation with intuitive decisions supported by clinical and theoretical judgments (Culyer et al., 2018). The expert nurse was driven by excellence, with results seen in the evidence-based outcomes of their patient care. The expert nurse was also suited to perform in a leadership or educational role, encouraging nurses at lower levels of the Benner's scaffold to advance to the next stage. These five stages of Benner's Novice to Expert theory provided a growth and development framework for nurses to progress in the field of practice. Implications for education are included in each level and help educators formulate plans for nursing students' practices.

Application to Study

The guiding framework for this dissertation research included both education and nursing theory. The nursing specific theory by Benner (1984) was used to explain the development of nursing students and the important considerations that contributed to their learning (Benner,

1984; Ozdemir, 2019). Administrators and faculty in nursing departments worldwide use a nursing theory to support curriculum and student-learning outcomes with adaptations of the theory to meet educational and professional requirements of nursing education. Benner (2015) called for educational reform partnered with the Institute of Medicine and the National League of Nursing to change teaching methods, promote evidence-based practices, and transform curriculum to align with nursing and educational theory. Benner encouraged her theoretical implementation into the nursing curriculum to produce higher level novice nursing students prepared to enter practice. Nurse educators adopt a combination of Knowles tenants of active learning combined with Benner's theory in planned activities in the simulation laboratory for the nursing student who is refining their critical thinking and hands-on nursing skills (Thomas & Kellgren, 2017). Andragogical theory combined with Benner's theory is used in the promotion of self-directed learning activities in the nursing classroom with a collaborative approach to learning (Grandinetti, 2015; Green & Schairet, 2017; Robb,2016; Yancey, 2018). Knowles theory of andragogy is not nursing specific but does provide a fundamental approach to teaching nursing students to actively participate in their learning, critical thinking, and value of adult learning principles in assisting nursing students in their scholarship.

In summary, theoretical foundations are an essential component in teaching and learning for adult nursing students. The novice to expert theory by Benner (1984) and theory of andragogy by Knowles (1973) provided key constructs that assist educators in meeting learning needs required to prepare students for critical thinking and safe nursing practice. The use of nursing theory in education provides a framework for departmental and course organization with a nursing approach to patient care, while the educational theory is the preferred theoretical

approach for classroom teaching and learning for adult nursing students. This dissertation study regarding active learning in the nursing classroom with an andragogical foundation was anticipated to provide advancement of Knowles' theory in the medical science, higher education communities, and fill the research gap.

Review of the Literature

A review of the literature was conducted to explore nursing faculty perception of interactive learning techniques in the associate degree classroom. The following paragraphs of the manuscript are organized by themes that include faculty perception, faculty identity and beliefs, faculty challenges with the use of interactive learning, and current trends with active learning. The research has a thematic arrangement according to the identified themes found in the literature search.

Faculty Perception

Few published studies that focused solely on nursing faculty perceptions of active learning in the classroom are available. While reviewing the literature, it was evident that studies from non-medical disciplines supported the foundation for a dissertation research study specific to nursing faculty perceptions. The studies reviewed below used qualitative, quantitative, and mixed methods to explore non-nursing faculty perceptions of the use of interactive learning.

Seng (2014) approached a study on active learning with the opinions of faculty. This qualitative study aimed to investigate teachers' views about active learning, specifically how the active learning was used and any problems with the implementation of the teaching method. Seng hoped to investigate the three objectives: the active learning approach perceived by educators, a framework for the research of active learning from the teacher perspective, and

insight into the strengths and weaknesses of active learning as perceived by educators. Seng's study population was higher education faculty across a various specialty area, not including nursing. The qualitative study included a focus on data through open-ended interview questions allowing the teachers to openly share their experiences (Seng, 2014). The results of the study narrowed the information to five areas that included: independent learning, autonomous learning, students learning from experiences, equal learning opportunities, and challenges. Overall, the teachers' perceptions had insights that active learning engaged the students in the learning process, and there was a direct increase in independent learning, independent thinking, and collaborative learning. Conversely, the negatives included lack of sociability when the student becomes an independent learner, a significant amount of time required to plan activities, and lack of support from the academic institution (Seng, 2014). The implications of this study were two-fold. The positive outcomes of active learning were much greater than the negatives. Seng (2014) listed minimal quotes of challenges from the participants. A final implication that influenced the use of active learning was the evaluation of student success with failure to incorporate new methods of evaluation, which could make the intended meaningful changes meaningless. Seng (2014) posited that interactive learning was meaningless and would fail adaptation to the classroom if learning assessments were exams from the textbook. Considering that nursing students must pass a competency exam before practice, Seng's study indicated that active learning is insufficient for nursing students or other students who must pass a competency exam.

Miller and Metz (2014) explored the comparison of student and faculty perceptions with the use of active learning in a university department of physiology and biophysics. They focused on faculty who used lecture as the primary delivery method of material in the classrooms in the

schools of medicine, dentistry, and graduate studies. The researchers conducted the study that used a mixed-methods approach and a paper survey that included the frequency of specific active learning activities in the classroom, previous experience with the observation of active learning, the perceived effects of active learning, and the primary reason for not using active learning in the classroom (Miller & Metz, 2014). Faculty participants reported the benefits of active learning for student satisfaction, increased outcomes, and interest in learning more about active learning to increase the frequency of use. The participants listed reasons for the resistance of implementation, included lack of training, lack of administrative support, preparation time, lack of enough class time, comfort with lecture, and large class sizes. Miller and Metz (2014) had a small sample size of nine faculty members with no senior faculty near retirement age who may have indicated a lack of interest in changing teaching methods. Implications from the study included reported barriers to the use of active learning in the medical science classroom with continued primary choice of lecture despite the faculty knowledge of the benefits of active learning. Professional development training on active learning techniques and increased administrative support may support the faculty's transition to incorporate active learning in the classroom.

Patrick et al. (2016) sought to expand the examination of perceptions among faculty in the same university used by Miller and Metz (2014), which identified barriers to implementation between departments in the science, technology, engineering, and math (STEM) classrooms. A larger, more diverse sample was part of the mixed-methods study to explore the perceived percentage of time dedicated to active learning in the classroom, experience observing active learning, and barriers to implementation per each department. The survey tool used by Miller and

Metz (2014) compared the Patrick et al. study results. Patrick et al. (2016) found that the implementation of interactive learning varied across departments, with some faculty never using active learning despite exposure to the active learning environment. Barriers to the implementation included findings like Miller and Metz (2014) suggested lack of preparation time, administrative support, training in active learning, and faculty motivation to change teaching methods (Patrick et al., 2016). Implications from the study included administrative reports of lack of faculty and student acceptance of the change to teaching and learning activities. The lack of acceptance encouraged continued training for faculty and support from deans and department chairs. Another implication was the barrier of teaching and learning methods differing among departments and reports that decreased barriers were the responsibility of faculty and administration in efforts for change (Patrick et al., 2016). Continued research among faculty in a variety of departments in other educational settings was recommended.

Tarekegne (2019) examined faculty perceptions and practices of higher education with a mixed-methods research study. The researcher selected three departments within one university to include faculty, department heads, and students as the participants. The study design included classroom observation, an open and closed-ended questionnaire, interviews, and a focus group discussion (Tarekegne, 2019). The faculty participants expressed a positive perception towards the use of interactive learning techniques and the need for continuous assessment as a measurement of the teaching methods' effectiveness (Tarekegne, 2019). The researcher concluded that the positive perceptions of faculty were hindered by variables such as large class size, additional time requirements, past experiences, lack of resources, and lack of support. Tarekegne (2019) recommended continued professional development focused on active learning,

budget considerations to add quality materials for faculty and students, and educators to share experiences within the departments for support.

Bucklin et al. (2021) researched educator perceptions on active learning in the Continuing Medical Education (CME) academic environment. The authors developed the active learning survey to address the knowledge gap on the interactive learning approach that spans all areas of medical education. The quantitative study design included a questionnaire created to inquire about the participants' knowledge, perceptions, and use of active learning in their trainings and classrooms. Bucklin et al. (2021) reported that 80% of the 146 participants reported prior training that included information about active learning yet only experienced 50% of interactive learning activities in their CME training. The participants included familiarity with the benefits of the student-centered approach but cited barriers such as lack of familiarity with the subject, increased preparation and planning time, and difficulty adapting lecture materials (Bucklin et al., 2021).

Cabral and Baptista (2019) created a qualitative study designed to explore the views of nursing faculty members about their interactive teaching experiences shared with other faculty in a planned professional development training. The data came from the observation of participants' presentations and written articles of faculty reflections and perceptions of the activities. Each participant shared a prior experience with interactive learning techniques in their nursing classroom, including the pedagogical approach, student's reaction, engagement, self-reflection, and complexity (Cabral & Baptista, 2019). The researchers concluded that the participants all reported that the reflection process with interactive learning is essential for students and faculty, which promoted the teaching-learning synergies of joint responsibilities.

Cabral and Baptista (2019) posited that the study design allowed the participants to expand their knowledge, gain support from peers, and gain evidence-based decisions for future planning of interactive learning approaches.

Faculty Identity and Beliefs

Faculty beliefs and experiences with active learning influence their motivation for continued use and confidence with their classroom techniques. Long et al. (2019) opined that faculty use of interactive learning techniques is supported by their perceived usefulness and ease-of-use of the active learning techniques in their classroom. Borda et al. (2020) posited that faculty were more likely to implement interactive learning in their classroom when they had previous positive experiences with the techniques. Ellis (2016) examined nurse educators' beliefs and self-perceptions of their use of active learning techniques in the classroom with a quantitative study. The purpose of the study was to explore faculty beliefs about active learning and the influence their self-perceptions had on using the strategies. Ellis (2016) assumed that educators who are not learner-centered would not use active learning in the classroom. The results indicated that participants valued a learner-centered approach but felt challenged to implement active learning in the classroom. The faculty reported barriers, including minimal administrative and peer support, student resistance, and lack of confidence (Ellis, 2016). The implications of the study showed the need for continued faculty support with the transition to the use of active learning and the need for additional research using qualitative inquiry with a smaller sample size exploring specific beliefs and practices. Ellis (2016) promoted the recommendation for continued research in nursing faculty perceptions to contribute to the gap in

the literature and needs of educators. The upcoming paragraphs include descriptions of faculty roles and identities, followed by faculty beliefs about the importance of interactive learning.

Faculty Roles and Identities

Keiler (2018) explored faculty roles and identities in a student-centered classroom with a qualitative study of STEM educators transitioning from a teacher-centered to a learner-centered classroom, including the challenges with the role and identity shifts. Keiler (2018) posited that faculty perceptions of their role and identity as an expert and professional influenced the resistance of active learning. According to the author, two high schools undergoing a curricular shift implemented a learner-centered teaching format to prepare students for college entry. The research questions addressed how the educators viewed their roles, identity, and challenges with the release of control in the classroom (Keiler, 2018). Three distinct themes appeared among the participants' feelings about the active learning teaching methods including: faculty who found active learning in alignment with their beliefs and embraced the change with no internal conflict, faculty who identified difficulty with the role change with one educator leaving the position, and educators who reported a significant shift in their beliefs and identities to implement active learning in their classroom (Keiler, 2018). The researcher stated that the results of the study included the educators' ability to make an identity transformation without resistance can lead them into a facilitator and on who engaged students in the classroom, allowing the transition of power to the students for their learning. Keiler (2018) encouraged the need for faculty support from peers and administration, professional development on active learning and a student-centered approach, and continued research on the faculty roles and identities in active learning.

Beliefs Related to Importance of Interactive Learning

Exploration of faculty beliefs about the importance of interactive learning use in the nursing classroom was addressed as a secondary consideration when researching the flipped classroom by Barbour and Schuessler (2019), Harris-Ware and Benson (2019), Persky and McLaughlin (2017), and Pilcher (2019). Faculty beliefs about their ability to provide interactive learning effectively for student learning influenced their use of the techniques. Changing the method of information delivery from a traditional practice such as lecture to a flipped classroom learning environment influenced how educators perceived their ability to teach effectively. Educators must value their role in the educational experience, including the selected methods to connect and engage with learners while using multiple teaching approaches (Gardner, 2014). Intrinsic motivation is required to transition from a clinical expert to a classroom educator, including recognizing the need to reflect on their strengths and weaknesses as an educator (Barber & Schuessler, 2019). Also, educators must be willing to be flexible with a commitment to teamwork, empathy, and communication (Persky & McLaughlin, 2017). While the willingness to change in the educational paradigm is necessary for a successful transition to a learner-centered focus, educator confidence contributes to the implementation and continued use of interactive learning techniques. Pilcher (2019) discussed that even seasoned educators struggled with their confidence and ability to deliver information using interactive learning techniques. Increased training and continuing education content on instructional methods were suggested by faculty to improve confidence and skills using interactive learning techniques (Harris-Ware & Benson, 2019).

Winston et al. (2018) explored faculty motivations for the use of interactive learning among pharmacy educators. The researchers evaluated the relationship between intrinsic and extrinsic motivation with faculty in the classroom (Winston et.al, 2018). In addition to evaluating the motivations, the researchers considered correlation with faculty support, training, and the motivations (Winston et al., 2018). The researchers discussed the results of the quantitative study that included a direct correlation between faculty use of interactive learning and intrinsic motivation. The participants included faculty support and training as additional contributing factors that assisted with motivation (Winston et al., 2018).

Faculty Beliefs Related to Effectiveness

Faculty belief in the effectiveness of a learner-centered teaching approach on student learning and knowledge retention influences the active learning commitment. Faculty reported using lecture over interactive learning approaches with a lack of confidence in the benefits of the new techniques in test scores, student satisfaction, and inclusion of a large amount of material required for delivery (Ellis, 2016). Nurse educators reported the use of lecture and active learning in a study by Bristol et al. (2019) with admissions of lecture preference and passive learning by both faculty and students. Bristol et al. (2019) found that, “of the 438 faculty, only a few used solely active learning strategies or lectured more than 75% of the time” (p. 2). Lack of committed buy-in by faculty was also evident in Ward’s (2018) review of literature of the flipped classroom in nursing education. Ward et al. (2018) performed a literature review to explore student and faculty perceptions of the flipped classroom while reviewing measurable student performance and critical thinking outcomes. The authors found that active learning use may be

initially uncomfortable with the transition to a facilitators' role from the presenter, and the educators' need to be equipped with a strong academic and clinical background.

Faculty Challenges

Nurse educators are familiar with active learning benefits, including increased critical thinking, student involvement, communication, and transition of knowledge from theory to practice (ANA, 2018; NLN, 2016; Presti, 2016). Faculty challenges or barriers contribute to decreased enthusiasm and implementation of interactive learning activities in the nursing classroom. Cuyler et al. (2018) performed a literature review exploring evidence-based teaching strategies used by nursing faculty to transfer knowledge from theory to practice. While exploring the types of interactive learning activities used, Culyer et al. (2018) noted a theme of barriers included a lack of preparation time, a lack of professional development specific to active learning, a lack of administration and colleague support, large class sizes, and a lack of student motivation. Faculty barriers are not exclusive to nurse educators in higher education, with reported challenges from additional science programs, including faculty from STEM, biology, chemistry, physical therapy, and the school of medicine. When comparing disciplines, the common thread found is the need to deliver a large amount of material required to the students. There was a reported resistance to a transition from lecture to active learning by faculty who felt lecture was the best delivery method for large classes that must receive a large amount of material (Guy, 2017; Long et al., 2018; Persky & McLaughlin, 2017; Van Horne & Murniati, 2016). The next sections discuss the specific challenges related to faculty support and student motivation.

Faculty Support

Faculty making the change from passive to active learning classrooms found the preparation and transition required more time than expected. Persky and McLaughlin (2017) stated that interactive learning preparations take a significant amount of time, energy, and flexibility, with an increase of 127% of the time required for design and implementation. Ward et al. (2018) that faculty class preparation time increased by 150% and suggested the benefits of having a teaching assistant to allow additional preparation time.

Lack of peer and administrative support was a challenge found in faculty reports of barriers to interactive learning implementations. Gardner (2014) explored faculty perceptions in nurse educators with active learning and reported a participant barrier that lacked mentorship and administrative support with execution. Participants reported feelings of incompetence and being unprepared to transition without guidance and support (Gardner, 2014). Pickering and Roberts (2017) suggested that a lack of knowledge or confidence of how the implementation of active learning strategies into their classroom was a potential barrier. Faculty discussed the benefits of watching other faculty use techniques, having classes monitored by peers and administration for feedback, and assistance with self-reflection as steps that can improve barriers to implementation (AlRuthia et al., 2019; Guy, 2017; Ungar et al., 2018; Waltz et al., 2014). Other researchers considered faculty experience perceptions and recommended the need for faculty to have professional development specific to interactive learning approaches (Culyer et al., 2018; Ellis,

2016; Patrick et al., 2016; Persky & McLaughlin, 2017; Presti, 2016; Van Horne & Murniati, 2016; Wells-Beede, 2020).

Strubbe et al. (2019) explored the benefits of faculty support in paired teaching with a newer faculty working directly with an experienced faculty to introduce active learning and create positive experiences. The design of the qualitative case study was to change the focus from the classroom transformation to faculty development (Strubbe et al., 2019). Semi-structured interviews before and after the semester promoted reflection from the participants combined with classroom observation and student surveys allowed for data saturation. The researchers concluded that paired teaching could be the change strategy that supported faculty, promoted learner-centered approaches to the classroom, and be an effective approach institution wide. Strubbe et al. (2019) shared that supporting faculty in the transition to the use of interactive learning can include a broader effect on change efforts in the educational community.

Student Motivation

Lack of student motivation and participation is a barrier faced by faculty in implementing interactive learning techniques in the classroom. Long et al. (2018) studied faculty who implemented the flipped classroom approach for learning in their classroom. The participants reported a lack of student preparedness as a barrier that influenced the activities and student-learning outcomes. The faculty reported feelings of disappointment and concern with students who came to class without preparation and could not participate in the interactive learning activities (Long et al., 2018). Student motivation is a contributing factor when there is resistance to participation in classroom activities. Borda et al. (2020) suggested that faculty prepare themselves for student resistance by addressing participation requirements and expectations on

the first day of class; and sharing previous positive outcomes with active learning. Mui et al. (2019) encouraged clear, regular communication between faculty and students to promote the classroom culture and expectations. Delgarno et al. (2020) and Long et al. (2018) found that faculty reported additional barriers as not all students like active learning and not all collaborate effectively. Students who prefer lecture or kinesthetic learning may not see the value in the classroom activities and refuse participation or remain silent (Borda et al., 2020).

In a mixed-methods study, Borda et al. (2020) explored faculty and student perception with the interactive learning process. The researchers designed the study with a combination of classroom observations, student questionnaires, and faculty interviews across a university STEM program to explore the implementation of a faculty development program on active learning. Borda et al. (2020) discovered that faculty perceptions and student perceptions were not aligned. Students reported they preferred lecture and homework over interactive learning because they thought it helped prepare them for exams and other graded work (Borda et al., 2020). Conversely, some faculty participants reported perceptions of student resistance to active learning as a lack of preparation or lack of willingness to participate. Finally, some students reported an expectation or preference for passive learning (Borda et al., 2020).

Trends in Interactive Learning

Trends in interactive learning focus on specific active learning techniques implemented to support a student-centered approach with intended benefits of increased test scores and knowledge retention. Specific active learning methods trending include the use of case studies, gamification, hand-held devices in the classroom, and simulation (Bristol, 2016; Gibbs et al., 2014; Greenwood & Mosca, 2017; Rezaei, 2015). Individual studies on active learning

approaches provide a discrete rather than holistic perspective on implementation in the nursing classroom. Frasineau and Ilie (2017) encouraged that single learning activities in the classroom add to the student-centered approach but should be consistent with the intent to redesign curriculum and education to make active learning the primary focus of education with a paradigm change.

Waltz et al. (2014) performed a literature review to evaluate specific activities used as active learning in the nursing classroom. The 22 studies conducted over 10 years included activities that used high and low fidelity simulation, case study, gamification, personal response systems, and concept mapping. The studies selected for the literature review by the authors were one-time occurrences in the classroom or simulation laboratory used for research to evaluate the interventions' effectiveness and student satisfaction. The active learning studies were limited in quality, and although they provided positive feedback, they did not contribute significantly to the body of scientific knowledge with strong evidence-based practice (Waltz et al., 2014). While much of the research in active learning activities have contributed to assist faculty in the transition from passive to active learning, there is a continued need to study active learning with a holistic approach, including faculty perceptions and implementation challenges. Some trends in research include simulation, case studies, and the use of handheld devices will be discussed in the upcoming paragraphs.

Simulation

A popular area of active learning use and research in nursing education is high-fidelity simulation activities in the laboratory setting (Morton et al., 2019). Students participate in a pre-planned activity caring for simulator patients used to develop hands-on skills, professional

communication, assessment skills, and improved critical thinking in a safe environment. The flexibility of the scenarios allows the nursing student to practice and demonstrate skills from beginner to advanced levels, including specialty practice such as pediatrics, mental health, labor and delivery, and end of life care (Cole et al., 2018; Shin et al., 2015; West & Parchoma, 2017). The benefits of using simulation are akin to clinical experiences yet can be a challenge for faculty adapting didactic material to a meaningful simulation experience. It is encouraging to see studies that evaluated nursing faculty perception of simulation in the laboratory setting. Dearnley and Scott-Smith (2018) explored experiences of novice simulation faculty to identify emerging themes and areas of support needed. White (2017) supported using extra preparation time and tools to decrease faculty anxiety with the implementation of simulation into the student-learning experiences. Kostovich et al. (2020) supported the enhanced training for faculty implementing simulation to provide an effective learning environment for students. Simulation activities assist students with the transition from theory to practice, but specialized training and support are needed to assist faculty (Shin et al.,2015; White, 2017).

Case Study

The AACN (2020) suggested the use of case study as an active learning tool and collaborative approach to nursing education. The evidence to support the use of case studies in the nursing classroom is numerous, with various methods and variables used to measure the effectiveness of the activity for learning. Chu et al. (2019) and Greenwood and Mosca (2017) discussed the strengths of case studies used in the nursing classroom with statistical results of increased critical thinking, increased knowledge retention, improved test scores, and increased student participation. Greenwood and Mosca (2017) reported the benefits of case study on test

results in their quantitative quasi-experimental designed study. The researchers reported an 8-point increase in test scores with an addition of case study to the classroom. Chu et al. (2019) promoted the benefits of case study with improved integration of critical thinking, in theory to practice, and in-depth learning in their quantitative study. Chu et al. (2019) reported increased student participation and knowledge retention in small group discussions. Mackie (2018) considered student activity, critical, and creative thinking with the use of case study in their qualitative designed research. Mackie (2018) posited that the benefits of case study included increased student engagement and critical thinking. The flexibility of the use of case studies was discussed by Bowman (2017), Carter and Welch (2016), Herron et al. (2019), and Hong and Yu (2017) and its use in a variety of environments to increase student learning that included simulation, the online classroom, and the flipped classroom. Multiple journal articles supported the use of case studies with steps to assist faculty with the implementation and organizational theory that supported the methods and approaches used (Bristol, 2016; Ellis, 2016). The blend of qualitative and quantitative research endorsed the evidence to use case studies with sufficient samples and statistics that included pre-test and post-test sampling, test score measurement, and student satisfaction surveys to encourage implementation (Altmiller, 2020; Oliver & Luther, 2020; Poston et al., 2019).

Unlike a single-use case study, an unfolding case study allows for a transitioning scenario that may include a change in patient condition, additional disease processes, or a variable of patient needs. Meiers and Russell (2019) studied the benefits of an unfolding case study with novice nursing students in the laboratory. The researchers used the unfolding case study to focus on their clinical weaknesses, and specific learning needs to the first-semester students. Weekly

use of the case study in the laboratory showed an improvement in students' skills, confidence, and critical thinking (Meiers & Russel, 2019). Hong and Yu (2017) used an unfolding case study with undergraduate nursing students in the classroom to evaluate the effectiveness of the case studies on critical thinking. After an 18-month quantitative study, Hong and Yu (2017) found that an unfolding case study was more effective than a single-use case study for the improved nursing students' critical thinking.

Faculty reported challenges using case studies that were attributed to lack of planning, poor participation, and faculty discomfort with the active learning technique. Ellis (2016) discussed the importance of faculty perception of active learning techniques. Educators that favored active learning were more likely to invest the time and commitment to using case studies and other activities (Bristol, 2016; Ellis, 2016). New nursing students lacking confidence in their learning and clinical skills may be resistant to new approaches, including the change from passive to active learning. Student resistance and lack of participation can influence faculty use of active learning (Carvalho et al., 2017; Patrick et al.,2016; Presti, 2016; Waltz, 2014). Detailed case study scenarios may not be useful for early nursing students learning concrete facts but can be adapted to meet the needs of any level of nursing student (Billings & Halstead, 2020). Implementing an unfolding case study required a weekly commitment from faculty to include the activity in class and adaptation of the activity to the learning outcomes and needs of the students (Tracy & McPherson, 2020).

Handheld Devices

Influencing the future of education is the increase in technology and student demands with a new learning style that continues the movement from teacher-centered to student-centered

learning. Educators are making the change to incorporate social media, Web 2.0 tools, handheld devices, and other technology to meet the needs of a mixed generation of learners. The future of education will show decreased teacher dependence as technology replaces educators (Florenthal, 2019). New generations of learners come with a unique set of talents and perspectives on education. They have short attention spans, prefer visual learning, and have an addiction to technology, influencing their expectations of immediate answers (Lai & Zheng, 2018; Muztaba et al., 2018; Tissenbaum & Slotta, 2019). The new leaner prefers to be entertained while learning and developing critical thinking with hands-on activities. Technology is an expectation in all aspects of their daily lives and learning. With the new type of learner comes a new perspective on society and education with the future generations. Changes in society have led to a group of young learners who are money-motivated, evade responsibility, and demonstrate a decrease in coping skills and communication (Florenthal, 2018; Lin & Wang, 2018). The future students also come with the same characteristics of all nursing students, including uncertainty in study skills, struggles with critical thinking, and needing guidance in the learning process. Nursing faculty need to adapt active learning methods to incorporate technology into the nursing classroom.

The use of handheld devices in the classroom supports personalized learning that is adaptable with the encouragement of active participation of students in the learning process (Gallegos & Nakashima, 2018). The use of technology meets the learning needs of the new generations of students. Increasing student engagement and participation is essential in the active learning process and encourages the transition of power from the educator to the student. The recent literature on the use of handheld devices supported the technology addition with an indication of an increase in test scores, short-term knowledge, retention, and improved student

participation (Daele et al., 2017; Moon et al., 2020; Shatto et al., 2017; Welch, 2016). There is a gap in literature evaluating the faculty perception of using handheld devices during the implementation of active learning approaches. Chou and Block (2019) and Gallegos and Nakashima (2018) researched student perceptions and barriers to technology implementation with handheld devices. The researchers suggested increased training for students with the handheld technology by faculty to avoid student barriers without consideration for faculty perception or ability (Chou & Block, 2019). The use of mobile polling and mobile quiz software applications (app) is an interactive learning activity that acts as a motivator while promoting learning and participation with immediate results available to the class (Florenthal, 2018; Tissenbaum & Slotta, 2019; Wang & Tahir, 2020). The use of handheld devices and polling apps allows the educator to view the entire class as the learning community with interaction and participation promoted in any size classroom (Tissenbaum & Slotta, 2018). Muztaba et al. (2018) explored the mobile response systems (MRS) as an interactive and hands-on activity in the classroom in a quantitative study using an experience survey with students. The results of the study provided insights into student satisfaction with the activity, including the preference to receive immediate answers on the quizzes and the ease of use with an app on their cellular phone (Muztaba et al., 2018). The faculty participating in the study reported positive experiences with the MRS implementation and the ability to clarify confusing information for students immediately and allowed for adaptation of teaching style (Mutzaba et al., 2018).

Methodological Choices in Study Design

The design of a basic qualitative study is to explore the perceptions of faculty and their use of interactive learning techniques in the nursing classroom. Gelling (2015) described the purpose of qualitative research as the how's and why's of experiences and perceptions. Merriam and Tisdell (2016) discussed the benefits of qualitative design, including the ability to gather insights and rich descriptive data with the use of interviews. Although there is a limited population size with qualitative research, semi-structured interviews permit participants to share lived experiences with interactive learning techniques in the nursing classroom. Ward et al. (2018) discussed the benefits of the qualitative methodology included a preferred design to explore participants' beliefs and experiences with the promotion of their perceptions. Cleland (2017) explained the benefit of using qualitative design in fields of practice such as healthcare (nursing) and education as one that can encourage expressions of lived experiences. The information gained from the study was anticipated to contribute to the nursing education community highlighting the need for faculty to explore their use of interactive learning and identify a need for future contributing research.

Synthesis of the Research Findings

The information from the review of literature to explore faculty perceptions of active learning in the nursing classroom found a limited number of studies specific to faculty in an ADN program, yet it showed beneficial themes and information from other subjects offered in higher education. The themes included faculty perceptions, attitudes, and beliefs about active learning, faculty barriers to the use of active learning, and faculty incorporation of a specific or one-time use of active learning activities. The recommendations from the researchers of the

reviewed studies included the need for continued research with an emphasis on faculty perceptions and experiences.

Faculty perceptions and beliefs about the use of active learning in their classroom were explored by Miller and Metz (2014), Patrick et al. (2016), and Seng (2014) with the specific intent to consider the faculty issues with the use and implementation of active learning. While none of these studies included nursing faculty, the educators' experiences provided insights into their perceptions of student engagement, independent learning, resistance to implementation, and the need for continued professional development specific to active learning. Ellis (2016) examined nursing faculty beliefs about self-perceptions about their implementation of interactive learning in their classroom. The data collected in Ellis's interviews aligned with the reported perceptions from the participants of Miller and Metz (2014), Patrick et al. (2016), and Seng (2014) with experiences of lack of confidence, student resistance, and need for continued professional development. Borda et al. (2020), Ellis (2016), and Long et al. (2019) included the influence of faculty identity and beliefs using interactive learning techniques. The decisions for implementation were influenced by previous successful experiences, perception of usefulness to student learning, and ease of use. Keiler (2018) included the considerations for faculty experiences with internal conflict in releasing classroom authority and control.

Multiple studies found perceptions of faculty beliefs about interactive learning as a secondary consideration when researching the flipped classroom. Barbour and Schuessler (2019), Harris-Ware & Benson (2019), Persky and McLaughlin (2017), and Pilcher (2019) included the need for faculty considerations with the change in the information delivery system from teacher-focused to student-focused. Bristol et al. (2019), Harris-Ware and Benson (2019), and Ward et

al. (2018) noted a secondary finding of the importance for faculty to have intrinsic motivation, a strong educational background, and a belief that interactive learning techniques add value to their teaching and classroom environment. Bristol et al. (2019) included the need for faculty to be motivated by increased student satisfaction and test scores.

The literature provided examples of barriers to implementation and the use of interactive learning techniques. Alonso-Nuez et al. (2020), Borda et al. (2020), Long et al. (2018), and Mui et al. (2019) included the impact of student resistance to classroom change and learning techniques. Low participation, lack of preparation, and motivation were some perceptions reported as student resistance. Another barrier was the amount of time required for faculty to make the adaptation to student-centered activities. Culyer et al. (2018), Guy (2017), and Persky and McLaughlin (2017) included the significant amount of preparation time required for faculty to implement interactive learning. The literature also found barriers to faculty support and continuing education were found in much of the literature that included Pickering and Roberts (2017), Van Horne and Murniati (2016), and Ward et al. (2018), who noted that faculty reported a lack of confidence and support to implement interactive learning into the classroom appropriately. The reviewed literature included suggestions for an increase in training and professional development activities (Culyer et al., 2018; Ellis, 2016; Patrick et al., 2016; Persky & McLaughlin, 2017; Presti, 2016; Van Horne & Murniati, 2016; Wells-Beede, 2020).

The use of one-time interactive learning activities was a trend in the literature. The focus of the studies were evaluations of the effectiveness in student learning that included an increase in critical thinking and test scores (Bristol, 2016; Gibbs et al., 2016; Greenwood & Mosca, 2017; Rezaei, 2015). High-fidelity simulation use effectiveness in learning was promoted to decrease

the gap in theory to practice in medical based learning for nursing, medicine, and respiratory therapy students (Cole et al., 2018; Dearnley & Scott-Smith, 2018; Shin et al., 2015; Kostovich et al., 2020; West & Parchoma, 2017; White, 2017). The use of case studies in the classroom was found as an active learning tool and collaborative approach to teaching all levels of nursing students (AACN, 2020; Chu et al.,2019; Greenwood & Mosca, 2017; Mackie, 2018). Multiple studies supported the flexibility and adaptability of case study to improve student learning (Altmiller, 2020; Billings & Halstead, 2020; Bristol, 2016; Carter & Welch, 2016; Gibbs et al, 2014; Hong & Yu, 2017). Another single-use interactive learning technique found in the literature is handheld device use in the classroom as a personalized learning tool. Dale et al. (2017), Gallegos and Nakashima (2018), Moon et al. (2020), and Shatto et al. (2017) supported the use of handheld devices with the benefits of increased test scores, short term knowledge retention, and improved student participation. Mobile polling and quiz app use had the benefit of immediate class results for all to see without class size limitations (Florenthal, 2018; Muztaba et al., 2018; Tissenbaum & Slotta, 2019; Wang & Tahir, 2020).

Individual topic research on the above active learning activities provided a snapshot of specific activities without consideration for a holistic approach to active learning. The studies' results offered contributions to the education community but lacked specific inquiry on faculty perceptions using the activities. Trends in research indicated a change in focus from student-outcome- based research to studies with a focus on faculty perceptions.

Critique of Previous Research Methods

The literature review on faculty perception of interactive learning techniques in the nursing classroom included qualitative, quantitative, and mixed-method studies. Evaluation of

the research should be for reliability, rigor, validity, generalizability, and objectivity (Holloway & Galvin 2017). Quantitative and qualitative methodologies can support educational research with a focus on a small or large sample to answer the research questions and intent of the study (Merriam & Tisdell, 2016). The following paragraphs include a critique of some of the pivotal studies that provided a foundation for this planned dissertation study.

Quantitative Critique

The design of a quantitative study uses numerical or statistical data to obtain research information (Merriam & Tisdell, 2016). Ellis (2016) performed a quantitative study examining nurse educators' beliefs and self-perceptions of their use of active learning techniques in the classroom. The researcher's designed a descriptive correlational study that explored the faculty beliefs on active learning and the influences of the opinions on the implementation of the strategies. A Likert-type scale survey sent to nurse educator participants across the nation allowed for a larger sample to represent the nurse educator population. The 122 participants were nursing faculty who taught in a face-to-face environment in undergraduate programs in one state. The sample size was adequate to gather numerical data representing the phenomena of nursing faculty beliefs and perceptions as a population while meeting the required number to avoid a Type II error (Ellis, 2016; Faems, 2020). The weaknesses of the study methodology are two-fold. First, the ELCTNEQ tool was of use only once in the past during dissertation research and cannot prove stability or reliability (Creswell & Creswell, 2017). Another weakness in the methodology was the attempt to measure the actions of reported beliefs and values without direct observation (Ellis, 2016). The researcher recommended the need for continued use of the data collection tool, a larger population not limited to one state, and the benefits of adding

observation to measure faculty reported beliefs with actions (Ellis, 2016). Despite the weaknesses of the methodology, Ellis's research and results were beneficial to the nursing education community and assisted in filling the gap in the literature of nursing- specific studies with active learning while encouraging continued research.

Mixed- Methods Critique

A mixed-method study is an inquiry approach that includes both qualitative and quantitative research in the design (Creswell & Creswell, 2017). Many recent studies on interactive learning techniques are of a mixed-methods design using data from student grades and perceptions from faculty or students on the activities. Miller and Metz (2014) explored the comparison of student and faculty perceptions with the use of active learning in a university department of physiology and biophysics. A paper survey was used to question faculty that included frequency of specific active learning activities in the classroom, previous experience with the observation of active learning, the perceived effects of active learning, and the primary reason for not using active learning in the classroom with a total of 23 questions in the mixed-methods study (Miller & Metz, 2014). The researchers had a small sample size of 9 faculty members participating with no senior faculty near retirement age who may indicate a lack of interest in changing teaching methods. The sample size of 9 participants was large enough for the qualitative inquiry to reach data saturation (Creswell, 2015). It is noted by the researchers that there was a difference of interpretation from the faculty of what constitutes active learning activities. The interpretation and reporting of active learning effectiveness from observations were scored lower than their self-reported effectiveness. There were 116 student participants surveyed with a 13- question paper with Likert-scale type questions and open responses. The

statistical data analysis was performed by Origin Software version 8.1 (Miller & Metz, 2014). Some weaknesses of the study included participants from one school and department. A smaller participation size of 9 of the 13 invited faculty limits the qualitative data and experiences gathered. Despite the weaknesses of the study, the authors created a specific professional development training for the faculty from the results and encouraged Patrick et al. (2016) to create a similar mixed-methods study with a larger sample size.

Patrick et al. (2016) cited Miller and Metz's 2014 study results as a foundation for a more extensive mixed-method study that included a more diverse sample across five departments in one school. The researchers used a survey instrument that closely resembled the one used by Miller and Metz (2014) with some modifications to meet the environment of Patrick et al. (2016). The use of the same or similar survey instrument increased the usefulness of the resulting data (Patrick et al., 2016). Quantitative software of R analytics was used to analyze the numerical data. Seventy-one faculty members participated with completion of the faculty survey, and 255 students completed their questionnaires. The larger sample size provided a larger variance in results as directly compared to the results from Miller and Metz (2014). The strengths of the study included the larger and more diverse sample size. The researchers easily met their data saturation with 71 faculty members. A weakness of the study was the location of one school and the revised survey that may have influenced the direct comparison with Miller and Metz (2014). The researcher's results represented a larger population of faculty and student perceptions of active learning and the barriers to implementation. Recommendations for additional research on active learning perceptions and the continued support for professional development training added to the literature gap (Patrick et al., 2016).

Cuyler et al. (2018) performed a mixed-methods study to explore nursing faculty knowledge, beliefs in the effectiveness, and use of evidence-based teaching strategies to assist in transferring knowledge from theory to practice. There were 166 faculty participants, all residing in the state of New York. The survey design tool included a 13-item questionnaire with a four-point Likert Scale for seven questions and six open-ended questions (Cuyler et al., 2018). Spearman rank-order correlation and chi-squared test were used for analysis and independence of any significant relationship (Cuyler et al., 2018). The study's strengths included the large sample size and design of the survey to allow for ranking and detailed answers to open-ended questions. The limitations included sampling faculty in one state, which may not represent nursing faculty outside of the state, and the use of convenience sampling which may have hindered additional responses. The use of qualitative data collection in a survey tool does not allow for additional clarification and the free flow of conversation that naturally occurs in interviews.

Qualitative Critique

The qualitative research methodology is designed to explore and understand the meanings and experiences of a human problem within the study's framework (Creswell & Creswell, 2017). The researcher is the collection instrument using questions to identify emerging themes for interpretation to uncover meaningful and rich data (Merriam & Tisdell, 2016). The following studies influenced the methodology of this dissertation study. Keiler (2018) explored faculty perceptions of their roles and identities with the shift from a teacher-centered to a student-centered classroom. The 13 STEM faculty participants came from two urban secondary schools (Keiler, 2018). The study design included direct observation of active learning in the classroom and individual interviews with each participant after the observation. The interviews

allowed for further exploration of faculty perceptions and experiences in the classroom. The limitations of the study's design included the sample of two schools' STEM programs, which inhibited generalization. Keiler (2018) was also a trainer for the newly implemented instructional model that involved observation while providing coaching and feedback on the active learning methods. Keiler (2018) did not disclose any potential bias for the study or topic with the direct involvement or the plan to implement the results of the study into professional development training for the school's faculty.

Seng (2014) approached a study on active learning with the opinions of faculty. The qualitative study design aimed to investigate teachers' views about active learning, specifically included the use of active learning and any problems with the implementation of the teaching method. The population for Seng's study was higher education faculty across a variety of specialty areas, not including nursing. Seng (2014) gathered data through open-ended interview questions that allowed the teachers to openly share their experiences. A strength of Seng's methodology was that 15 educators shared perceptions that provided rich data for analysis. Enough participants gave the study several representations of educators' opinions and experiences in the academic setting (Seng, 2014; Merriam & Tisdell, 2015). The implications of the study were two-fold. Seng (2014) listed minimal quotes of challenges from the participants, which indicated the faculty overall did not meet many challenges with the use of interactive learning techniques. Seng (2014) posited that interactive learning is meaningless and will fail adaptation to the classroom if assessments of learning were exams from the textbook. The conclusions expressed by Seng (2014) included the five themes identified by the participants with a focus on the benefits of active learning in their classrooms while minimally addressing the

negatives reported by the educators. While the focus of Seng's study was faculty, his conclusions failed to align with his research questions as he recommended a pedagogical overhaul to educational systems and their evaluation methods (Seng, 2014). His study results contributed to the discourse due to the steps implemented to support validity and reliability throughout his methodology that provided the research's transferability.

Van Horne and Murniati (2016) performed a basic qualitative study encouraged by naturalistic inquiry to explore the influences of the academic environmental culture using active learning from both administrator and faculty viewpoints. There were 28 participants that included 13 department heads and 15 faculty members, all of whom previously attended an educational session on active learning. The faculty participants all used active learning in their classrooms (Van Horne & Murniati, 2016). The study's number of participants provided an acceptable sample size for the researchers to gather detailed descriptions that represented a population and reached data saturation (Merriam & Tisdell, 2015). The participants were from a variety of departments throughout the university. The data collection tool included semi-structured individual interviews with open-ended questions that used a specific set of questions for administration and other questions for faculty.

The strengths of the study methodology by Van Horne and Murniati (2016) included an adequate sample size for data collection, selection of participants across multiple departments at the university, member checks, and triangulation of the data. The methodology and results of the study are strengthened by the selection of department heads and faculty, although not every faculty department head elected to participate. The strength of administration and faculty both participating in the study was also a methodological weakness. Lack of participation with

department heads matched with faculty participants would have provided more robust data to explore the departmental environmental influences in the use of active learning (Van Horne & Murniati, 2016). Other noted weakness was the failure to consider instructional design, physical classroom space, and the limitation of the study to one university. The strengths of the methodology in the study by Van Horne and Murniati (2016) outweighed the weaknesses, with results that contributed to the gap in literature exploring faculty perceptions of active learning in the classroom. The validity of the findings and conclusion were strong and encouraged continued research with a broader participation pool outside of a single university and suggested to add classroom observations to future data collection.

Summary

This chapter included a description of the detailed search methods used to perform a thorough literature review for the latest publications on faculty experiences with interactive teaching methods in the nursing classroom. Chapter 2 included the theoretical underpinnings of andragogy by Knowles and novice to expert by Benner that guided the planned study. Included in this chapter was a detailed description of the review of literature with synthesis and critique of the research methods used. A notable lack of literature using qualitative studies exploring nursing faculty perspectives with interactive learning techniques in the ADN classroom provided a gap for this study.

Chapter 3 information and details will include how a basic qualitative study design was the best choice for the study in this document exploring faculty perception. The next chapter includes an explanation of the study's methodology that includes the purpose of the study, the research question, the target population, sampling method, and sample size. In addition, the

elements of the chapter also include the data collection instrument, the interview questions, and data analysis procedures. The final portion of Chapter 3 addresses ethical issues with the study and the author's position statement.

CHAPTER 3. METHODOLOGY

This qualitative study was to understand faculties' perceptions of interactive teaching strategies in the nursing classroom. The study included the use of a basic qualitative design that gave the foundation to gather descriptive data from the participants to explore their perceptions of the use of interactive teaching with richness and complexity. The participants' experiences were examined with a focus on their meanings, opinions, and attitudes. Chapter 3 includes essential information about the methodological approach and specific research related to the study. Also discussed will be the importance of the study, the research question, particular elaboration of the design, the target population and participant selection, the instrument used, and ethical considerations.

Purpose of the Study

The purpose of this basic qualitative study was to explore nursing faculty experiences with interactive learning strategies in the associate degree nursing classroom. The perceptions were anticipated to contribute to the limited existing body of knowledge by exploring nursing faculty experiences in the ADN classroom with qualitative inquiry. This study may inform educators about the nursing faculty's experiences using interactive learning methods in their classrooms. Inquiring about faculty experiences may bridge the research gap that identifies why the approaches are not being used in the classroom and the challenges experienced with implementation. In addition to encouraging nursing faculty, the study results may contribute to the ANA and NLN's call to classroom reform to help the nursing students in their learning in various methods (ANA, 2018; NLN, 2016).

Research Question

How do nursing faculty describe their experiences with interactive teaching in the classroom with associate degree nursing students?

Research Design

A basic qualitative design was the preferred method used for this study to explore nursing faculty experiences with the use of interactive teaching strategies in the nursing classroom. The researcher is the primary tool for data collection with the use of a qualitative research designed study seeking an understanding of individuals' perceptions and experiences (Merriam & Tisdell, 2016; Salkind, 2017). To Rutberg and Bouikidis (2018), the word "*perception*" promoted the use of qualitative research with the exploration of feelings, perceptions, and beliefs that cannot be quantifiably measured.

A qualitative design allows a researcher to reflect upon the participants' opinions, attitudes, and beliefs. According to Moser and Korstjens (2018), a qualitative research design promotes the gathering of information through interviews and analysis of the data to understand their experiences. The use of the basic qualitative design that included semi-structured interview questions allows researchers to make meaning of the experiences based upon common themes during data analysis (Merriam & Tisdell, 2016). The basic qualitative design selection allowed for the flexibility to design the study to answer the research question with a qualitative inquiry. The use of a qualitative research method allowed for the exploration of faculty perceptions and experiences of interactive teaching strategies in the nursing classroom. Qualitative research methods used in nursing education can increase the professional knowledge base while giving a focus on the participants' meanings, attitudes, and opinions (Ehrmin & Pierce, 2021).

Target Population and Sample

There are differences between the population and the sample of the study. Merriam and Tisdell (2016) defined a study population as an overall group where a sample is derived, while the sample is the specific participants from whom the data will be collected. For example, the population might be all nursing faculty in any nursing program, whilst the sample would be nursing faculty teaching in an ADN program. The sample represents the population (Merriam & Tisdell, 2016). The participants in this dissertation study represent nursing faculty teaching in ADN programs throughout the United States.

Population

The large population for the study included all full-time nursing faculty teaching in an ADN program nationwide. The Bureau of Labor Statistics (BLS) (2021) reported 61,000 nursing instructors in the United States of America. There are 17,610 nursing faculty teaching in ADN programs nationwide (BLS, 2021). The target population in this study was specific to full-time nursing faculty teaching in an ADN program who used interactive teaching techniques in their traditional classroom.

Sample

Purposive sampling was of use for participant selection. The use of purposive sampling is a popular choice in qualitative research allowing for the screening of potential participants to ensure they meet qualifying criteria (Merriam & Tisdell, 2016). The purposive sample was drawn from a group of nationwide faculty teaching at a variety of ADN programs, with the anticipated number of 12 to 15 participants, until saturation was reached. Smaller sample sizes

are effective for qualitative research in reaching data saturation (Creswell & Poth, 2018). The use of purposive sampling ensured that the participants met the inclusion criteria.

Inclusion Criteria

The inclusion criteria included each participant having a master's degree in nursing, teaching in a traditional lecture classroom in an ADN program, a CNE certification, and three years of teaching experience. To ensure participants met the inclusion criteria, the collection of demographic information included gender of the participant, age range, years teaching, current institution, location, active CNE certificate, and the use of interactive teaching activities in their classroom.

Exclusion Criteria

The exclusion criteria included faculty without current experience teaching in a traditional classroom lecture or minimal use or experience using interactive learning techniques. Faculty with less than three years of teaching experience or faculty who teach in a Bachelor of Nursing program did not qualify to participate. Faculty without CNE certification or who had allowed the credential to expire was not eligible to participate.

Procedures

The following sections include the processes used in the basic qualitative research study to explore faculty experiences using interactive teaching in their nursing classroom. The step-by-step detailed account will include the sampling method, recruitment and protection of the study participants, methods of data collection, and data analysis. The motivating force behind the research is not to endorse a specific agenda, but to add to the field of study (Bogdan & Knopp-Biklen, 2016). A description of the field testing of the interview questions is also included.

Participant Selection

A purposive sampling method was of use to find volunteers. The inclusion/exclusion criteria were the basis for finding volunteers. The use of purposive sampling allows the researcher to seek participants based on established criteria rather than a random sampling (Merriam & Tisdell, 2016). Purposeful sampling is a widely used method for qualitative research to find and choose participants with knowledge and experience with active learning and the willingness to take part (Palinkas et al., 2016).

The recruitment process started after receiving approval from the Capella University Institutional Review Board (IRB). The IRB approval included a recruitment letter with the study title, the focus of the study, inclusionary criteria, exclusionary criteria, researcher contact information, and detailed steps for interested volunteers. The recruitment process began with direct contact to nurse educators who have their CNE certification listed on LinkedIn and the American Association of Colleges of Nursing (AACN) discussion boards. The participants shared contact information with their peers, which led to chain referrals or snowball sampling. Allen (2017) defined snowball sampling as a method of recruitment where participants recruit people they know, and those volunteers recruit people they know. Snowball sampling allows for the addition of volunteers over time. Specific to this study, many volunteers contacted the researcher within a two-weeks' time. The volunteers contacted the researcher via text or email and were sent an email with the study specific details and the recruitment letter.

Clarification of volunteer inclusion criteria was in email or text message. Volunteers who did not meet the study inclusion requirements were thanked for their interest and told they would not be taking part in the study. The volunteers gave permission to receive detailed study

information and the consent form by email with the request of suitable dates and times to schedule a Zoom™ interview for data collection. The participants received the consent form at least 24-hours prior to the scheduled interview to allow the participant to read, sign, and ask any questions. Return of the signed consent was a requirement prior to the start of the interview. Prior to starting the interview, participants were asked for additional verbal consent to record the interview and offered time to voice any concerns or ask questions.

Protection of Participants

Participant protection is an ethical consideration that is imperative in a research study. Merriam and Tisdell (2016) stated that participant protection includes confidentiality, informed consent, transparency in data collection, storage, and any risks involved. All participants read, signed, and returned the IRB approved consent form prior to the scheduled interview. The first five minutes of the interview provided a review of the minimal risks involved in the study, procedures to support confidentiality, and time allowed for questions or concerns. The participants were faculty sharing their experiences with interactive teaching methods and did not represent a vulnerable population. Merriam and Tisdell (2016) described a vulnerable population as one who cannot sign or consent for themselves. Some examples are prisoners, children, and the elderly. None of the participants met this criterion. The participants were advised that they could decline to answer any question and or leave the study at any time and received their verbal consent to record the audio portion of the interviews.

The interviews were done by the researcher in a home office, with the door closed and wearing headphones to avoid the risk of any confidentiality violation. The interviews were recorded, transcribed, and coded. Recording the audio portion of the interview allowed the

researcher to focus on the participants' responses and body language while encouraging in-depth responses and detailed descriptions of their experiences (Creswell & Creswell, 2018). Each transcript had identifying information removed and was assigned an alphanumeric code. Participants understood they could not include any identifying information about specific student names or the name of the institution where they worked. Transcripts were stored on a password protected flash drive and personal computer. The data saved included Zoom™ recorded files with audio recorded backup files. Copies of the paper transcripts, interview notes, the researcher journal, and the flash drive went into a locked file cabinet where they will remain for seven years before they are destroyed. All the data on paper will be shredded using a cross-cutting shredder, and the flash drive used for storage will be physically destroyed.

Expert Review

Roberts (2020) discussed the benefits of expert review for qualitative researchers, including the use of feedback on the interview questions and to ensure the strength and appropriateness of the questions. The questions in this dissertation study underwent expert review by three nursing faculty. Each of the reviewers were knowledgeable in qualitative research, with all holding a doctorate level degree in education or nursing and experienced using interactive learning in the associate degree nursing classroom. The three experts performed qualitative research for their doctoral degree dissertations and stated comfort in evaluating the interview questions. Doringer (2020) opined that the use of expert review in qualitative research can support the novice researcher and ensure that the topic specific questions will assist in the exploration of the participants' experiences and opinions. The experts agreed that the questions

were non-biased, open-ended, and topic specific. No revisions to the interview questions were needed.

Data Collection

The data collection process began after receiving an informed consent form from the participant. Qualitative data collection can come from observation, interviews, and focus groups to generate data meant to evaluate participants' perceptions and feelings (Sutton & Austin, 2015). Participants were reminded that the interview audio would be recorded, and additional notes would be taken.

The data collection was done through video interviews using Zoom™ with the audio recorded. Using the online program to view the participants in real time was the best choice due to the geographic location of the participants. The semi-structured audio recorded interviews lasted between 20 to 60 minutes, depending on the details and experiences provided by the participants. Handwritten notes focused on the participants' body language and facial expressions. At the end of the interview, participants had the chance to readdress any previous answers or add information. The participants were provided with the researcher's contact information for any needed follow-up concerns or questions. After the interview, audio recordings were transcribed using Microsoft Word™ transcribe program. All identifying information was removed and the participants' identity labeled with alphanumeric codes to preserve confidentiality.

Data Analysis

An important step in the qualitative research is the step-by- step process of data analysis. Azungah (2018) opined that the qualitative data analysis process can be time consuming and

laborious but using clear-cut guidelines in the process enhances the rigor and credibility of the study. Data analysis began after each recorded interview with the recordings converted by Microsoft Transcribe™ and printed for review. Multiple readings of each transcript occurred for immersion and digestion of the data with inductive analysis, which allows concepts to unfold line-by-line. The use of inductive analysis allows for the identification of themes in the data relevant to the research question with key concepts and themes without any predetermined results (Azungah, 2018). The use of inductive coding is most aligned as an effective analysis method in qualitative research and to answer the research question related to faculty perceptions and experiences.

A comparison of the transcripts to the written notes from the interview with the inclusion of body language and facial expressions was completed. Merriam and Tisdell (2016) suggested that body language from research participants can be as important as their statements. Next, the transcripts were compared to the recorded audio interview for accuracy and immersion prior to coding. Open coding was used to find and categorize similar concepts. With the goal of discovering thematic patterns, the transcriptions were checked for similar and familiar words, shared ideas, similar phrases, and concepts that related to the research question (Merriam & Tisdell, 2016). NVivo™ software organized the data and gave support and confidence in themes and coding. The use of NVivo™ cannot understand the text or replace the analytical skills of researchers, yet it can assist in the organization, analysis, and synthesis of a large amount of qualitative data (Houghton et al., 2017). A summary of the emergent themes and codes occurred for application to the research question. Because the recorded interview clarified the content, member checking was not necessary.

Instruments

The researcher, in qualitative research, is considered an instrument in the research process. The role of the qualitative researcher is to gather data reflective of the participants' experiences and perceptions related to the research question (Creswell & Poth, 2018). Creating open-ended quality questions for the interview is an important instrument used by the researcher to gain in-depth responses from the participants. The qualitative interview process is an effective strategy to gather participants' responses, but the researcher must develop and use the interview protocol and questions effectively (Roberts, 2020). The study included an IRB approved interview protocol and the use of a computer for a Zoom™ program for audio- recorded interviews. Using Zoom™ provided the opportunity to see participants as they responded to questions, which provided the ability to assess body language and facial expressions. However, video recording did not occur, and only audio was recorded. The interview guide included open-ended, semi-structured interview questions related to faculty perceptions of interactive learning techniques in the ADN classroom.

The Role of the Researcher

The researcher is the primary research instrument in qualitative research (Creswell & Poth, 2018). The primary method of data collection is interactions taking place in face-to-face interviews with the participants. Novice researchers can struggle with the interview process and additional trainings, research, and practice can support the confidence of the researcher in the data collection process (Geddis-Regan et al., 2021; Merriam & Tisdell, 2016; Roberts, 2020). Without proper preparation and experience, there is a risk of the researcher merely reflecting their personal attitudes and opinions about the topic with personal bias and prejudice influencing

the interview protocol and data analysis (Roberts, 2020). Earlier activities that supported learning about the research process included coursework at Capella University that promoted writing interview questions, reviewing and exploring steps to avoid personal bias and experiences, practice interviews, specific qualitative and quantitative research classes, and continued study of qualitative study methods.

As the researcher is the primary research instrument, it is important to consider past experiences and the potential for bias. The researcher has more than 10 years' experience teaching including in an ADN program and has experience using interactive learning techniques in the classroom. Merriam and Tisdell (2016) encouraged the importance of collaborating with the participants to ensure the data collected is a true reflection of the participant. Recorded interviews and the use of coding tools can help in the productive and descriptive data collection and analysis. The use of the IRB approved interview guide and questions ensured that the interview questions were proper and maintained a focus on the research question. Roberts (2020) discussed the importance of the novice researcher to adopt a qualitative attitude that encourages the purpose of interview is not to have the questions answered, but to listen to the experiences. The change in focus from predetermined expectations of responses to allowing the participant to be the expert on the topic allows the researcher to have a scientific data collection without bias (Roberts, 2020). Self-reflection throughout the data collection and analysis process can decrease the risk of bias and personal motives. Journaling and immediate debriefing after each interview occurred during the interview and data collection process to encourage reflection and avoid bias.

Researcher- Developed Guiding Interview Questions

The semi-structured interview questions were developed to explore faculty perceptions of interactive learning techniques in the nursing classroom. The creation of the questions had the purpose of gathering participants' experiences in detail using their own words while sharing their professional experiences (Merriam & Tisdell, 2016). When developing the questions, it was important to consider the alignment with the research question, the relevance to the study, easy to understand, and well-structured to avoid limitations in responses (Roberts, 2020). The interview questions were:

1. Tell me about your current teaching environment and the level of nursing students.
2. How long have you been teaching in this setting?
3. Think about the active learning activities that you have used that make a difference in your classroom. Now, describe one or more of these activities and why each one works.
4. Tell me about the most recent active learning activity in your classroom.
5. How did the students respond to the activity?
6. Tell me about a difference you see in your students with active learning.
7. Explain how active learning changes your classroom.

Ethical Considerations

Ethical requirements are paramount for all conducted studies, but a novice researcher must make careful considerations in methodology including bias, recruitment, participant's well-being, and recommended best practices to guide the process. A sound design and proper ethical considerations add to the strength, reliability, and validity of a study, which increases the

contributions to literature (Roberts, 2020). A potential ethical challenge in recruitment is privacy protection in participants with an email invitation. Using a blind carbon on all emails avoided issues with privacy protection.

Some ethical implications of the qualitative design study could include abuse of power in a relationship, deception, informed consent, and confidentiality. Obtaining informed consent required a statement or letter that announces the details of the study including the purpose, who, what, why, how long, benefits to society, harm or risks, confidential assurance, and how to be reached (Creswell & Creswell, 2017). The benefits of the study outweighed the potential risks of participation, and a signature on the consent form represented faculty agreement. Potential biases including experiences with the subject matter, any familiarity with the research participants' or the research site was disclosed (Creswell & Poth, 2018; MacDermid, 2017). Finally, the participants were advised that they could leave the study at any time.

Protection of the participants' privacy and confidentiality occurred by removing any identifying information from the data collected and during transcription with alphanumeric codes. Ethical considerations include recognizing the recommendations of the Belmont Report of 1979 with attention to participants with respect for the person, beneficence, and justice (U.S Department of Health and Human Services, National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). Informed consent, transparency of risks and benefits, and access to participants without exploitation all showed respect for the participants (Merriam & Tisdell, 2017; Creswell & Poth, 2018). Beneficence included protection of the participants from harm and included approval from the IRB. There are no vulnerable populations in the study. Merriam and Tisdell (2017) explained justice as a process to ensure the

participants are not exploited to advance new knowledge. Justice was monitored by reviewing and revising access to participants and methodology.

More strengths to support the method and ethical considerations included checks for credibility, transferability, and dependability. Increasing credibility can happen by getting adequate engagement in data collection. The audio- recorded interviews provided detailed participant data that met the requirements for saturation. The study was participant-focused to maintain credibility for the researcher and the results of the study (Fleming et al., 2021). Adequate engagement happened through continued review of the published data on active learning in the nursing classroom with a comparison of current research and findings. Using participants from different states ensured the patterns and experiences did not come from one location (Ellis, 2016). Throughout the process, alternate emerging information was considered upon discovery.

Transferability occurred with a careful explanation of the complex details of the study and followed with the recruitment process. The interpretation occurred with its foundation in research and similar studies on active learning in nursing education (Merriam & Tisdell, 2017). The recruitment process included a variety of faculty throughout the United States and their perceptions can represent the nursing faculty population in general. Dependability occurred with the documentation of all procedures and processes of the study for all parties that included participants, nurse educators, and researchers (Ward et al., 2018). Field testing by three participants added to the soundness and validity of the interview questions (Merriam & Tisdell, 2017). The recording, transcription, and coding process of interviews allowed for repeated review of the interviews and data collected for analysis.

Qualitative research requires the awareness of pre-existing knowledge and experience with the subject of active learning in the nursing classroom. Recognition of feelings and experiences with active learning was important to disclose before the study. Familiarity with active learning cultivated enthusiasm for the study and promoted the drive to explore other opinions and ideas about the topic (MacDermid, 2017). Journaling before and during the study offered reflection and consideration for bias and influence. Awareness of potential bias is the first step in recognizing and overcoming influences in the research and the interview process. The mitigation of subjective opinions or assumptions of responses and outcomes to maintain neutrality was controlled by returning to theory and literature to support the data collected for clarification. (Merriam & Tisdell, 2017, Roberts, 2020). Maintaining best practices recommended by Capella University IRB (Capella University, 2018) and the *Belmont Report* (U.S Department of Health and Human Services, National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) provided a guide to strengthen study methods and protect participants.

Summary

The information in Chapter 3 included comprehensive information about the methodology used in the study designed to explore faculty perceptions of interactive learning techniques in the ADN classroom. The study received IRB approval and was completed via semi-structured audio- recorded interviews. The chapter included a detailed explanation of the sampling method, size, setting, recruitment, procedures, and protection of the participants' information. In addition, a discussion of the specifics of the data collection steps, data analysis, and instruments used.

The ethical considerations needed to ensure participant protection and confidentiality were summarized. Also included were the possible biases and concerns with conflict of interest and steps taken to avoid analysis influence. The chapter also included considerations and actions used to ensure transferability, credibility, and dependability. The specific information about the outcome of the study and the analysis process will be presented in Chapter 4. Data will be reported that covers the answers to the primary research question of faculty perceptions of interactive learning techniques in the nursing classroom.

CHAPTER 4. PRESENTATION OF THE DATA

The purpose of this basic qualitative study was to explore nursing faculty experiences with interactive learning strategies in the associate degree nursing classroom. Data was collected using audiotaped, individual, Zoom™ interviews with 15 nursing faculty participants. The study participants answered open-ended, semi-structured interview questions. The interview conversations provided rich data and were guided by the interview protocol that explored the faculty's perceptions of active learning in their classrooms.

Chapter 4 is divided into three main sections. First, a thorough introduction of the experiences and role of the researcher and how the idea of the study was implemented. Then a detailed description of the participants, the use of a basic qualitative methodology to the data analysis process will continue the second section of Chapter 4. Finally, the chapter will conclude with a data and findings presentation and a closing with a chapter summary.

Introduction: The Study and the Researcher

This basic qualitative study was conducted to explore the perceptions of nursing faculty teaching in an Associate Degree of Nursing (ADN) program with their use of interactive learning techniques. The intended purpose of data collection was to add to the literature on nurse educators' experience with interactive learning techniques and their perceptions of effectiveness. Successful completion of course work in the university doctoral program provided a foundation in understanding the research process, including a small qualitative study and practice interview. The researcher had no prior qualitative research experience. Additional preparation included the completion of the Collaborative Institute Training (CITI) modules, frequent consultation with dissertation mentor and committee members throughout the research process to affirm the

validity and credibility of the data. Full Institutional Review Board (IRB) approval was obtained through Capella University with the submission of a Dissertation Research Plan and required supporting documents before seeking potential research participants. The individual researcher in the study completed all data collection interviews, transcription of data, data coding, and analysis.

Description of the Sample

Study participants were nursing faculty currently teaching in a ADN program. The inclusion criteria for the study included master's prepared nurse educators with their Certified Nurse Educator (CNE) certification, and current face-to-face classroom teaching experience. The participants were excluded from the study if they did not have a current CNE certification, or if they taught in a bachelor's degree or online program.

The study participants were recruited through direct contact to nurse educators who have their CNE certification listed on LinkedIn and by a post on the American Association of Colleges of Nursing (AACN) discussion boards. Three participants replied from the LinkedIn contact and scheduled interview times. The AACN discussion board yielded over 20 responses for participants with additional snowball sampling over a few weeks. In total, 30 educators volunteered to participate with 15 meeting criteria.

Participants ages ranged from 31 to 58, with a mean age of 49-years old. Teaching experience ranged from three to 21 years, with a mean teaching experience of nine years in undergraduate nursing education. Of the volunteer participants, two held a Doctor of Philosophy (PhD) with one in nursing and the other in nursing education and a third participant was in their dissertation phase of their PhD in education with a nursing specialization. The remaining 11

participants had a Master of Science in nursing (MSN) degree. The participants were located in 12 different states representing every geographical are of the United States except the Pacific Northwest. Table 1 provides a summary of the demographic data collected from each participant with each one being represented as P1, P2 and so forth when describing and discussing study results.

Table 1

Demographics

Participant	**Age**	**Years in Teaching**	**Highest Degree Held**
P1	35-40	3	PhD
P2	45-50	7	MSN
P3	45-50	6	MSN
P4	55-60	12	MSN
P5	35-40	6	MSN
P6	50-55	10	MSN
P7	50-55	21	MSN
P8	40-45	12	MSN
P9	30-35	4	MSN
P10	45-50	19	MSN
P11	35-40	3	MSN
P12	50-55	11	PhD
P13	50-55	10	MSN
P14	45-50	7	MSN

Interview dates and times were arranged for participant availability and convenience. The interviews were conducted using Zoom™ with audio recording. Participants used a mix of laptop computers, tablets, and cell phones for the interview. The time offered for the interview process

was 60 minutes for engagement, with the average interview being 45 minutes and the longest 65 minutes. One participant interview was inadvertently not recorded, and thus was not included in the analysis. Saturation was reached with the other 13 initial interviews. One additional interview was conducted to confirm saturation.

Prior to starting the interview, participants were asked to verify their education, credentialing, practice state, years of practice, current teaching environment, and if they used active learning techniques in their traditional classroom. Each participant gave verbal consent for the audio recording of the interview. All the interviews with the participants were uneventful, with no deviation from the interview process except interview with one participant was not recorded. Copies of the transcriptions were emailed to the participants for validation and clarification after the interviews were transcribed. Four participants responded with feedback that indicated the transcripts were accurate and they had no further contributions to add. The remaining participants did not respond to the email.

Research Methodology Applied to the Data Analysis

A basic qualitative study was conducted to explore nursing faculty experiences with interactive learning techniques in the ADN classroom. After completion of each interview, transcription of the recording occurred using Microsoft Word®. The transcriptions were reviewed for accuracy and compared with notes taken during each interview. The initial coding started after the first interview for comparative analysis of each subsequent interview for identification of emerging categories. NVivo 12™ software for Windows® was used to organize the keywords and categories found. Manual analysis was performed with each transcript evaluated line-by-line with commonly repeated words assigned a different color highlighter.

Commonly used codes and categories were identified in the printed transcript using color coding on the paper and additional sticky notes on an office wall for a broader visualization on a larger scale. Each participant's responses were organized in different sections of the wall with frequent codes being placed into categories for each participant. Categories were reviewed across all participants for commonality that resulted in themes.

Presentation of Data and Results of the Analysis

The study was conducted to explore faculty perception of interactive learning techniques in the ADN classroom. The hand coding of the interview transcripts allowed organized codes, patterns and discovery of participant quotes that resulted in the development of the categories that identified the themes of the research. For each participant, four to seven categories were initially identified with a total of 30 categories for all participants combined. Common categories among all participants were narrowed to 12 categories. The categories were examined related to the research question and three themes emerged. The themes assisted in answering the research question which was how faculty describe their experiences with interactive teaching in the classroom with associate degree nursing students. The themes included (a) varied strategies of interactive learning activities, (b) confidence and competence, and (c) challenges. Each of them will be described in detail in the upcoming section.

Theme 1: Varied Strategies of Interactive Learning

The first identified theme focused on the specific types of interactive learning strategies that the faculty used in their classroom. Four participants reported a flipped classroom, which used all the scheduled lecture time for learning activities and the students were expected to have prepared by watching the recorded lecture and completed the assigned readings. All 14 of the

participants used a variety of interactive learning activities in their classrooms. In general, the choice of interactive learning activity was selected by the faculty to meet the needs of the students in the available environment. All of the participants identified three activities common in their classrooms that included use of case studies, gamification, and small group work, as described in the upcoming paragraphs.

Case Study

The use of case study as an interactive learning strategy in the nursing classroom was reported by all participants. The case study can be adapted to the level of nursing student and be used as a one-time learning activity or used an unfolding case study with an ongoing scenario. According to the interview participants, case study activity can be adapted to fit the need of the student learner while promoting active participation as interactive learning activity. Participant 7 shared their experience with an unfolding case study,

> I am able to walk the students through each step of the patient's change in condition and the actions we would take to get them back to homeostasis. There are a lot of questions, and the students really get into it. They are really putting their thinking caps on and going back to review the material and looking up treatment and care information. You can also see them working together and being enthusiastic about learning new material.

Participant 10 shared the experience with making as case study active with adapting it to a skit. "There is visible active learning taking place when it is a live case study. They are able to walk through the learning process while engaged and I feel like it was a successful class and activity." Participant 8 stated,

> They are able to see from start to finish what a patient looks like. I have a few very good case studies, but I am always trying you know, different ones to interrelate all the learning concepts. I have found that students have that light bulb go off and sometimes they even teach me.

Gamification

The use of games as an interactive teaching strategy was reported by all participants as a learning activity in their classroom. Game formats such as Jeopardy®, Family Feud®, and Kahoot! ® were commonly shared by the participants. Participant 11 shared, "I'd kind of put together a Kahoot! ® Game together for a study review prior to testing and it gets the class interactive." Participant 12 discussed the use of gamification to support engagement during a case study activity. "They listen to the case study and become actively involved because they know at the end there will be a Kahoot! ® quiz. They get excited and become competitive." Conversely, not all faculty had positive student experiences with gamification. Participant 14 stated,

> Not all of my students want to play a game and I am OK with that because I feel like they are adult learners. You know if they feel like they don't want to play a game, then don't play a game. But they are still looking at the question, and they are still seeing the answers, and they are still hearing the discussion. So I feel that even though not everybody is physically participating, there is still student engagement.

Participant 1 shared similar experience with the use of games.

> The use of games does not always fit with my objectives. If I am trying to do you know gaming, I come back to gaming just for the sake of gaming or if I am using it to pull

everything together so I can just interact with the class. Jeopardy! ® is typically knowledge or understanding. We are not testing on Jeopardy and activity for activity's sake is time and energy consuming.

Small Group Work

Dividing students into break-out or small groups allows for student led learning experiences while participating in a variety of interactive learning activities. Participant 14 shared,

> I get a lot of feedback, pros and cons about small groups. There is a camp of students that absolutely abhor it, and there is a camp of students who absolutely love it. I tell them that nursing is highly collaborative, and we are trying to cultivate that aspect. The smaller the group the better, students are not able to hide and not participate.

Participant 12 also supported the small group activities stating,

> I have students pair up to answer questions using a think, pair share activity. There is a forced interacting that does not allow students to let others lead. Students may also feel more comfortable hearing how to do a problem or getting strategy from their peer sometimes, then from the instructor.

Participant 9 shared perceptions from using break out groups during class.

> Generally, I put people in groups, and each will be assigned a topic that we covered. I have them write incorrect questions and then they present them to the class. The best engagement comes from the discussion that is had with each question.

Theme 2: Confidence and Competence

Each participant in the study had exceptional qualifications and experience to lead a classroom including their MSN, a minimum of three years classroom teaching experience and mastery of the CNE exam. The feelings of confidence and competence in leading and prompting interactive learning techniques varied among the participants and influenced their use of activities. Their perceptions of effectiveness and success were measured by their perception of the classroom audience and student feedback. Faculty perceptions and the influence of student feedback with the use of interactive learning activities will be discussed in detail in the subthemes below.

Perceptions

Faculty perceptions of the use of interactive learning influence their use and confidence with implementation in the classroom. All participants have the same degree and have passed a specialty exam, but not all have furthered their trainings and education related to interactive learning. Increased training supported several participants continued and advanced use of the techniques with their students with them moving to more complex activities. Participant 14 discussed the training received in interactive learning and how it influenced teaching methods. P 14 stated,

> I was able to participate in a teaching and learning certificate program It just really fueled the fire to follow the 10 years of literature that has proven these methods work. You have to be equipped with the tools you need. I think the biggest barrier with implementation is that some are afraid that it is going to fail, or they are afraid they don't know how to do it.

> I cannot say that every single thing I have tried has been successful, but you are not going to damage the student. You have to be ok with failure.

Participant 2 discussed the positive perceptions from using interactive teaching techniques, "Success to me is engagement. I felt more successful as a teacher when the students utilize their own learning. Participant 8 stated similar noting, "I see that lightbulb go off and sometimes they even teach me." Participant 11 opined that use of interactive learning assisted in the transfer of leadership paradigm in the classroom. "Active learning helps me be excited. It takes the pressure off of me and encourages me to talk through content with them. Students can jump on new instructors, so these activities helped me learn to teach."

Conversely, lack of confidence and experience with using interactive learning techniques influences the educator's willingness to add more activities. Participant 9 stated, "I really need to work on being more comfortable with activities outside of lecture. I am not excited about it, and I need help on how to do it." Participant 3 expressed similar sentiment saying, "I am trying to learn from other teachers." Participant 1 discussed the challenges with trying to do too many or new activities without putting students on overload. "You can't please everyone, and you also cannot engage everyone" P1. Participant 14 stated similar, "You can set yourself up for failure, you cannot be there for everyone student, especially with large classes."

Student Feedback

Student feedback on the interactive learning activities and the classroom environment can influence faculty confidence and motivation to continue use of the techniques. Participant 15 stated, "I welcome all student feedback. We are partners with our students and soon we will be professional peers.". Participant 12 shared, "I receive immediate feedback from the students. I

thought I would have some resistance, but they came to class expecting interactive learning and they participate without complaint. In fact, they request more activities in their class evaluations." Participant 10 shared that having a flipped classroom environment decreases negative feedback. "Students are expected to come to class ready to engage and they are energetic".

In contrast, faculty reported negative feedback from students that have significance on confidence and motivation. Participant 8 stated,

> You really have to roll with the punches. We have a different caliber of students, and they want instant gratification without the work. Nursing doesn't work that way. I feel like we want our students to learn more than they do

Participant 11 reported similar student feedback, "Students are big on just wanting the content, they are all about I need this grade, I need to know what's on the exam and that's it. They just want to be lectured to and get out of there." Participant 14 shared, "Students are quick to remind me that they do not pay to come to school and do activities. One student told me, 'I pay for you to tell me what I need to know'". Participant 5 expressed the decrease in her confidence related to student complaints about active learning in her classroom,

> I get slammed by the students. They say they don't come to class to play games. They say I don't know the content, that they have to teach themselves, and that they pay for a service they are not getting. What they don't see is that they have the highest scores on the content I teach, and they never need remediation. They don't see the value in active learning and the importance. My administrator listens to the student complaints and has asked me to change my classroom back to traditional lecture.

Theme 3: Challenges

Frustrations and challenges to use and implementation of interactive learning techniques in the classroom was a large barrier to continued use for faculty. Outside of the actual classroom activity, the influencing factors included time and resources, administrative support, and peer support. The following subthemes address the perceived challenges.

Time and Resources

Every participant in the study discussed time as one of the primary challenges in the use of interactive teaching strategies in their classroom. Participant 1 described frustration with time and planning,

> The key to effective interactive learning is to not being stagnant. Does it fit with my objective? Does this add to concepts? Innovation takes an immense amount of preparation. Having time to come up with activities and innovation is difficult. I am hopeful that it will get better every semester with just tweaks needed, but for now it is a big-time investment. It also takes energy to put in to get a good product. I feel obligated to give them something worth their value to come to class every day.

Participant 11 expressed frustration with time limitations, "There is so much more I can do with interactive learning strategies, and I want to, but I do not have the time." Participant 3 expanded on the time commitment with planning activities, "We don't have teacher planning days or a day off to prepare. Many times, even though you have vacation off, you spend time off planning for what is next. Most weekends and Saturday evenings I am preparing for class."

Available resources were identified as a challenge among some of the participants.

Participant 5 stated,

> In addition to all the time it takes to plan the activities, it gets expensive too. All the supplies and prizes come out of my own pocket. There is no budget for things like this. I buy this for us out of my own pocket.

Participant 6 expressed similar experience, “I don’t have the energy or finances to keep up with every trend happening. Books for planning, ideas, and case studies are expensive.” Participant 7 shared frustrations with lack of time for preparation and lack of supplies at the school for activities,

> You go to these nursing education things, and you get all these great ideas, but you may not have the resources. As opposed to other schools that have endowments and things like that and they may have a whole building full of mannequins. We have one mannequin. That’s what you get for working in a community college system. So, you find the resources that you can use.

Administrative Support

Administrative support impacts faculty freedom to teach their preferred styles in the classroom and can encourage or hinder use of interactive learning. Participant 12 and Participant 14 discussed the benefits of having an administration that supported an interactive learning classroom and an institution that encouraged continued education and training in the topic. Participant 14 shared, “I was thankful for the support from my chair. They saw the value in active learning. In addition, I was provided with training and certification in active learning paid for by the school.” Participant 12 included the support received department and college wide with the promotion of interactive learning techniques,

> I think everybody who has been involved in an administration position has been very supportive of active learning within the nursing department itself, then going outside of the department from a more collegewide perspective. The people from faculty development and faculty innovation have been very supportive. They have faculty development programs to help us, you know, introducing us to new technology and they are very generous with their budget and sending faculty to various conferences. I have never had them refuse a continuing education opportunity that helps with students.

By contrast, several participants reported lack of administrative support for their interactive classroom environment and activities, Participant 10 shared, "I know who I can go to for help and I know who laughs at me for what I do." Participant 5 shared frustration,

> My administration supports the activities to a point, then she says, that is too much activity. My administrator says the students complain. She does not really like for us to do more than 50% of our lectures active learning. She wants us to do traditional lecture, and if we do an active learning activity, she prefers a game. She does not like the total flipped method.

Peer Support

Peer support can set the tone within the nursing department for faculty using interactive learning in their classroom. Shared or team teaching was reported by 11 of the 14 participants in the study. There was a diverse response pattern from the participants about peer support for their teaching methods. P1, P7, P8, and P9 all reported peer support that included sharing ideas, encouragement, and looking to peer for new ideas and feedback. Participant 1 opined, "The faculty have the knowledge about it, respect it, and recognize the value." Participant 9 shared

that sentiment and stated, “I look to my peers for ideas and support.” Participant 8 detailed, “We don’t always see eye-to-eye on everything, but we support each other.” Participant 14 stated, “Faculty are learning to work together using interactive learning techniques and they love it.”

Contrariwise, participants noted a division and lack of support between newer versus senior faculty that complicated team teaching. Participant 2 expressed, “We have our sacred cows. Faculty push back more than the students. They make statements about my classroom activities saying, ‘You know these are adult learners?’” Participant 8 voiced a clear separation between old and new faculty with “clear enthusiasm visible in the new faculty”. Participant 10 shared,

> I have definite ideas about interactive learning. I am the only one that is “extreme”. Some faculty would rather tell stories about their days in the hospital, while others are not interested in anything other than lecture and laugh at the new ideas.

Participant 5 and Participant 1 contributed that their peers continued with traditional lecture but supported their interactive learning activities.

Summary

This basic qualitative study was designed to explore faculty perception of interactive learning techniques in the nursing classroom. Chapter 4 began with a thorough introduction of the study participants and a description of the data collection process. The presented data were obtained from the 14 faculty members teaching in Associate Degree programs nationwide.

A complete analysis of the data collected during the participants interviews identified three themes related to faculty perceptions with the use of interactive learning. The three themes were (a) varied strategies, (b) confidence and competence, and (c) challenges. Each theme and

subtheme assisted with answering the research question and was explained through the words of the study participants. Chapter 5 will include the results of the research study with interpretation and comparison with the previous literature and theoretical framework. Implications and limitations of the study will be discussed and recommendations for future studies will be made.

CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

Chapter 5 is the final chapter in this dissertation. Included will be a summary and discussion of the results of the study of faculty perception of interactive teaching strategies in the associate degree of nursing (ADN) classroom. Specifically, the study results will be compared to previous and current literature and the theoretical frameworks of Malcolm Knowles's (1970) andragogy and Patricia Benner's (1984) novice to expert. Conclusions of the study based on the results will be discussed, and limitations and recommendations for further research with a conclusion will complete the final chapter.

Summary of the Results

The purpose of this basic qualitative study was to explore nursing faculty experiences with interactive learning strategies in the ADN classroom. Nursing faculty struggle to present a large amount of knowledge to nursing students, including using methods to meet various needs and approaches to reach the new generation of learners. The American Nurses Association (ANA) and National League for Nurses (NLN) have called for classroom reform to adapt nursing education to include a variety of teaching methods (ANA, 2017; NLN, 2016). The qualitative inquiry in this study adds to the research gap connecting nursing faculty experiences with why interactive learning approaches are not being used in the classroom and the challenges with implementation.

Previous research exploring interactive learning techniques and faculty provided a foundation, but few studies focused on nursing faculty perceptions. Studies from non-medical disciplines supported the need for continued research in faculty perceptions of active learning activities, implementation, barriers to use, and the need for continued training (Bucklin et al.,

2021; Miller & Metz, 2014; Patrick et al., 2016; Seng, 2014; Tarekegne, 2019) The techniques of a specific student-centered activity to increase test scores and knowledge retention. The individual studies provided specific event feedback, not a holistic faculty focus (Bristol, 2017; Gibbs et al., 2016; Greenwood & Mosca, 2017; Rezaei, 2015). The participants in the study were nursing faculty recruited through nursing professional message boards and social media. They met the participation criteria of having at least three years of teaching experience in the ADN classroom, having an active Certified Nurse Educator (CNE) certificate, and volunteering to participate in the study. Snowball sampling occurred with participants' sharing the researcher's contact information to meet the desired number of 15 participants, as well as reaching saturation. The results of this basic qualitative study demonstrated that the commonly used activities in their classroom were selected based upon their feelings of confidence and ability to assist students with the activities. Student feedback, participation, and motivation influenced the participants' perceptions of effectiveness. An additional finding was that the perceived challenges faculty faced influenced their ability to implement active learning in their classroom.

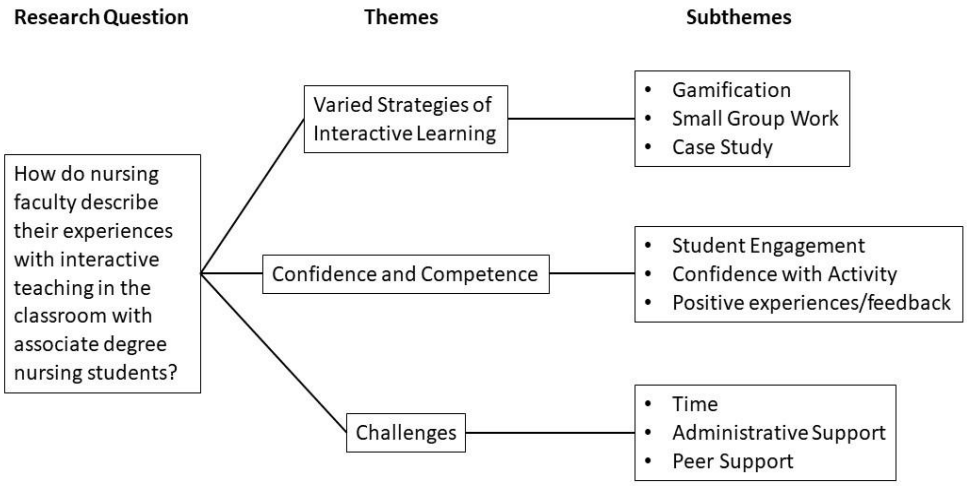
Discussion of the Results

The focus of this study was on nursing faculty experiences with interactive learning strategies in the nursing classroom. The research question was as follows: How do nursing faculty describe their experiences with interactive teaching in the classroom with associate degree students? The guided, open-ended interview questions allowed the participants to discuss their perceptions and experiences with their classroom interactive teaching techniques. The data analysis process led to three themes and conclusions based on the themes. The themes included (a) varied strategies of interactive learning activities, (b) confidence and competence, and (c)

challenges. The themes assisted in answering the research question as demonstrated in the upcoming paragraphs and Figure 1.

Figure 1

Identified Themes and Subthemes



Varied Strategies of Interactive Learning

The faculty participants discussed the variety of interactive teaching methods used in their classrooms. The three activities of choice included case study, gamification, and small group work. All 14 of the participants discussed the use of a case study and described it as an activity that can be adapted to any environment and level of learning. An overall result was that case study is an adaptive teaching technique that educators can implement to link theory to practice in the classroom. The case study activity encouraged flexibility with the educator to adapt it to the student learning needs.

Gamification was discussed by all participants and described as an activity most used for course content reinforcement, test review, and encouraging attention during a lecture with the promise of a quiz at the end of class. Not all faculty reported positive gaming experiences and felt pressured to implement games to please the students. Gamification can benefit occasional use or preparation for testing but may not be the best interactive activity for long-term learning. Likewise, small group work activities were shared by most of the participants as an interactive teaching activity. The participants shared the benefits of the group work on class engagement and teamwork in student-led learning and experiences. Students are required to participate and learn the importance of an inter-collaborative approach essential for nursing practice while fostering respectful relationships among the students.

Confidence and Competence

The faculty shared the importance of using interactive teaching techniques and the evidence-based practice that supports the activities. The faculty's personal feelings of confidence and competence influenced their use of teaching activities in their classrooms. Their perceptions of effectiveness were based upon the response of the classroom audience and student feedback. Although all participants had the same qualifications of an advanced degree, advanced certification, and a minimum of three years of teaching experience, not all had furthered their training or advanced their experiences with teaching techniques. Most of the participants reported success as the level of student engagement and their willingness to accept the responsibility of learning. The faculty included that a positive learning activity experience leaves them excited about teaching and invested in student learning. Conversely, faculty shared their feelings of anxiety about the activities and lack of confidence and comfort. Faculty reported

feeling influenced by the negative student feedback about individual activities and the struggle with assisting students in seeing value in interactive learning activities.

Challenges

Three challenges were identified as experienced by most participants. Time, administrative support, and peer support influenced the participants' ability to implement and maintain interactive learning techniques in their classrooms. Every participant discussed that the time restrictions were their primary challenge. The faculty was not given additional time and compensation to prepare and plan for the learning activities. Administrative support was a primary concern for several participants as they were directed to please the students and not use interactive learning activities, while the remaining participants discussed the benefits of administrative support for their teaching preferences. Peer support set the tone for many nursing departments. Over half of the participants discussed the benefits of peer support, including sharing ideas and providing support, while others shared their feelings of division and separation within the faculty.

Conclusions Based on the Results

The data analysis resulted in three themes within the study that identified faculty perceptions of interactive learning activities in the ADN classroom. The three identified themes of varied strategies of interactive learning, confidence and competence, and challenges assisted in answering the research question exploring faculty descriptions of their experiences with interactive learning in their ADN classroom. The themes identified faculty rationale for selecting activities, the confidence to implement them, and the challenges that inhibit the use in the classroom. Any barrier in the three themes influenced the educators' decision to continue the use

of the activity or chose to revert to passive learning. The faculty's perception of the effectiveness of the activity influenced their confidence and enthusiasm towards the teaching methods. The support of peers, students, and administrators played a significant role in the faculty experiences and motivation to adapt their classroom.

The data discovered in the study can be used to bridge the research gap of qualitative inquiry, exploring ADN faculty experiences with insights into why it is not being used and the challenges faculty face. The results add to the ANA and NLN call to transform the nursing classroom with a transition from passive to active learning with a learner-centered approach as an expectation in the classroom (ANA, 2018; NLN, 2016). The analysis of the data uncovered the importance of increased support and training for faculty to assist in their perceptions of effective interactive teaching methods. The information from the study may also encourage resistant nursing faculty to consider an interactive approach to teaching and learning in the classroom.

Comparison of Findings With Theoretical Framework and Previous Literature

There is an importance to consider what the results of this study can explain to a broader interest with a focus on the previous research and theoretical foundations. The upcoming sections focus on the findings related to the theoretical framework of Malcolm Knowles (1970) theory of andragogy and Patricia Benner's (1984) novice to expert theory. A comparison of previous literature with the study results will follow.

Theoretical Framework

The theoretical framework for this study was a combination of adult learning theory and a specific nursing theory to support the need for best practice in the classroom. The combination of the two theories provided key constructs to assist the educators in meeting the learning needs and requirements for critical thinking and safe nursing practice.

The theory of andragogy by Malcolm Knowles (1970) focused on adult education with a learner-focused approach. The framework of andragogy promoted the involvement of adults in their learning process and the change in focus from a teacher-centered to a learner-centered educational environment (Knowles et al., 2015). Knowles's learning theory included four principles applied that include: the need for adults to be involved in the planning of their instruction; experience is valued and acts as a basis for learning activities; learning is more valuable when it has relevance to professional life, and adult learning focus is not content-oriented, but problem-focused (Knowles, 1970). The findings in the study were informed by Knowles's theory with the participants' experiences of a learner-centered approach and the inclusion of students in their learning with planning and recognition of experience. Furthermore, the faculty shared their perceptions of students actively participating in the classroom and the direct relationship of material learned and nursing practice. They shared their adult learning approaches with the use of case study, gamification, small group work, and additional activities implemented in their classroom.

Patricia Benner's novice to expert theory is a nursing- specific theory that presented a structured model of developmental stages for nurses to master and obtain expertise in the

profession (Benner, 1984). Benner's theory contains five stages of expertise, ranging from novice to expert. During the process of learning and practice, a student or professional nurse will move forward or backward in stages that are influenced by years of practice, development of critical thinking skills, decision making, planning, organizational skills combined with intuitive and analytical abilities (Davis & Maisano, 2016). The nurse or student can move back and forth between stages with events such as practice area change, promotion, role change, or advancing education. Benner's theory informed the foundation of the study and the results with the faculty moving through stages seeking the expert level and students beginning their nursing education at the novice level. The faculty participants shared their experiences with confidence and competence with using the interactive teaching approaches. The participants with less than five years' experience shared their feelings of insecurity and the desire for additional training and mentorship in their role. Additionally, the novice participants perceived a division between newer faculty with enthusiasm for creative teaching approaches and some senior faculty who prefer traditional lectures. The novice participants expressed some instances of bullying from senior faculty resistant to interactive learning and administration who did not promote change. Faculty with more than five years' experience and closer to Benner's expert stage shared their perceptions that included an increased confidence and competence with the classroom techniques and perceived less negativity from peers and administration.

Previous Literature

The findings of this study were consistent with previous scholarly literature that considered faculty experiences with interactive learning in the associate degree classroom. There remain few qualitative studies that focused solely on ADN faculty in the nursing classroom. Much of the supportive literature and studies published were from non-medical disciplines, but the results and themes are directly comparable to the dissertation findings.

The findings of the first theme of various strategies of interactive activities were directly comparable to research done exploring single event learning activities. The evidence to support the use of case study activities in the nursing classroom included the recommendation from the American Association of Colleges of Nursing (AACN, 2020). The use of case study and the effectiveness variables were published by nursing researchers with statistical results on student knowledge retention and increased test scores (Bowman, 2017; Greenwood & Mosca, 2017; Hong & Yu, 2017). Additionally, Bristol (2016) and Ellis (2016) promoted the use of case study with steps to assist faculty with implementation and organization in the classroom.

The second theme in the study found that faculty perception of confidence and competence influenced their implementation and continued use of interactive learning techniques in the classroom. The faculty participants in this study perceived increased confidence and competence after successful implementation of activities in the classroom. Faculty perception in medical education was explored by Bucklin et al. (2021) and Cabral and Baptista (2019), who found that newer educators expressed less confidence in the ability to implement the activities and requested additional training to feel confident in their teaching abilities. Additionally, Borda

et al. (2020), Ellis (2016), and Long et al. (2018) opined that faculty expressed increased confidence and effectiveness with interactive learning when they felt the activity was useful and had ease of use. Similarly, the ability for faculty to value their role in education and the benefits of the shared educational experience influenced their perceived ability to teach effectively (Barber & Schuessler 2019; Harris, 2018).

The final theme identified was the challenges faculty perceived in implementation and continued use of interactive learning in their classroom. The most common challenges experienced in this study included time constraints, peer support, and administrative support. Cuyler et al. (2018) noted common barriers with faculty in a literature review that included lack of preparation time, lack of professional development training, lack of peer and administrative support. Likewise, there are challenges with the adaptation of an interactive classroom with the science disciplines required to deliver a large amount of information traditionally delivered by lecture (Cuyler et al., 2018). Persky and McLaughlin (2017) reported an increase of 127% of time, and Ward et al. (2018) found a time increase of 150% required for the design and implementation of one interactive learning activity. Peer and administrative support were an identified challenge in this study with perceptions of lack of support and value as an educator. The impact of peer support was studied by Strubbe et al. (2019), who found peer support improved interactive learning approaches and confidence in delivery. Additionally, peer support and administrative support improved faculty barriers and feelings of confidence (AlRuthia et al., 2019; Guy, 2017; Ungar et al., 2018). Faculty participants in this study also expressed administrative support as supporting and encouraging continuing education and experiences with interactive learning. Presti (2016), Van Horne and Murniati (2016), and Wells-Beed (2020)

recommended the importance of continued professional development designed specifically for faculty about interactive learning.

Interpretation of the Findings

There has been a call of action by the ANA and NLN to transform faculty approaches to teaching and traditional classrooms (ANA, 2018; NLN, 2016). The transition from passive learning to active learning includes moving away from lecture to create an interactive learning environment. Each participant in the study offered rich details on their interactive classrooms and the methods they found effective. Additionally, they shared their perceptions of confidence, competence, and support from students, peers, and administration. The researcher's understanding of the study findings included interpretation of the 14 participants' interviews with nursing faculty teaching in ADN level programs nationwide.

The research question focused on faculty descriptions of their interactive learning experiences in their classroom. Each participant interviewed shared a preferred learning activity they felt was successful for learning (projects, writing, concepts maps, role play), all reported using case studies, gamification, and small group work in their classroom based upon student response and participation. The use of case study was the most reported activity adjusted for one-time use or an unfolding scenario. Using a clinical scenario can identify student learning needs and improve confidence and critical thinking in students while bridging the gap from theory to practice (Hong & Yu, 2017; Meiers & Russel, 2019). All of the participants reported selecting activities favored by students to encourage participation that included gamification and small group work. Single learning activities in the classroom add to the interactive learning approach during a transition to a student-centered teaching environment (Bristol, 2016; Greenwood &

Mosca, 2017; Rezai, 2015). Although favored by students, some participants perceived little benefit from using activities with the only outcome of pleasing students or an activity to keep the students busy.

The importance of faculty perception of their confidence and competence was influenced by their experiences with a specific activity and the student responses in the classroom, which was previously noted by Borda et al. (2020). Additionally, the faculty beliefs about the importance of the adaptation from passive to active learning in their classroom guided their decisions to make changes and change their opinion on what teaching is effective (Barber & Schuessler, 2019; Persky & McLaughlin, 2017; Pilcher, 2019). Participants reported an intrinsic motivation and understanding of the importance of interactive teaching as a compulsion to continue the teaching approaches.

The perception of faculty challenges to the continued use and implementation of interactive learning techniques reported by all participants provided insightful considerations for stakeholders and the gap in the existing literature. Every participant discussed a challenge of time that included the amount of preparation and planning required. Faculty reported no additional time factored into their schedules and resorted to weekend and vacation time to plan and revise activities. Additionally, the participants shared their frustration with the lack of available finances, including the expense of resources and training. Culyer et al. (2018) noted faculty challenges with student motivation and the lack of administrative and peer support as a barrier, and the participants in this study verbalized the same experiences. Administrative support impacts faculty freedom to reach their preferred styles and can support or hinder faculty use of interactive learning. Several participants shared administrative experiences that lacked

support for their teaching methods and requested they minimize the interactive learning activities or remove them entirely from the classroom to please students. Peer support was another participant challenge, especially in institutions with shared teaching responsibilities. Pickering and Roberts (2017) discussed the importance of peer support and mentorship in interactive teaching approaches. The findings were supported by the research participants perceptions in this study with a diverse response that included a noticeable division between teaching approaches in newer versus senior faculty. The participants shared perceptions of lack of support, mockery, and separation between faculty who continue to use traditional lectures and those who implement interactive learning in their classrooms.

Limitations

Like any research study, this basic qualitative study had limitations. The small sample size of 15 participants limits the ability to generalize the experiences to other associate degree nursing faculty. The faculty participants shared the same minimum qualifications of at least a master's degree in nursing, an advanced nurse certified nurse educator certificate, and a minimum of three years of teaching experience in the traditional classroom. The participation criteria may have excluded other nurse educators who may have valuable experiences to add to the questions. The use of purposive sampling excluded administrative, clinical, and online faculty. Nurse educators teaching in a Bachelor of Nursing program were also excluded. The participants lacked diversity in levels of education, with only two with a Ph.D. degree and one in the dissertation phase of their doctoral degree. The use of purposive sampling limits the study results beyond the study participants.

Another limitation was the novice researcher having limited experience with interviewing and creating an engaging environment. Being a novice researcher could have increased the biases of the study from inexperience and the need to gather specific data from the interview. Minimal experience with Zoom™ interview software presented limitations in recordings and transcriptions. In error, one interview was not recorded, resulting in the interview responses being not eligible for use. A final limitation is the researcher's experience as an educator in an ADN program with extensive use of interactive teaching techniques. Experience with these techniques could present bias and encouraged the use of extra protections in place. Expert review of the interview questions was conducted, journaling after each interview ensured bias removal to answers, and member checks clarified responses.

Implications for Practice

This research study provided a detailed description of the perceptions and experiences of 14 ADN faculty with their use of interactive learning techniques in the classroom. The knowledge gained from the findings of the study may assist nurse educators who are using interactive learning or want to add active learning activities into their lectures. Faculty participants shared that their feelings of success and effectiveness were measured by student participation and feedback. Nurse educators who perceive a lack of success may benefit from the shared experiences of the study participants. Faculty new to using interactive learning techniques may find encouragement from the participants reported drive to be self-directed and the variety of specific active learning activities. Nurse educators can find similarities in their feelings of frustration and barriers shared by the study participants, which may encourage them to continue

the classroom activities and be motivated by their commitment to education (Barber & Schessler, 2019; Persky & McLaughlin, 2017).

Additional stakeholders with interest in the findings of this study include administrators, deans, and nursing faculty who seek to include interactive learning activities in their nursing programs and classrooms. The perceptions of the participants included barriers that can be influenced by the stakeholders. The amount of time needed for the preparation and planning of activities can be recognized and considered in faculty workloads. Additional training and support for faculty implementing changes to their classroom may be encouraged to improve experience and perceptions of support from administration and peers. Increased training, support, and continuing education can assist faculty in improving confidence and skills.

Recommendations for Further Research

The qualitative study was conducted with nursing faculty from ADN programs nationwide with three years experience, a CNE certification, and used interactive learning in their classroom. A recommendation for further research would be to eliminate exclusion criteria and include faculty teaching baccalaureate programs. Additional research, including faculty teaching in online classrooms, could add to the current research and gap in the literature.

Another recommendation for further research is to repeat the study from the student perspective. Educators and stakeholders would benefit from exploring student's perceptions of interactive learning activities in the nursing classroom. The scholarly community would benefit from continued research with a quantitative or mixed-methods approach. Including numerical data analysis with assigned categories or rank order would provide a detailed perspective in interactive learning activities in the nursing classroom.

Conclusion

The purpose of this basic qualitative study was to explore faculty experiences with interactive teaching in the associate degree nursing classroom. The study was developed due to an identified gap in the literature regarding ADN faculty experiences. Narratives for the study were obtained from 14 nursing faculty interviews. Their experiences included interactive learning strategies used in their classrooms, perceptions of confidence and competence with interactive teaching, and implementation and continued use challenges. The key findings in the study included (a) case study, gamification, and small group work were the activities of choice among the participants; (b) faculty perception of their confidence and competence were influenced by their experiences with activity effectiveness, and student feedback; and (c) challenges perceived as time and resources, administrative support, and peer support.

The identified findings hold significant implications for nursing faculty, nursing education, and nursing students. The current study provided faculty perspectives as compared to prior studies, which were focused on the student perspective and single learning events to improve test scores. The faculty members identified their choice of case study, group work, and gamification as preferred classroom activities. The faculty perceived their confidence and competence in using interactive learning activities influenced by their perception of the effectiveness of the activity and student response. Their reported challenges influenced their choice to continue to use activities in their classroom. The perceived challenges were administrative support, peer support, and time and resources. While all participants identified barriers to continued use of interactive learning techniques in the nursing classroom, most agreed that the activities were an effective part of the learning process for nursing students. Several

faculty participants identified their unwillingness to continue the interactive activities due to lack of time and lack of administrative and peer support. Further research is recommended related to faculty perception of interactive learning, which could explore experiences to add to the scientific community and the gap in the literature.

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