A Qualitative Examination of Accelerated BSN Students' Learning Experiences Related to EBP Using Thematic Analysis Guided by the Threshold Concepts Framework

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ABSTRACT

Nurses continue to report deficits related to evidence-based practice (EBP) competency. These deficits threaten the quality and safety of healthcare. In response, healthcare and academic organizations along with governing bodies addressed the need for policy, practice, and curriculum standards supporting the use of evidence in clinical decision-making. However, new graduate nurses report a limited understanding of EBP to inform their clinical practice citing a lack of knowledge related to current research findings and understanding the steps of EBP. Understanding what impedes EBP knowledge acquisition can guide nurse educators in pedagogy and curriculum redesign, promoting EBP knowledge acquisition and competency. Accelerated baccalaureate of science in nursing (ABSN) students are a unique population who must gain this competency in expedited timeframes related to the condensed nature of their programs. Examining their experiences through the critical lens of Threshold Concepts can help identify the troublesome concepts and stuck places these students encounter in their learning. Further, it can guide faculty to promote EBP competency, increasing students' clinical decision-making application. This qualitative descriptive research study uses thematic analysis guided by the Threshold Concepts Framework to examine the liminal experiences of ABSN students during an introductory EBP course. Participants were recruited using a purposeful sampling method. Tools to collect data included participant coursework and reflective written responses. This research is

significant because higher levels of EBP competency increase its application in practice supporting safe patient care, and improving outcomes in today's complex healthcare system.

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by
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CHAPTER 1: INTRODUCTION

Evidence-based practice (EBP) is an essential competency in pre-licensure nursing education (AACN, 2021; NLN, 2012; QSEN, 2013). Mastering EBP competency requires students to demonstrate the ability to combine evidence with patient preferences and clinical expertise (AACN, 2021). The competent application of EBP promotes safe practices and improves patient outcomes. However, in a recent United States (U.S.) study, nurses reported significant deficits in EBP competency (Melnyk et al., 2018). These deficits place patient safety and healthcare outcomes at risk. Further, this draws concern that students are not obtaining an essential competency in their pre-licensure studies critical to the discipline of nursing. Ensuring students acquire EBP competency can be particularly challenging in expedited courses often found in accelerated BSN (ABSN) programs (Millet et al., 2015). This study describes the experiences ABSN students had encountering troublesome concepts in their learning about EBP.

Background

Since the inception of EBP, nursing scientists have designed models and frameworks to assist in the understanding and translation of evidence into practice (Stevens, 2013). Further, the American Association of Colleges of Nursing ([AACN], 2008, 2015, 2021); American Nurses Association ([ANA], 2010); National League for Nursing ([NLN], 2012); Quality and Safety Education for Nurses ([QSEN], 2013); National Academies of Sciences, Engineering, and Medicine ([NASEM], 2021); and State Boards of Nursing (Spector et al., 2020) have all addressed the need for policy, practice, and curriculum standards to support the use of evidence for clinical decision-making. Finally, to reach a global audience, the World Health Organization ([WHO], 2009) published standards for the initial education of professional nurses calling for standardized education worldwide based on EBP. This commitment exemplifies how nursing

embraces EBP as an essential competency in providing quality, safe, and effective patient-centered care.

The American Nurses Association defines competency as the knowledge, skills, abilities, and judgments that contribute to an individuals' performance (ANA, 2010, p.86). Competency-based education in nursing holds students accountable to master competencies critical to disciplinary practice (AACN, 2021). EBP is one of these essential competencies in nursing. According to *The Essentials: Core Competencies for Professional Nursing Education* (AACN, 2021, p. 38), pre-licensure students should be able to "evaluate clinical practice to generate questions to improve nursing care." Further, students should be able to "evaluate appropriateness and strength of the evidence, use best evidence in practice, and participate in implementation of practice changes to improve nursing care." Finally, students should "participate in the evaluation of outcomes and implications for practice."

While nurse educators design curriculums, course work, and clinical experiences to support building EBP competencies, barriers persist for students. Common barriers included feeling incapable of searching and evaluating the literature, recognizing the relevance to practice, and a perceived lack of authority to implement change in practice (Melnyk et al., 2018; Phillip & Cullen, 2014). The reported lack of knowledge and skills related to EBP competency and the need for additional education and training (Fiset et al., 2017; Melnyk et al., 2018) is particularly worrisome. The persistence of these barriers beyond the academic setting creates further concern. It is critical to understand why students are not obtaining this essential competency in their pre-licensure undergraduate studies.

Problem Statement

Nursing has embraced EBP as a core competency (AACN 2021; ANA, 2010; NLN 2012; QSEN, 2013); however, nurses continue to report deficits in EBP knowledge and skills (Melnyk et al., 2018). The healthcare system, wants assurances that nurses have the essential competencies to provide safe, outcome-driven patient care. Despite actions by nurse educators to design curriculums, course work, and clinical experiences to support learning EBP, students are not obtaining the necessary competency to transfer their knowledge and skills into practice.

Significance

To provide patients with quality health care, students must acquire EBP knowledge and skills to retrieve, appraise, and synthesize evidence to guide their practice (Melnyk et al., 2012 & Melnyk et al., 2018). While EBP competency is an expected outcome of pre-licensure education (AACN, 2021), new graduate nurses report a lack of skills and knowledge related to the steps of EBP to inform their clinical practice (Cardosa et al., 2021; Lam & Schubert, 2019; Melnyk et al., 2018). This is significant because higher levels of EBP competency increase its application in practice (Melnyk et al., 2018). Further, consistently applying EBP in clinical decision-making supports safe nursing practice and improves patient outcomes. Pre-licensure students have unique insight into their learning and would benefit from reflecting on their development of the knowledge and skills required to build EBP competency. However, there is a paucity of research exploring undergraduate nursing students' experiences with learning EBP (Fiset et al., 2017; Ryan, 2016). To solve this problem an examination of student perceptions of their learning related to EBP to support translating evidence-based research into practice is indicated.

This study is vital to nursing science. It embodies the National Institute of Nursing Research's ([NINR], 2016) mission to educate the next generation of nursing scientists to

promote the translation of nursing research into practice and understand its impact on healthcare practices and patient outcomes. Further, the information from this study will inform the content selection and pedagogical interventions that build a foundational understanding of EBP necessary for building workplace competency. This aligns well with the current NLN (2020) research priorities for Nursing Education. In particular, this study contributes to the science of nursing education by developing sound, rigorous research addressing critical education issues with research outcomes that can be translated into informed educational practices.

Conceptual Frameworks

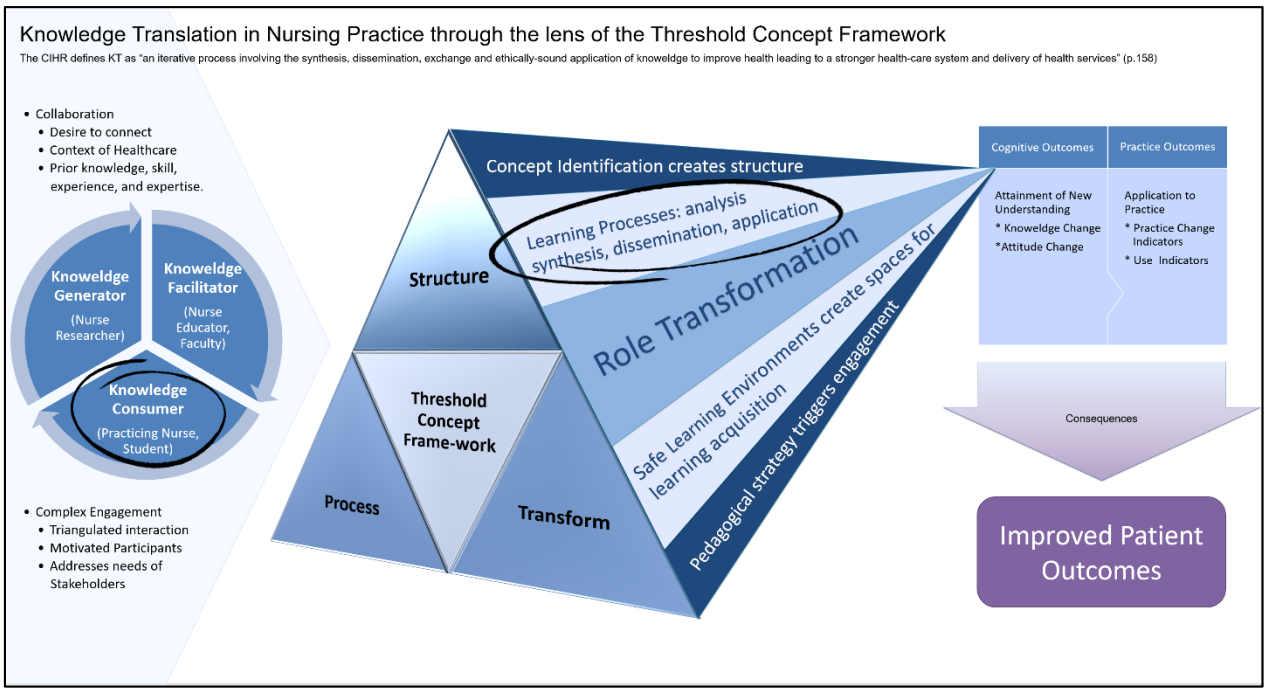
While both EBP and research are essential competencies in the discipline of nursing, it is important to distinguish between the two. AACN (2021, p. 37) states, "The research process is the generation of new knowledge," whereas "EBP is the process for the application, translation, and implementation of best evidence into clinical decision-making." To better understand the role of the student, or knowledge consumer, and identify the challenges of learning, two theoretical frameworks informed this research. Critical to using evidence to inform clinical decisions, or translate research into practice, is the theory of Knowledge Translation. The Canadian Institute of Health Research (CIHR) first used Knowledge Translation to address the gap between research knowledge and the use of this knowledge by key stakeholders to improve health outcomes (Sudsawad, 2007; Straus et al., 2009; Tetroe, 2007). In the case of this dissertation research, the key stakeholder is the student, a knowledge consumer, searching for and evaluating evidence to support their clinical decision-making. However, acquiring the knowledge and skills necessary to translate knowledge into practice can be troublesome. Therefore, the Threshold Concepts Framework, described by Meyer and Land (2003, 2005), provides structure to understanding knowledge attainment by identifying the characteristics of

troublesome knowledge. Further, the Framework describes the process a learner uses to assimilate this knowledge and transforms it into a new way of thinking within a discipline.

Examining Knowledge Translation through the lens of Threshold Concepts is complex. A visual representation of how these frameworks overlap is depicted in Figure 1. Pre-licensure nursing students are not required to demonstrate competency in generating new knowledge. However, nurse educators, the knowledge facilitators, are tasked with helping students acquire the knowledge and skills required to build EBP competency. Therefore, students must become consumers of knowledge to meet both cognitive and practice outcomes related to knowledge translation. The skills required to translate knowledge mirror the pre-licensure competencies for integrating best evidence into nursing practice. However, analyzing, synthesizing, disseminating, and applying evidence is often troublesome for students. Therefore the prism or lens of Threshold Concepts sits between the knowledge consumer and the expected cognitive and practice outcomes. Once mastered, these competencies can improve healthcare quality and safety, resulting in improved patient outcomes.

Figure 1

Knowledge Translation in Nursing Practice through the Lens of Threshold Concepts Framework



While the complex model of *Knowledge Translation in Nursing Practice through the Lens of Threshold Concepts* provides a big picture for future research, it was necessary to narrow the focus for this research. Therefore, this study focused on the knowledge consumer's (pre-licensure nursing students) learning experiences when encountering Threshold Concepts related to evidence-based practice knowledge acquisition (See marked areas in Figure 1).

Threshold Concepts Framework

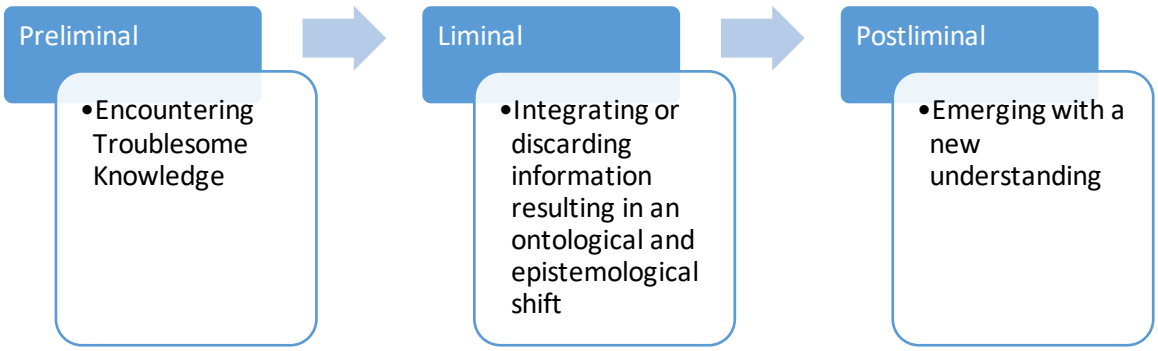
While Knowledge Translation provided a broad conceptualization of the research area of interest, the Threshold Concepts Framework provided a guide to data analysis. The Threshold Concepts Framework described by Meyer and Land (2003, 2006) was conceptualized in the field of economics. Researchers in various fields have studied Threshold Concepts in the nearly two decades since inception. Research in this area predominately focuses on identifying troublesome

concepts to enhance student understanding and guides curriculum design (Meyer & Land, 2006). In contrast, the application of the Threshold Concepts Framework in the discipline of nursing remained sparse. Therefore, an integrative review was conducted over two years to understand how the Framework has been applied in nursing and to determine how the Framework could be used for data analysis (Kistler & Tyndall, 2022).

The nature of Threshold Concepts has been compared to a portal, opening up new ways of thinking and understanding within a discipline (Meyer & Land, 2006, p.3). Meyer and Land (2006) recognized that when students found certain concepts troublesome, they often experienced a period of uncertainty that the authors called liminality (Figure 2).

Figure 2

Liminality



Students often describe liminality as uncomfortable and find themselves "stuck" trying to integrate or discard information necessary for a shift in their understanding (Meyer & Land, 2006). Students who remain "stuck" in the liminal space too long may fail to acquire the necessary knowledge to gain a new understanding. These characteristics provide a way to articulate the learner's experiences when encountering concepts they must master for disciplinary understanding. Understanding how students navigate these transformational learning experiences can provide insight into building competencies. Once students successfully

transform their internal view of the subject matter, they emerge with a new understanding of how people think within the discipline.

Nursing curriculums comprise content essential to the profession. However, nursing content is often troublesome and can challenge students' ability to experience transformational learning forming new ways of thinking within the discipline. The Threshold Concepts Framework provides language and structure for students to identify troublesome knowledge and educators to aid students in understanding their learning processes. Therefore, this Framework provides an effective lens to examine the experiences described by pre-licensure nursing students when encountering troublesome EBP concepts.

Theoretical Propositions

Theoretical propositions can help guide research inquiry and provide predictive assumptions regarding the phenomenon of interest (Kivunja, 2018). Theoretical propositions can provide insight and clarity to understand the complexity of student learning for competency, where research is limited. Constructed from prior research, often in other fields, theoretical propositions form reasonable assumptions on which to hang new data. The following propositions were postulated from the Threshold Concepts Framework (Meyer & Land, 2006) for application in this study.

1. There are a limited number of Threshold Concepts related to EBP in the discipline of nursing.
2. Pre-licensure students may find these Threshold Concepts troublesome, which creates liminal spaces.
3. Liminality requires time and space to allow for transformative learning.

4. These concepts, once understood, transform a students' way of thinking within the discipline, supporting practice competency.
5. Failure to cross the conceptual threshold can lead to mimicry and have lasting implications on student learning and the ability to apply knowledge within professional practice.

Purpose

Pre-licensure students can be found in associate degree in nursing (ADN), baccalaureate of science in nursing (BSN), registered nurse to BSN, and accelerated BSN (ABSN) programs. While each of these student populations would provide insight into student learning, the accelerated nature of ABSN programs was targeted for this research. Mastery of Threshold Concepts requires time for students to encounter new knowledge and navigate liminality. Some ABSN programs shorten or expedite courses to meet the accelerated format. According to Millett and colleagues (2015), shortened courses most frequently range between six and eight weeks. It is critical to identify which concepts related to EBP are troublesome for students and understand what impedes student acquisition of EBP knowledge and skills in this expedited format. This would allow nurse educators to design curriculums, course work, and clinical experiences that support student learning towards competency. Therefore, the purpose of this study was to describe the liminal experiences of ABSN students when engaging with troublesome concepts during an introductory EBP course. Further, efforts were made to identify strategies students found beneficial to help them navigate these liminal experiences. A descriptive qualitative design guided by the Threshold Concepts Framework was conducted to answer the following research questions.

1. What EBP concepts do ABSN students find troublesome in an introductory EBP course?

2. What are the liminal experiences of ABSN students when encountering these troublesome EBP concepts?
3. What strategies do ABSN students use to navigate their liminality when engaging with troublesome EBP concepts?

Definitions

The following terms are defined below for this study to provide clarity of understanding, ***An Accelerated Bachelors of Science in Nursing (ABSN) student is*** a second-degree seeking student currently enrolled in a 12-month accelerated BSN program at a Southeast University. ***Evidence-Based Practice (EBP) is the*** combination of best research evidence, clinical expertise, and patient values (Sackett et al., 1996) bounded by the AACN's (2021) entry-level competencies described in *The Essentials: Competencies for Professional Nursing Education* (AACN, 2021). For this study, EBP involves the following steps described by Melnyk and Fineout-Overholt (2011): 1) cultivating a spirit of inquiry, 2) formulating a clinical question from a recognized practice problem, 3) searching for the best evidence, 4) critically appraising the evidence, 5) integrating clinical expertise and patient preferences, 6) evaluating outcomes, and 7) disseminating those outcomes.

Introductory EBP Course is a course that presents students with the opportunity to learn about and practice the steps of EBP; it may be couched within a broader EBP/research course, as is the case for this study. A 5-week, expedited EBP/research course provided student learning of the steps of EBP with demonstrated work product. The steps of EBP include cultivating a spirit of inquiry, writing a clinical question, conducting a literature search, critically appraising and selecting evidence relevant to their clinical question, and presenting those findings in a scholarly paper.

Liminality (or Liminal Experience) is the period between a student's engagement with a troublesome concept and their emergence with a new disciplinary understanding related to that concept (Meyer & Land, 2006). Students often describe liminality as uncomfortable and find themselves "stuck" trying to integrate or discard information necessary for a shift in their understanding.

Troublesome knowledge includes that which may be conceptually difficult, alien, or misaligned with student's current frame of thinking; counter-intuitive eliciting feeling of frustration or uncomfortable learning (Meyer & Land, 2003, p. 7).

Conclusion

Nurse scientists have an inherent responsibility to examine phenomena, discover new knowledge, and contribute to the field of nursing. Within this responsibility is the importance of practical application. At the same time, nurse educators should be driven to seek research-supported pedagogical practices in the education of nurses to provide evidence-based competent care that positively affects patient outcomes. Curriculum design should be driven by theory and supporting evidence. Further, content selection and pedagogical choices should enhance teaching and learning within the discipline. Nursing curriculums, in particular, are full of complex concepts critical to understanding practice within the discipline. Theoretical frameworks supporting these academic decisions should allow for the diversity of learning and understanding experienced by students. This qualitative descriptive study provided a clearer understanding of ABSN student experiences learning about EBP in an accelerated format. Further, the guidance provided by the Threshold Concepts Framework helped identify students' liminal experiences when engaging with difficult or troublesome concepts related to this learning.

This dissertation uses the two-manuscript option offered through the College of Nursing to support the dissemination of research. Chapter 1 presented the background, significance, and conceptual frameworks that supported the purpose and methodology of this research. Chapter 2 reviews the literature related to EBP competency and the facilitators and barriers to understanding and using EBP in academic and practice realms. Chapter 3 provides a detailed discussion of the research method and data analysis process. Chapter 4 references the manuscript, "Application of the Threshold Concepts Framework in nursing: An integrative review," published in *Nurse Educator* in March of 2022 (Kistler & Tyndall, 2022). This published manuscript presents findings from a two-year, in-depth examination of how Threshold Concepts have been used in nursing. Further, this integrative review informed the study design and use of the Framework during data analysis. Finally, Chapter 5 is a manuscript formatted for submission to *Nursing Education in Practice*, reporting the research findings of this study.

CHAPTER 2: LITERATURE REVIEW

This study aimed to describe the liminal experiences of accelerated baccalaureate of science in nursing (ABSN) students when engaging with troublesome concepts during an introductory evidence-based practice (EBP) course. Further, efforts were made to identify strategies students found beneficial to help them navigate these liminal experiences. This was accomplished through a descriptive qualitative design guided by the Threshold Concepts Framework. The paucity of research on the subject required an examination of the phenomenon from multiple angles. To help understand why nurses are reporting deficits in EBP competency, a broad review of the academic and practice literature was undertaken to identify the facilitators and barriers to understanding EBP. This was followed by a prolonged, immersive look at how the Threshold Concepts Framework has been used in nursing, which helped guide the data analysis in this study. Finally, a literature review was conducted to look at the state of the science related to learning about EBP in the undergraduate setting. This included an exploration of ABSN student learning in accelerated programs and the teaching and learning practices related to EBP.

Background

Nursing has embraced EBP as a core competency of baccalaureate education (AACN, 2021). Academic nurse educators use curriculum and practice standards supported by academic, healthcare, and governing organizations to prepare students in the provision of high quality, evidence-based care in today's complex healthcare setting (ANA, 2010; AACN, 2008, 2015, 2021; NASEM, 2021; NLN, 2012; Spector et al., 2020; WHO, 2009). However, nursing students report a limited understanding of EBP to inform their clinical practice (Cardosa et al., 2021; Lam & Schubert, 2019). EBP competency, including the knowledge and skills to retrieve, appraise,

and synthesize evidence, is critical to guide students in their nursing practice (Melnyk et al., 2012 & Melnyk et al., 2018). Failure to acquire these skills places patients' safety and healthcare outcomes at risk.

To address today's complex healthcare needs, the Institute of Medicine (IOM, 2009), now the National Academies of Sciences, Engineering, and Medicine (NASEM, 2021), have reemphasized the need for higher levels of EBP decision-making in practice. One recommendation from the 2009 *Future of Nursing* report suggested that educating 80% of the nursing workforce at the baccalaureate level by 2020 would further support EBP competency in healthcare (IOM, 2009). This resulted in significant educational reforms and the growth of accelerated nursing programs to meet this goal (AACN, 2008, 2015; NLN 2012; QSEN, 2013). Despite these efforts, students struggle with EBP knowledge and skill acquisition (Lam & Shubert, 2019; Serfass & Wonder, 2018), and licensed nurses continue to report deficits of EBP competency in practice (Melnyk et al., 2018).

Facilitators & Barriers to Understanding EBP

An exploration of both academic and practice nursing literature was conducted to better understand these deficits in EBP competency. A broad review of the literature on EBP competency generated an array of facilitators and barriers to student and practicing nurse understanding and use of EBP. Five categories emerged related to education, time allotment, resource accessibility, institutional support, and individual factors. Many of the barriers that crossed over the academic and practice setting reflected the steps associated with EBP knowledge and skills needed for competency. Common barriers included feeling incapable of searching and evaluating the literature, recognizing the relevance to practice, being isolated from knowledgeable colleagues, and a perceived lack of authority to implement change in practice

(Melnyk et al., 2018; Phillip & Cullen, 2014). The persistence of these barriers beyond the academic setting draws concern to whether baccalaureate students are graduating with the necessary competencies to use EBP in their practice.

Ensuring students graduate with competencies critical to delivering safe care and maintaining quality outcomes is not without challenges. The knowledge and skills required to build competency to care for increasingly complex patients are rapidly expanding (Kavanagh & Sharpnack, 2021). Curriculums are often overburdened with content making it difficult for faculty to prioritize critical learning for practice (Repsha et al., 2020). Further, knowledge and skills needed to build competency require effective pedagogy, time, and resources. When students do not gain these competencies, it further contributes to the widening gap between academic preparation and today's nursing practice (Kavanagh & Sharpnack, 2021).

The Threshold Concepts Framework

To aid students in bridging the academic-practice gap, nurse educators must understand the difficulties students encounter when learning EBP and design pedagogy that supports the use of EBP in practice. One theory-driven approach to identifying concepts that can be troublesome and cause difficulty for learners is the Threshold Concepts Framework described by economists Meyer and Land (2003). Described initially in the field of economics, Threshold Concepts are critical to understanding disciplinary knowledge. A two-year, in-depth examination of nursing literature was conducted to understand how Threshold Concepts have been used in nursing. The result was an integrative review synthesizing the state of the science of how Threshold Concepts have been applied in nursing (Kistler & Tyndall, 2022). The published findings from this integrative review are located in Chapter 4. While no Threshold Concepts related to EBP were identified during the review, the process provided a realistic understanding of the efforts behind

planning, organizing, and applying rigorous methodologies when researching this topic. Further, it provided expertise for using the Threshold Concepts Framework to analyze data for this study.

Nursing began using the Threshold Concepts Framework in 2012 when researchers examined and identified *recovery* as a Threshold Concept in mental health nursing (Stacey & Stickley, 2012). Since then, the Threshold Concepts Framework has been used to frame difficult knowledge, develop pedagogical strategies, and design nursing curricula (Kistler & Tyndall, 2022). The Threshold Concepts Framework offers two ways to frame troublesome knowledge: 1) by naming Threshold Concepts for teaching and learning and 2) by describing liminality when learners encounter these Threshold Concepts. While Threshold Concepts help students transform their understanding and "think like a nurse," they are often troublesome for students (Meyer & Land, 2003). At the same time, liminality is an in-between place where students integrate new knowledge and discard old ways of thinking. This shift in thought may take time, and students often describe periods of "stuckness" that impede their learning. Understanding which concepts students find troublesome can aid in streamlining already overburdened curriculums allowing nurse educators to spend more time on concepts critical to the discipline. Further, identifying the "stuck" places in students' learning allows educators to intervene, promoting their emergence with a new understanding within the discipline.

Literature Search

Identifying Threshold Concepts and allowing time for students to navigate liminality is particularly important for educators teaching EBP in expedited formats found in accelerated BSN (ABSN) programs. Students who remain "stuck" in their learning may not have the transformational learning necessary to emerge with EBP competencies needed for practice. However, there is limited literature related to EBP competency in the undergraduate nursing

population (Fiset et al., 2017; Ryan, 2016). Further, studies exploring students' EBP learning in accelerated formats remain elusive. Therefore, a literature review was conducted to understand ABSN learning in accelerated programs, followed by an exploration of the teaching and learning practices related to EBP in the undergraduate student population.

The literature search was completed using the following databases: CINAHL Complete, MEDLINE via PubMed, and Nursing & Allied Health (ProQuest). An initial search of the literature produced few results for articles reporting research regarding ABSN student populations and their learning of EBP. Therefore, search criteria were expanded to include ("undergraduate nursing student" OR "baccalaureate of science in nursing OR "BSN") AND ("evidence-based practice" OR "evidence-based nursing practice" OR "EBP") for the years 2009-2021. This search was designed to reflect studies conducted after the IOM call for higher levels of EBP decision-making in practice and an increase in the baccalaureate-prepared nursing workforce. Limiters included peer-reviewed, English language, and full-text articles. When available, Mesh terms and main subject classifications were used. Initial results returned 442 articles. Title and abstracts were reviewed to identify the focus related to EBP, student population, and country location of the studies. Research that included student populations outside of the United States was excluded to provide consistency in EBP teaching and learning competency outcomes defined by academic, healthcare, and governing organizations in the United States.

Summary of Findings

ABSN Student Learning in Accelerated Programs

ABSN programs in nursing offer second-degree students an expedited pathway to RN licensure (AACN, 2019). Students are expected to achieve the same course and clinical

outcomes as their counterparts in traditional entry-level programs in a compressed format over 11 to 18 months. Students in ABSN programs tend to be older, highly motivated, and have work-life experiences they draw from to help support their learning (Christoffersen, 2017). Eager to be independent learners, ABSN students want mutual respect, effective pedagogy, and early immersion that connects them to practice. This requires faculty to promote an active role for students in their learning (D'Antonio et al., 2010), including contributing to the conversation, identifying learning needs early, and using emerging technology and innovative teaching strategies (Barrett & Jacob, 2021; Christoffersen, 2017; Robert et al., 2011). However, the program's accelerated nature significantly reduces the amount of time for faculty to support students. Additionally, students with limited time to navigate their liminality or those who remain "stuck" in their learning are at risk of failing to meet the intended EBP competencies necessary for successful entry into nursing practice.

EBP in Undergraduate Nursing Education

New graduate nurses report having a limited understanding of EBP to inform their clinical practice citing a lack of knowledge related to current research findings and understanding the steps of EBP (Fiset et al., 2017; Melnyk, 2013; Ryan 2016). While undergraduate students recognize the value of EBP knowledge and skills in building competency, barriers exist (Cardosa et al., 2021; Lam & Schubert, 2019; Melnyk et al., 2018). Research suggests that EBP concepts and skills should be introduced early, and faculty should provide multiple opportunities to apply these skills in both the classroom and clinical setting (Fiset et al., 2017; Ryan, 2016). Most research about building EBP competency describes teaching methods within undergraduate nursing programs (Aglen, 2016). However, few explain the learning

experiences from the student perspective or reported measured outcomes of EBP (Fiset et al., 2017; Phillips & Cullen, 2014; Ryan, 2016).

Gary & Hudson (2016) addressed the challenges of acquiring EBP skills by suggesting reverse engineering as a strategy to teach EBP. Reverse engineering involved deconstructing existing nursing practice guidelines and reconstructing or replicating the steps to build EBP skills. Smith & Kennedy (2020) redesigned an online EBP nursing course to promote active learning through authentic teaching strategies. All students began with the same realistic scenario and data to help focus on the procedural steps of EBP. Students were required to work through all seven steps of EBP, first in collaborative groups, and then on individually constructed assignments. Two studies focused on using information literacy to teach EBP (McCulley & Jones, 2014; Schutt & Hightower, 2009). While pedagogical strategies are often designed around the steps of EBP, the concepts students identify as most troublesome were seldom considered. Understanding which concepts related to EBP students find troublesome can guide curriculum design in already overburdened curriculums.

Collaboration was the most prevalent strategy beneficial to students' learning about EBP. Beneficial collaborations included academic and practice partnerships to help students connect their EBP learning to clinical practice (Kruszewski et al., 2009; Ryan, 2016; Raines, 2016; Wonder & York, 2017). Faculty partnerships with a research librarian increased student confidence in searching and finding evidence-based articles (McCulley & Jones, 2014; McGowan, 2019; Schutt & Hightower, 2009; Zannin-Yost & Dillen, 2019). Peer collaborations were shown to help build EBP skills while decreasing the stress and anxiety associated with learning the steps of EBP (Kachaturoff, 2019; Smith & Kennedy, 2020; Wonder & York, 2017). Tart and colleagues (2011) discussed the collaborative efforts between nursing faculty and the

director of research at a community hospital. Students applied the steps of EBP in a real-time project benefiting both the student and hospital. One study proposed clinical practicums for students to move learning beyond the classroom to the clinical practice setting as a new way to address the theory-practice gap in undergraduate nursing programs (Brancato, 2006). Students indicated in journals and written evaluations that the practicum increased their confidence in defining a clinical question, improved search efficiency and critical appraisal of best evidence, and improved the ability to integrate knowledge into practice decisions. Examining how these partnerships support students when encountering troublesome concepts related to EBP would provide further guidance to curriculum designs that benefit student EBP competency.

Synthesis and Gaps

EBP is a critical aspect of disciplinary understanding in nursing. Since nursing is the largest population in the healthcare workforce, deficits in EBP competency significantly impact patient safety and healthcare outcomes (Melnyk et al., 2018). Studies suggest that higher levels of EBP competency promote an increase in the application of evidence-based practices in the nursing care of patients (Melnyk et al., 2018). Therefore, it is essential to understand what impedes the mastery of EBP knowledge and skills leading to competency.

In 2008, EBP was established as an essential competency of undergraduate nursing education to increase competency in practice (AACN, 2008). While validated EBP competencies exist (Melnyk et al., 2014), few studies report their use in academic or practice education. Only one study in the US has described self-assessment measures of EBP competency. In this study, nurses rating themselves deficient in every area of EBP (Melnyk et al., 2018). The application of these EBP measures in nursing education remains limited. The studies that have examined EBP in the undergraduate setting indicate that students' competencies related to EBP increase as they

progress through their undergraduate programs (Lam et al., 2020; Lam & Shubert, 2019; Melnyk et al., 2018). However, students continue to report difficulty with the steps of EBP and translating them to practice (Lam & Shubert, 2019; Serfass & Wonder, 2018). A gap exists in understanding students' difficulties in acquiring EBP knowledge and skills needed for competency. Threshold Concepts provides a framework for examining difficult or troublesome concepts in education. However, an extensive review of the literature did not identify any Threshold Concepts related to EBP. Therefore, a gap exists in identifying which concepts students find most troublesome, requiring additional time and support to navigate the liminality of their learning about EBP. Further, a gap exists in understanding how these troublesome concepts affect the student learning experiences and what strategies students find beneficial during liminality. If these difficulties in student learning are not resolved, students' achievement of EBP competency prior to graduation is at risk.

Conclusion

Accelerated programs, like ABSN, require students to expedite the process of learning, often in half the time of a traditional BSN program. Unfortunately, studies exploring the learning experiences of ABSN students are despairingly sparse. ABSN students provide a valuable perspective on accelerated learning, drawing from prior academic education and a committed desire to play an active role in their learning. This study was designed to describe the liminal experiences of ABSN students to address these gaps in the literature. A review of the literature on the Threshold Concepts Framework demonstrated that it was beneficial in researching troublesome concepts in nursing education. Therefore, this qualitative descriptive study used the Threshold Concepts Framework (Meyer & Land, 2003) to guide a thematic analysis of the

ABSN student-learning experiences related to EBP captured in written reflective responses. The methods of this research are presented in the next chapter.

CHAPTER 3: METHODS

Nursing education seeks to build competency and support student mastery of disciplinary knowledge (AACN, 2021). Evidence-based practice (EBP) is an essential competency in the discipline of nursing that supports safe practice in today's complex healthcare system (AACN, 2021; IOM, 2011; Melnyk et al., 2018). Unfortunately, mastering disciplinary knowledge is often troublesome for students (Meyer & Land, 2003). To achieve mastery, students must shift their ways of thinking. The shift in thinking requires students to form new knowledge by integrating new information and discarding old information. If students are successful, they emerge with a new understanding within the discipline. Meyer and Land (2003) refer to this ontological and epistemological shift as liminality.

Navigating liminality often requires time, which can be limited in accelerated nursing programs. Due to the condensed nature of ABSN programs, some institutions choose to expedite courses, most commonly between six and eight weeks (Millett et al., 2015). Expedited courses require students to acquire knowledge in a shorter period than a traditional course. Understanding students' liminal experiences in expedited courses can support faculty in designing pedagogy and curricula that support student learning. Therefore, this study aimed to examine the liminal experiences of accelerated BSN students during an expedited, 5-week introductory EBP course. This chapter outlines the steps of a qualitative descriptive study (Sandelowski, 2000) using thematic analysis (Braun & Clark, 2006) guided by the Threshold Concepts Framework (Meyer & Land, 2003). Theoretical propositions and study procedures, including sampling, data collection, and analysis, are explained. The chapter concludes with a discussion of the ethical considerations and limitations of the study.

Research Methods

A qualitative descriptive design (Sandelowski, 2000) was chosen for this study. Descriptive research designs remain close to the data using familiar language to produce a holistic summary of events. Qualitative descriptive studies are conducted to understand how participants interpret and make meaning from their experiences. The focus of this study was the students' liminality when encountering troublesome EBP concepts. The Threshold Concepts Framework (Meyer & Land, 2003) has proven beneficial in examining students' liminal experiences with troublesome concepts in nursing (Kistler & Tyndall, 2022). Therefore, it was used in the design and data analysis of this study to answer the following research questions:

1. What EBP concepts do ABSN students find troublesome in an introductory EBP course?
2. What are the liminal experiences of ABSN students when encountering these troublesome EBP concepts in an introductory EBP course?
3. What strategies do ABSN students use to navigate their liminality when engaging with troublesome EBP concepts?

Qualitative Research Guided by the Threshold Concepts Framework

Qualitative research is well suited to analyze a phenomenon and discover the meaning participants relate to their experiences (Creswell, 2012). While qualitative research could be applied to teaching and learning any concept within a discipline, applying it to every concept would be resource-intensive and impractical for a dissertation research study. Furthermore, there is a need for additional research exploring concepts that are particularly troublesome for students rather than content students readily understand. Using the Threshold Concepts Framework to identify content students find troublesome within the discipline allows educators to focus on the curriculum's most significant and challenging parts (Åkerlind et al., 2014).

Threshold concepts are characterized as troublesome and create an uncomfortable period during which students shift their way of thinking. Meyer and Land (2003) labeled this liminality. Students often feel "stuck" during their liminality; however, successfully navigating this liminality allows them to have a transformational learning experience. Data analysis guided by the Threshold Concepts Framework allowed exploring liminality by identifying troublesome periods in student learning. Analyzing these moments when students feel "stuck" helps clarify which concepts in the curriculum are troublesome and may require additional support during their learning.

Students provide the descriptive language that characterizes the troublesome nature of Threshold Concepts and learning in liminality. However, a concern has been raised about a lack of understanding of Threshold Concepts through the student lens (Barradell, 2012). Best practice requires gaining students' perspectives. Therefore, this research prioritized the student perspective to address the gap in Threshold Concepts research literature.

The student perspective on Threshold Concepts may be limited because they may not be aware of their liminality. Faculty are often the first to identify troublesome concepts in the curriculum based on their experiences. Further, applying the Threshold Concepts Framework is not without challenges and critiques. The Framework's theoretical complexities and methodological challenges have been well documented (Barradell, 2012; Barradell & Peseta, 2016). The Framework inherently allows for a variation of student experiences because of individual and disciplinary ways of thinking and practicing. The conditional language used to identify Threshold Concepts that allow for this variation has brought criticism (Crooks et al., 2020; O'Donnell, 2010). Meyer and Land (2003, p. 5-7) describe Threshold Concepts as "possibly" troublesome, "probably" irreversible, and "often" bounded within the context of

transformational learning. Further, student movement through liminality does not have a set period; what could be a rapid integration for one student may take place over a prolonged period for another. This criticism has been addressed in subsequent works (Baillie et al., 2013; Meyer & Land, 2006; Land, Cousin, et al., 2006). This study addressed this challenge by explicitly looking at how students personally experienced liminality during their accelerated introductory EBP course.

Study Procedures

The procedures of this qualitative descriptive study (Sandelowski, 2000) using thematic analysis (Braun & Clark, 2006) guided by the Threshold Concepts Framework (Meyer & Land, 2003) are detailed in the following section.

Sampling

Participants in qualitative research should have experienced the phenomenon of interest to provide rich information about their experiences (Creswell, 2012; Sandelowski, 2000). Therefore, a purposeful sampling method was used to recruit ABSN students actively enrolled in an accelerated EBP course during their pre-licensure study to capture the detail of students' liminal experiences during their learning. This section will describe the procedures used for participant recruitment.

Population. The target population for this study was ABSN students actively enrolled in an introductory EBP course guided by *The Essentials of Baccalaureate Education for Professional Nursing Practice (AACN, 2008, p. 16)* and included the *QSEN competencies for EBP* (Cronenwett et al., 2009). Recruitment efforts were thorough and varied. A brief information session was provided to the students, followed by an e-mail inviting them to

participate in the study. A link in the e-mail allowed students interested in participating to complete informed consent through REDCap (Harris et al., 2009).

Participants. With the permission of the program administrator and course faculty, the student researcher reached out to a cohort of 16 ABSN students enrolled in an introductory EBP course held during the summer of 2021. Eleven students (68.8%) agreed to participate and signed informed consent allowing their de-identified coursework to be collected for data analysis. Students were informed they could withdraw from the study at any point during the course, and faculty would have no knowledge of their participation.

Data Collection

Data were collected from student coursework and an end-of-course reflective prompt (Appendix A). Coursework included a four-part, scaffolded EBP project and research assignment that evaluated student understanding of the steps of EBP. At the end of the course, students were instructed to select an image they felt represented their “stuckness” during their learning. A reflective prompt asked students to write two to three paragraphs describing their experiences and the strategies they used to get "unstuck." All documents were collected upon the completion of the course. A research team member not associated with the course or ABSN program was granted permission by the course faculty to collect participating student coursework from the online learning platform. Neither faculty feedback nor grades were collected, as the purpose of the study was to explore student experiences, not run a comparative analysis with performance. Further, student names were removed during the data collection process to ensure privacy and confidentiality. Original documents were stored on a secure, password-protected server. During coding, printed documents remained with approved research team members or locked in secure

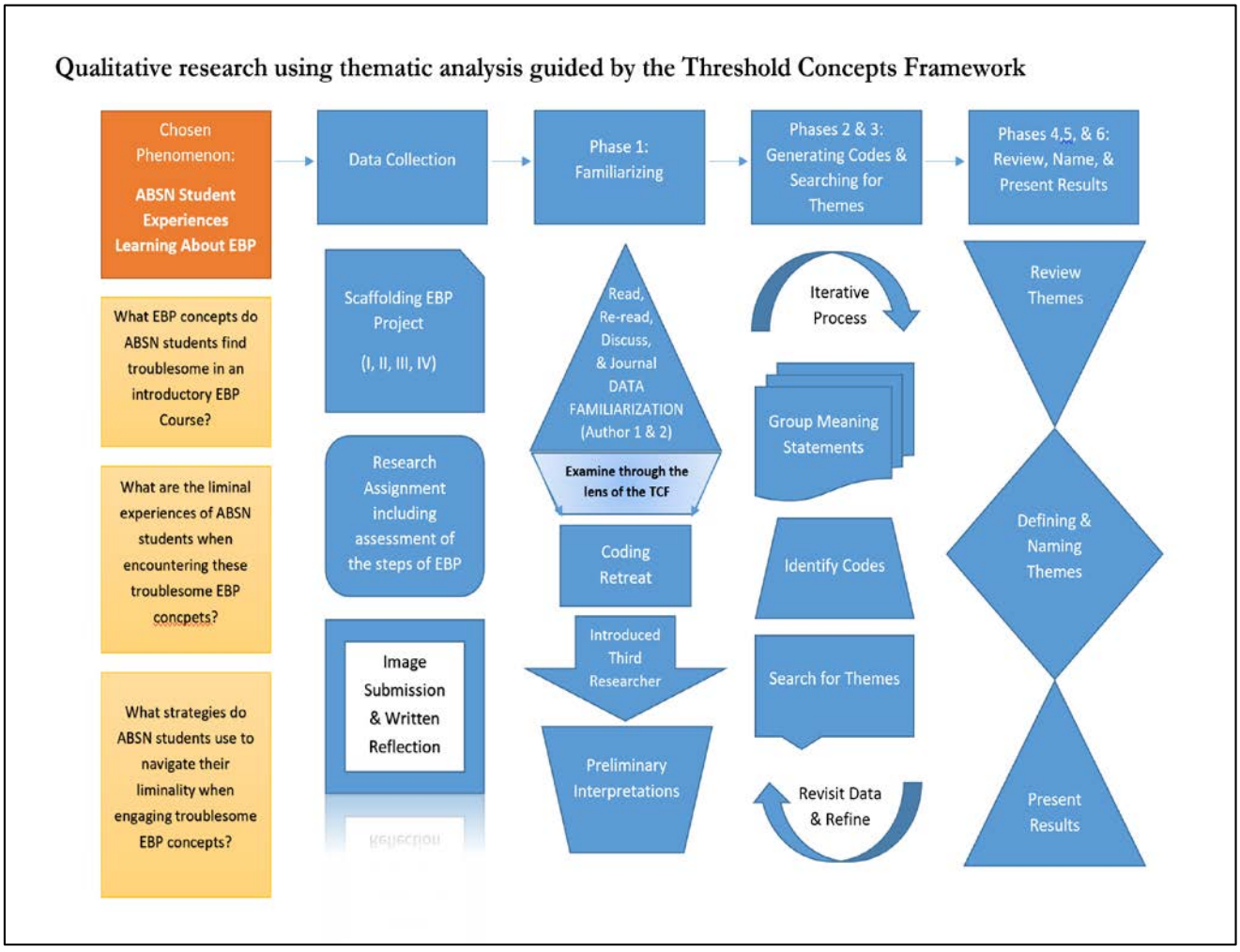
locations. Out of 83 documents collected, over 7,300 lines of text and 21 images were prepared for analysis.

Phases of Thematic Analysis

The Threshold Concepts Framework (Meyer & Land, 2003) guided a thematic analysis described by Braun & Clark (2006). This multi-step analysis included six phases: (1) familiarizing; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) presenting results. The process is presented in figure 3.

Figure 3

Phases of Thematic Analysis



Phase 1: Familiarizing

Data analysis began with a comprehensive examination of the research assignment and four-part scaffolded EBP project to gain familiarity with the student coursework. The student-selected images with written reflections were deferred at the beginning of the analysis, as they were a critical piece to capturing the students' experiences in their own words. Delaying analysis of student reflections allowed the researchers to bracket their ideas related to student coursework before analyzing their experiences. The research assignment was placed in a spreadsheet to assess student responses and compare and contrast troublesome concepts of EBP. When examining the EBP project, a series of matrixes were created to track iterations of review, including the number of documents, number of times students resubmitted each section, evolution of changes to the clinical question, and the formation of initial codes. Finally, a matrix was made for student-selected image submission and associated written reflection. Columns were constructed to track the troublesome concepts related to EBP and scholarly writing, along with the students' emotive words and strategies when encountering these concepts.

Descriptive qualitative research requires deep, creative, and ongoing interaction with the data collected for analysis. Once the student researcher and dissertation chair became independently familiar with the data, weekly online discussions took place to provide further familiarity. The student researcher used spreadsheets, visual representations, and journals to aid in the familiarization and bracketing required to track changing ideas and support a rigorous methodology. As conversations continued, the student researcher began parsing information to construct preliminary codes and collaboratively constructed plans for a three-day coding retreat.

Phase 2: Generating Initial Codes

The second phase required the researchers to identify keywords or phrases aligned with the phenomenon of interest and address the research questions. Collaborative retreats support a team-based approach to qualitative inquiry promoting knowledge generation and mentorship (Lordly et al., 2012). Therefore, the student researcher and their dissertation chair designed a coding retreat to facilitate data organization through collaborative discussions and collective decision-making. Coding began with a rapid, line-by-line technique using color highlighting and note-taking that was accomplished manually or in a word processing document. The constructs of troublesome and liminality from the Threshold Concepts Framework were applied throughout the process. Once coding was completed independently, conversations ensued, and keywords and phrases were captured. Emerging ideas or categories were documented in columns within an associated matrix.

The student researcher took the resultant efforts of the coding retreat and conducted a comprehensive review of the data in an iterative process to further support or clarify the findings during this stage of the research process. A third researcher then joined the analysis phase and participated in a 2-day virtual retreat to provide confirmatory analysis, reliability checking, and contribute to the emerging themes.

Phase 3: Searching for Themes

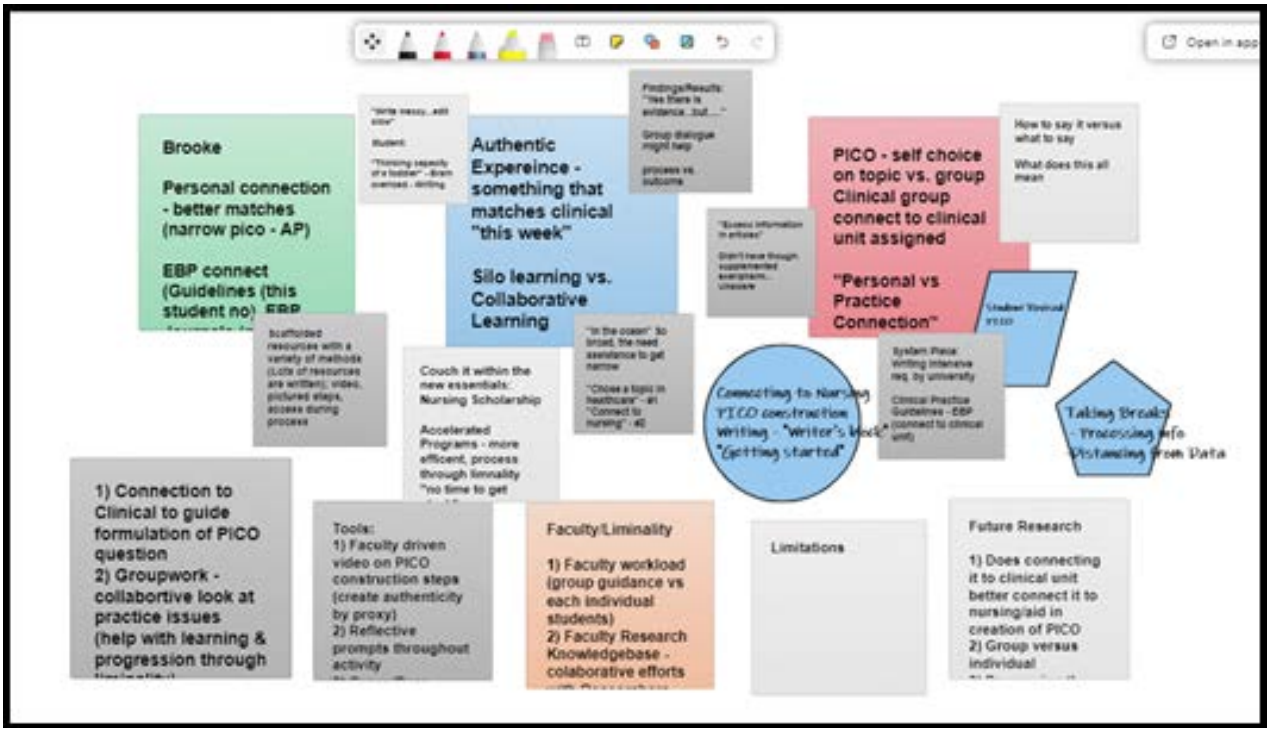
Phase three involved sorting information into chunks of data with similar meanings. Initial chunking of data began by examining the commonalities among the keywords and phrases and assigning initial categories. Codes were then sorted based on frequency and patterns to identify troublesome concepts, describe liminality, and list strategies students employed. Throughout the process, memos and journaling were used to capture the researchers' thoughts

and ideas about categories, codes, patterns, and relationships, providing a reflective and iterative process to analysis.

Several analysis strategies were employed, and exemplars of the resultant documents follow. During a virtual retreat, information was captured in a virtual whiteboard that bracketed perspectives presented by each researcher. Interpretive statements drawn from analyzing each student's research assignment, EBP project, and written reflections were documented. The virtual whiteboard helped visualize troublesome concepts, liminal experiences, and strategies students engaged in during their learning of EBP (Figure 4). The virtual whiteboard also captured conversations surrounding contributing factors, proposed solutions, limitations, and future research.

Figure 4

Bracketed Information in a Virtual White Board



The student researcher designed creative ways to engage with the data. "Neither Here nor There" was an activity that allowed the researchers to explore the evolutionary nature of learning in liminality and make some general comments on where students were stuck or making progress in their learning. Using the student-selected images and associated written reflection, virtual Post-It notes helped categorize students' encounters with troublesome knowledge as emotional and/or procedurally challenging. The student researcher summarized the virtual data analysis retreat information within an associated matrix and presented the findings to draw feedback from the other two researchers. This continued until consensus was achieved.

Phase 4: Reviewing Themes

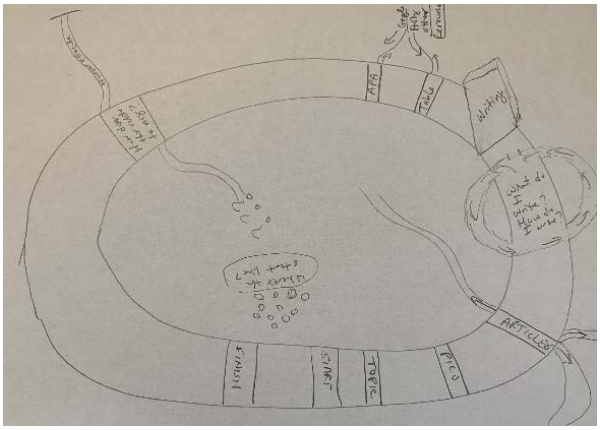
Phase four began by contrasting and categorizing data. The holistic method of qualitative research supports the existence of more than one reality. Since the reality is different for each person (Sandelowski, 2000), it is vital to recognize that the participant experiences are not the same. After identifying the similarities related to student experiences in liminality, variations began to emerge. Each researcher was asked to design a conceptual model of the data analyzed and resultant outcomes to tease out these constructs (Figures 5 and 6). By designing conceptual models, the researchers could examine the relational nature of the participant experiences.

Figure 5

Conceptual Module of Analyzed Data by Researcher 1

Figure 6

Conceptual Model of Analyzed Data by Researcher 2



Phase 5: Defining and Naming Themes

During the fifth phase of data analysis, team members participated in virtual discussions to ensure all aspects of the data were thoroughly analyzed. Each step in the data analysis process was reviewed, and the matrixes and online Microsoft Teams-based activities were reexamined. Conversations ensued about the naming of themes in a way to tell the story of the student experiences. Themes were organized within the context of liminality and its position within the theoretical underpinnings of the Threshold Concepts Framework. Once consensus among all three researchers was reached, discussions moved to structure the presentation of the results.

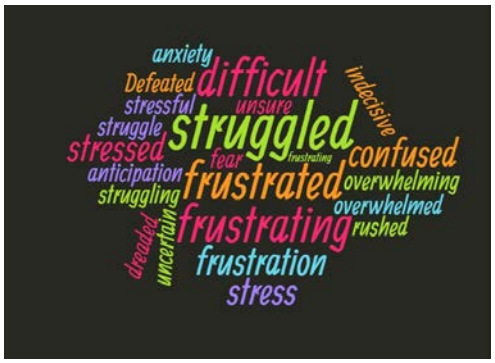
Phase 6: Presenting Results

Visual representations were helpful for this student researcher to process data and represent student experiences in liminality. As data was coded, categories emerged related to emotional, procedural, and cognitive challenges students described during their learning. Emotive words were captured in a word cloud (Figure 7). Using a word cloud allowed the most commonly used words to be presented in larger font, emphasizing these emotions. The visual

representation also created a sense of the intertwined emotions often found in the student reflections.

Figure 7

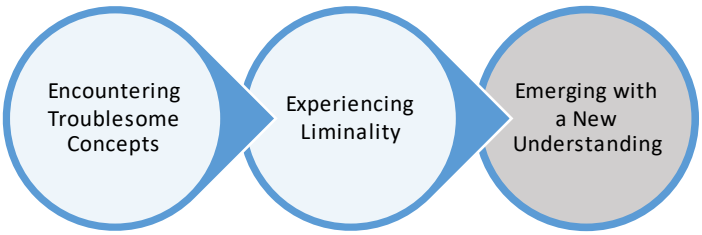
Emotional Word Cloud



Students' evolution through liminality is presented in Figure 8 as a relational model. Participant data indicated that students encountered troublesome concepts and experienced liminality during their learning of EBP. However, resolving liminality and emerging with a new understanding remained elusive for most.

Figure 8

Evolving through Liminality



Matrixes were an effective tool constructed during data analysis to sort and group student reflective statements. An exemplar of student statements reflecting the evolution of movement through liminality is presented in Table 1.

Table 1

Experiencing Liminality

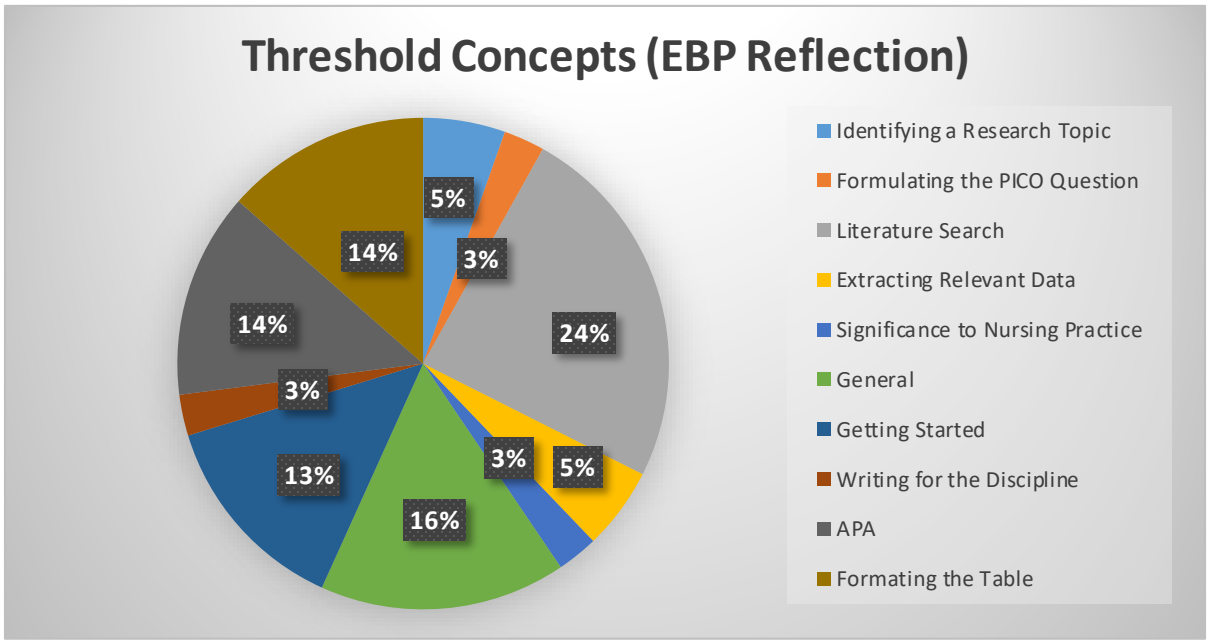
Descriptors	Working Definitions	Exemplar of Student Statements
Encountering Troublesome Concepts and allowing time to experience liminality	Troublesome Concepts - Content described by participants as challenging, difficult, hard, and/or troublesome. May be explicitly or implicitly expressed as content that creates a period of uncertainty or "stuckness" for the participant.	Things that caused me to feel stuck included searching for articles. At first, I was spending too much time trying to narrow down my topic and find specific articles….Getting stuck often made me feel frustrated. Whenever this happened, I would try to step back and do something else like exercise or cleaning. This allowed myself to decompress and come back to the project with a clear head. Giving myself enough time to work on the project also allowed me to remain calm and efficiently resolve any issues that came up without feeling rushed to finish by the deadline. [Participant 11]
	Liminal Spaces - Explicit or implicit phrases made by participants that indicate stuck places in their learning (may or may not be directly connected to TC)	
	Liminality – Emotive - comments that express the feelings of apprehension or uncertainty during their learning or relief upon resolution of uncomfortable feelings or "stuckness".	
	Liminal Time – comments or phrases used by students to describe the duration of being in a liminal space.	

Experiencing liminality and trying to get unstuck to move forward	Liminal Spaces - Explicit or implicit phrases made by participants that indicate stuck places in their learning (may or may not be directly connected to TC) Liminality – Emotive - comments that express the feelings of apprehension or uncertainty during their learning or relief upon resolution of uncomfortable feelings or "stuckness." Liminal Movement or Growth– Participant work examples or comments of reflection that indicate the forward and backward process of learning.	I often felt "stuck" as if I was blindfolded in a maze….. As I moved along in the process, it was like feeling my way through a maze. I was just bumping painfully into the walls of the maze. I was slowly learning from my own mistakes, hearing from friends who were also learning from their mistakes helped me avoid further "stuckness" down the road. [Participant 6]
Engaging, experiencing, and emerging from liminality	Liminal Spaces - Explicit or implicit phrases made by participants that indicate stuck places in their learning (may or may not be directly connected to TC) Liminality – Emotive - comments that express the feelings of apprehension or uncertainty during their learning or relief upon resolution of uncomfortable feelings or "stuckness". Resolving Liminality – An emerging statement or statement of reflection indicating the student has resolved their uncomfortable feelings or stuckness.	Overall, the project pushed me out of my comfort zone. It pushed me to learn more regarding the steps of research as well as writing formatting. This EBP project was very stressful and many times I felt stuck, but I made it off the limb. [Participant 3]

Using graphs was also an effective method to examine potential Threshold Concepts students named in their EBP reflections (Figure 9). Searching the literature (24%) was mentioned most frequently, followed by acts of writing in general (16%). Students identified formatting tables (14%) and using APA (14%) format as particularly troublesome.

Figure 9

Potential Threshold Concepts Identified in Student EBP Reflections



Additional graphs were constructed to examine the researchers' interpretations of students' awareness of their liminality (Figure 10). Student movement or growth during liminality (Figure 11) was also captured from student reflective statements. A review of Figures 10 and 11 revealed a stimulating observation; liminal unawareness (46%) closely matched the sum (45%) of no growth (36%) and limited growth (9%). Future research would be warranted to determine a correlation between students' liminal awareness and learning growth during liminality.

Figure 10

Liminal Awareness

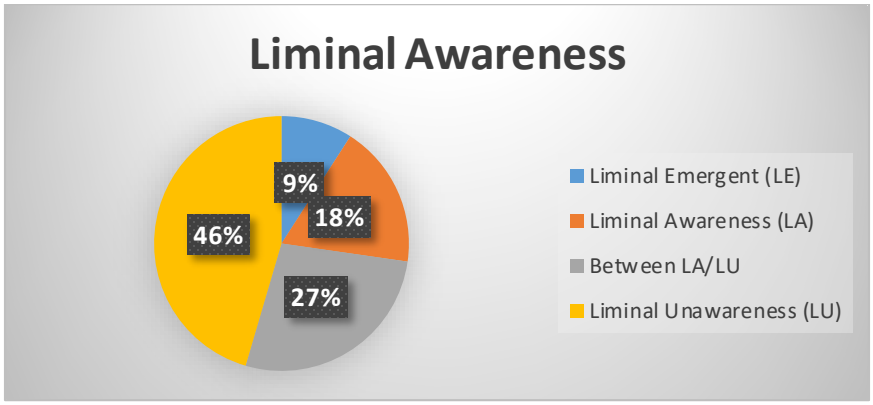
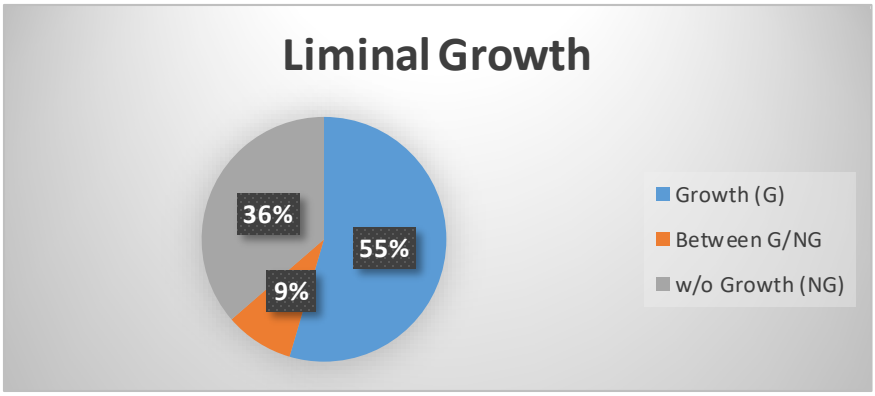


Figure 11

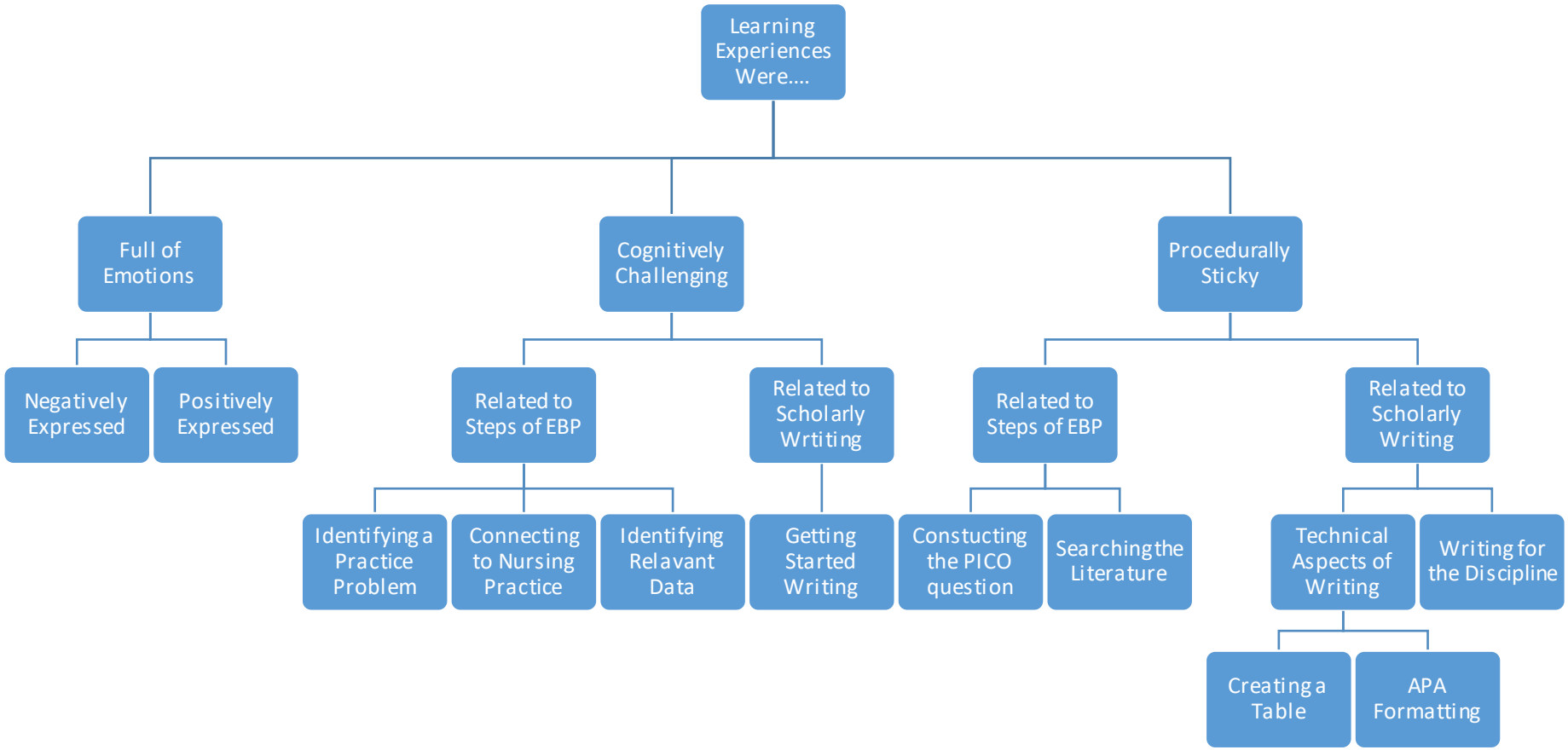
Liminal Growth



As categories and themes emerged, it helped organize them in relational models. Figure 12 presents the organizational structure of the initially labeled themes: Full of Emotions, Cognitively Challenging, and Procedurally Sticky. These themes eventually evolved into the emotional, procedural, and cognitive bottlenecks students experienced during liminality. Detailed results focused on the liminal spaces of student learning are presented within the manuscript found in Chapter 5: *Faculty Recommendations for Teaching Accelerated EBP Courses derived from ABSN Learning E*xperience.

Figure 12

Organizing Data



Ethical Considerations

As a nursing scientist, academic educator, and student, this researcher recognized the importance and accepted the responsibility of ensuring ethical standards were employed in the conduct of this research. Further, the University and Medical Center Institutional Review Board (IRB) deemed the research protocols exempt (Appendix B, C & D).

Protection of Privacy

All communications were conducted within the ECU university system. Data retrieved through the student-learning platform were immediately de-identified and stored on a secure, password-protected server for the duration and purpose of data analysis and reporting of findings. Documents printed for coding were secured within locked offices. Upon conclusion of the study, any remaining printed files were destroyed.

Minimizing Researcher Bias

Two strategies were employed to minimize researcher bias, including 1) bracketing and 2) expert consultation. Researchers must recognize their stance and preconceived ideas about the phenomenon under study. Bracketing is a strategy to identify and set aside these ideas (Polit & Beck, 2014). The student researcher used reflective journaling to bracket ideas, a practice that has been maintained from the start of their doctoral journey. This practice created an opportunity to reflect and analyze over time, allowing for self-assessment and understanding personal perspectives and biases. Reflective journaling provided a method to recognize and challenge previously held beliefs and bracket oneself from the research. Expert consultation during the construction of this study guided design and methodology to address potential bias.

Trustworthiness

Qualitative research requires rigor and creativity (Polit & Beck, 2014; Saldaña, 2011). Being a qualitative researcher required maintaining a creative mindset and remaining open to this method of inquiry's emergent and evolutionary nature (Saldaña, 2011). Remaining open to new ideas and maintaining a willingness to adjust was beneficial when obstacles to data collection persisted. Open-mindedness also proved fruitful during the phases of analysis. Although the thematic analysis (Braun & Clark, 2006) was presented linearly, it was an iterative process, which required time and moved back and forth between phases allowing themes to emerge from the data. The resultant themes from the rigorous procedures described in this study supported a reliable methodology. A transparent presentation of the method and alignment of the study's theoretical underpinning further builds trustworthiness (Polit & Beck, 2004). Five criteria for developing trustworthiness used in this research are described below (Lincoln & Guba, 1986).

Credibility

The hallmark characteristic of trustworthiness must not only be applied within the steps of qualitative research but also be evident to the reader in the reported results (Polit & Beck, 2014). This researcher employed several strategies to convey confidence in the data and subsequent interpretation. First, formal coursework and continuing education support this researcher's knowledge and understanding of IRB and FERPA protection for student participation in research. Next, a comprehensive review of the literature was undertaken to identify a gap in EBP competency in nursing and further understand this population and the theoretical underpinnings for this research project. This was followed by strategic alliances with experts that guided study design and methodology. The researcher's dissertation chair is well versed in qualitative methods and the Threshold Concepts Framework. This researcher and the

chair have worked collaboratively on two manuscripts for publication. The first was an integrative review on Threshold Concepts in doctoral education. The second manuscript was an integrative review on how Threshold Concepts are being used in nursing, particularly to direct and inform curricular design in undergraduate nursing education. Members of the dissertation committee provided educational research support best strategies for recruiting and collecting rich data and preparing data for presentation. This preparation and expertise guided rigorous methodological consideration described in this chapter's design and data analysis section.

Dependability

As a small study at one university, it is hard to establish this criterion. Clear steps in the research process were provided, and documentation was organized to provide an auditable trail of events.

Confirmability

A reflexive approach to data analysis was employed to ensure researcher awareness of potential biases and promote objectivity (Lincoln & Guba, 1986). This was accomplished through journaling by the student researcher and strategic conversations with her chair and other members of the dissertation committee to understand the preconceived ideas carried into this study. In addition, purposeful inquiry at each stage of the research process and ongoing discussions with other members of the research team helped raise awareness and provided accountability.

Transferability

The researcher must be transparent in their research findings so the reader can adequately assess how generalizable the results are to other groups and settings (Polit & Beck, 2014). As mentioned in the description of dependability, clear articulation of the setting and population

guides readers to compare similarities and differences to their location and student population. Further, thick descriptive details of the processes and data support reader conclusions of how the information may be transferred or applied within other settings.

Authenticity

Authenticity is the ability of the researcher to show the different realities experienced by the participants in the research report (Polit & Beck, 2014). A qualitative descriptive design presents findings that remain close to participants' experiences, directly reflecting their perceptions of the phenomenon (Sandelowski, 2010). Further, reporting rich examples from the data (i.e., direct quotes from participants) provides a sense of tone, mood or feelings, language, and context to the experience as described by the participants.

Limitations of the Study

Engaging and recruiting online students, even hybrid students, during the coronavirus pandemic proved challenging. While sample sizes in qualitative research are often small, allowing for an in-depth examination of the phenomenon, it is essential to ensure the data answers the research question. The sample size of 11 participants provided sufficient data to support the resultant themes in students' liminality. A smaller sample was supported by applying Malterud and colleagues' (2016) information power model. Using information power, the sample size was appropriate because this study had narrow aims, dense specificity, and applied an established theory to repeated work products produced by participants across the semester. However, traditional methods used in qualitative descriptive research, like interviews, would have provided deeper understanding and clarity to the student selected images and written reflection.

The approach used to examine student coursework proved to be a limitation for this study. The majority of data collected from the course assignments focused on measuring product output, not understanding the students' learning experience. More specifically, the assignments focused on the first three steps of EBP (Melnyk et al., 2010), asking a clinical question in PICOT format, searching the best evidence, and critically appraising the evidence. The assignments did not focus on integrating EBP into practice with patient preferences and evaluating outcomes to share with colleagues. Finally, the accelerated nature of the five-week EBP/research course with intensive writing focus strongly impacted the written reflections of students' learning experiences related to EBP.

Conclusion

The research methods presented in this chapter provide a framework for studying complex concepts in the discipline of nursing. Future research should add the more traditional data collection methods used in qualitative descriptive research, including interviews and focus groups, to better understand the phenomenon. Using more diverse sample populations involving key stakeholders that cross academic and practice realms, including faculty, clinical instructors, and practice-based educators, would provide a more holistic approach to helping support all learners in developing EBP competency. Developing pedagogical strategies aimed to support the learning of EBP across curriculums and into practice builds essential competencies required for translating knowledge into practice. This knowledge translation can address the gap between synthesizing, disseminating, and applying research by critical stakeholders to improve health outcomes.

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CHAPTER 4: MANUSCRIPT 1

APPLICATION OF THE THRESHOLD CONCEPTS FRAMEWORK IN NURSING: AN INTEGRATIVE REVIEW

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Background & Summary

An integrative review was completed to gain a better understanding of how nursing has used Threshold Concepts to facilitate disciplinary understanding. Further, the two-year efforts behind this manuscript informed and supported the use of the framework in analyzing the data for this study. Using Whittemore and Knafl's (2005) integrative review method, a diverse selection of 20 articles were analyzed resulting in three themes: framing difficult knowledge, developing pedagogical strategies, and designing nursing curricula. In conclusion, the framework was found beneficial in helping faculty identify and sequence critical concepts related to the discipline of nursing to reduce curricular overcrowding. Further, redesigning pedagogy to engage students during troublesome periods of learning can help them successfully navigate the stuck places in their learning resulting in more competent, practicing nurses.

CHAPTER 5: MANUSCRIPT 2

BUILDING COMPETENCY IN ACCELERATED EBP COURSES: FACULTY RECOMMENDATIONS BASED ON ABSN STUDENT EXPERIENCES

Background: While EBP competency is an expected outcome of baccalaureate education, students continue to report challenges during their learning. Undergraduate students have acknowledged the importance of EBP related to patient outcomes. However, new graduate nurses report having a limited understanding of EBP to inform their clinical practice citing a lack of knowledge related to current research findings and understanding the steps of EBP.

Method: To better understand these issues, a qualitative, descriptive study guided by the Threshold Concepts Framework was conducted to capture the troublesome learning experiences of ABSN students during an accelerated, 5-week, writing-intensive EBP/research course.

Results: All participants engaged with troublesome knowledge, experienced liminality and sought to emerge with a new understanding. However, participants were unable to achieve resolution during the expedited course. Reflective assignment revealed that participant experiences created cognitive, procedural, and emotional bottlenecks in their learning.

Conclusion: Nurse educators should use reflective assignments, coordinate supportive resources, and scaffold EBP across the curricula to aid students in integrating complex concepts critical to the emergence of a new understanding essential to the practice of nursing.

Keywords: Evidence-Based Practice (EBP), Nursing Education, ABSN, Threshold Concepts

Background

Nurse educators have been tasked with ensuring students acquire evidence-based practice (EBP) competency. EBP competency can be defined as the expected and measurable level of performance that integrates knowledge, skills, abilities, and judgments in the application of current best evidence, clinical expertise, and patient preferences in the nursing care of patients (AACN, 2021; ANA, 2010; IOM, 2009; QSEN, 2013; Stevens, 2013). EBP competency requires students to cultivate a spirit of inquiry to identify a practice problem and formulate clinical questions (AACN, 2021; Melnyk et al., 2014). These questions drive the search for best evidence that students must critically appraise and synthesize to make clinical decisions and advocate for practice change. Identifying best practices involves the combination of evidence with clinical expertise and patient preferences. Practices should then be monitored to evaluate the resultant patient and healthcare outcomes. Finally, students should be empowered to disseminate these practice changes and resultant outcomes so they become contributing team members in optimizing healthcare (NASEM, 2021). While EBP competency is an expected outcome of baccalaureate education (AACN, 2021; NLN, 2012; QSEN, 2013), research indicates nurses have significant deficits in EBP that could threaten the quality and safety of healthcare (Melnyk et al., 2018).

New graduate nurses report having a limited understanding of EBP to inform their clinical practice citing a lack of understanding in applying the steps of EBP (Cardosa et al., 2021; Lam & Schubert, 2019; Melnyk et al., 2018). To build EBP competency in students, faculty need to understand the factors that impede the knowledge and skills acquisition related to EBP (Melnyk et al., 2018). While efforts have been made to design pedagogy to improve EBP

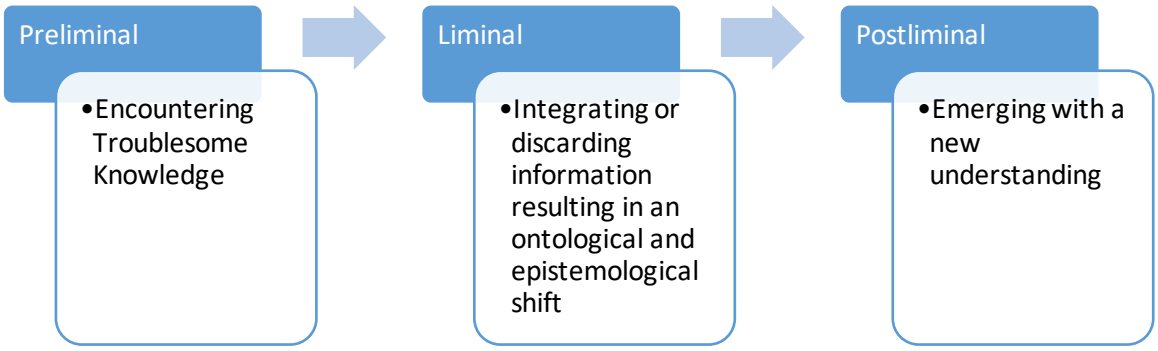
competency (Aglen, 2016), limited research focuses on understanding the learning processes from the student perspective (Fiset et al., 2017; Ryan, 2016).

Of particular concern are the efforts in designing pedagogy that supports student learning in expedited courses common to accelerated nursing programs (Millett et al., 2015). Accelerated programs have seen an increase over the last decade to address the nursing workforce shortages and meet the needs of professionals seeking second career opportunities. Specifically, programs like the accelerated BSN (ABSN) allow students with prior baccalaureate or graduate degrees in other fields to obtain a BSN in approximately 12-18 months. This accelerated pathway to RN licensure still requires students to meet rigorous EBP competencies to ensure safe nursing practice (AACN, 2021; NLN 2012; QSEN, 2013). Ensuring students gain competencies in an expedited course is a shared responsibility. Nurse educators must design effective pedagogy and recognize when students encounter troublesome concepts that can impede learning. At the same time, students should reflect on their performance and development of knowledge and skills required to build EBP competency.

Initially described by economists Meyer and Land (2003), the Threshold Concepts Framework may help identify and provide awareness of student encounters with troublesome concepts. Threshold Concepts are often difficult or challenging for students but once mastered create a transformed way of thinking within the discipline. The period between when a learner encounters troublesome knowledge and when they emerge with a new understanding is called liminality (Meyer & Land, 2006; Figure 13). In this liminal stage, students integrate or discard information that creates a shift in their thinking. During this time, students often describe moments of "stuckness," which can delay their learning progress. These moments that delay student learning have also been referred to as bottlenecks (Miller-Young & Boman, 2017).

Figure 13

Liminality



Building EBP competency in an accelerated format can be challenging; however, not assisting students who remain stuck in liminality risks sending unprepared graduates into practice. A gap remains in understanding how students experience and resolve this liminality while acquiring EBP knowledge and skills needed for competency (Fiset et al., 2017; Ryan, 2016). To solve this problem, we must begin by examining student perceptions of their learning related to EBP to support translating evidence-based research into practice.

Aim of the study

This study aimed to describe the liminal experiences of accelerated baccalaureate of science in nursing (ABSN) students when engaging with troublesome concepts during an introductory evidence-based practice (EBP) course. Recommendations for pedagogy and curriculum design are also discussed.

Methods

3.1 Design

A qualitative descriptive study (Sandelowski, 2000) using thematic analysis (Braun & Clark, 2006) guided by the Threshold Concepts Framework (Meyer & Land, 2003). This study

took place at a large, Southeastern university with the study population drawn from students enrolled in an accelerated, second-degree, baccalaureate program in the College of Nursing.

3.2 Participants

Participants in a qualitative descriptive study must have experienced the phenomenon of interest (Sandelowski, 2000). Therefore, purposeful sampling was used to recruit ABSN students engaged with learning EBP. A cohort of 16 ABSN students enrolled in an expedited, five-week, writing-intensive course focused on learning research and EBP were approached for recruitment, of whom 11 (68.8%) agreed to participate.

3.3 Data collection

The primary instrument for collecting student experiences was an open-ended reflective prompt, which asked students to reflect on their learning experiences after completing a four-part EBP project. Specifically, students needed to provide a written description of the challenges or "stuck" places they experienced during their learning. Students were further prompted to share their strategies to resolve these challenges to get "unstuck." The students' four-part EBP project was collected for a comparative analysis between students' reflective interpretations of their learning and the resultant work product. The EBP project required students to (1) identify a problem in practice and formulate a clinical question; (2) construct a written essay providing background information on the topic and how it connects to nursing; (3) collect, appraise, and place literature in a matrix; and (4) synthesize and present findings in a scholarly report.

3.4 Data analysis

A total of 83 course documents were retrieved and de-identified to protect privacy. The first author parsed each part of the EBP project for review and formatted 11 EBP reflective assignments for analysis. An independent review and discussions were then held between the

first two authors. The concepts of troublesome and liminality from the Threshold Concepts Framework were applied to the analysis process to identify and describe the different experiences emerging from participant data. Reflective statements were analyzed with both an inductive and deductive approach using descriptive coding (Saldaña, 2009) followed by direct content analysis (Hsieh & Shannon, 2005). Summative spreadsheets and graphs were constructed and reviewed to provide reliability checking at each phase of the data analysis cycle. Data reduction took place through subsequent discussions among all three researchers until consensus was reached on the emerging themes.

3.5 Rigour

A key aspect in ensuring trustworthiness is the transparency in method and alignment of the study's theoretical underpinning (Polit & Beck, 2014). A qualitative descriptive design allowed the researcher to present findings that remain close to participants' experiences, directly reflecting their perceptions of the phenomenon (Bradshaw et al., 2017; Sandelowski, 2010). Further, applying the Threshold Concepts Framework (Meyer & Land, 2003) to data analysis proved beneficial in identifying troublesome concepts and recognizing students' descriptions of liminality. The researchers of this study bring diverse experiences related to nursing education and research methodology. Reflectivity was used to help bracket the researchers' stance and preconceived ideas about the phenomenon under study (Polit & Beck, 2014). Finally, including excerpts of participants' reflective statements adds trustworthiness and allows the reader to confirm the emergence of the identified themes from within the data.

3.6 Ethical considerations

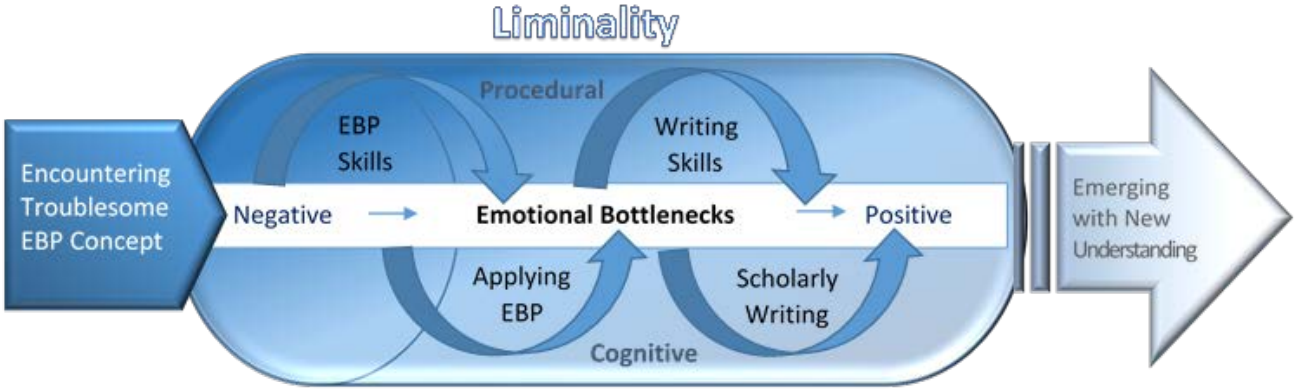
This study posed minimal risk receiving a certified exempt status granted by the University and Medical Center Institutional Review Board (UMCIRB).

Results

All participants encountered new knowledge that was troublesome and created liminality during their learning of EBP. Data analysis revealed liminality created cognitive, procedural, and emotional bottlenecks for participants after engaging with troublesome EBP concepts. Students oscillated between procedural tasks and cognitive thought that often evoked an array of emotions as they progressed through their learning. Figure 14 shows the betwixt and between nature of these bottlenecks that can create "stuck" places in students' learning.

Figure 14

Learning in Liminality



4.1 Cognitive Bottlenecks

Learning in liminality required higher levels of thinking to gain clarity, which created cognitive bottlenecks for participants. During liminality, participants struggled with (1) the overall processes of learning in an expedited course, (2) developing and applying the steps of EBP, and (3) the process of scholarly writing. A review of the four-part EBP assignment revealed how participants struggled to construct work products in these areas. However, it was through written reflections that participants expressed their cognitive challenges.

My brain did not want to analyze at a higher level, and I felt like I had the thinking capacity of a toddler. [Participant 2]

This project required much volition, time, preparation, and planning; it also stirred up some very "stuck" feelings….often leaving me feeling that my "old" student brain is not as sharp as it once was. [Participant 8]

When applying the steps of EBP, students cognitively struggled most in three areas: (1) recognizing a practice problem, (2) identifying relevant research studies, and (3) making connections to nursing practice.

When deciding what research topic to do, my mind was going in a ton of different directions… I felt like the possibilities for this research paper were endless and it caused me a lot of stress. [Participant 10]

In my search for good resources, I felt almost like I was blindfolded because I could not tell immediately which one was the best or most relevant. [Participant 6]

The significance to nursing practice was a little more difficult. [Participant 2]

Every participant discussed the process of scholarly writing as a challenge. The simple act of getting words on paper stumped many. However, several students compared this paper to prior academic experiences and the idea of writing for the discipline of nursing emerged.

Although I wanted to finish the paper and enjoyed learning about the research that I wrote about, I found myself stuck in the process of writing the paper. [Participant 7]

Most frustrating, I struggled getting the words out of my head and thoughts onto my paper. It's like I knew what I wanted to say, but I couldn't articulate the words from my thought to my computer. [Participant 10]

I have written papers and done research for my English degree, but the formatting and the style of writing were very different for this assignment. [Participant 6]

Participants were often unsure how to navigate their cognitive bottlenecks. One participant described their initial strategy as "taking a leap," while others tried to research and read ahead and not overthink. Most participants discussed using a variety of online resources. Two participants described just staring at their computer screen, unsure how to proceed. One participant submitted an image of an older woman gripping her glasses, staring at the computer screen with a perplexed expression, and explanation:

I often felt overwhelmed with the expected requirements ahead of me and was confronted with what I felt was a lack of clarity. I would stare at my computer screen, much like the little lady in the image, and feel that I did not know where to begin. [Participant 8]

4.2 Procedural Bottlenecks

Learning experiences related to EBP and scholarly writing were fraught with difficulties, creating procedural bottlenecks for participants. Participants seemed to focus on the technical aspects of learning instead of the higher-level critical thinking required to build competency. The literature search appeared to be the most challenging aspect of the EBP project identified in nine of the 11 participant reflections. One participant oscillated between the higher-level cognitive skills needed to identify relevant articles and the lower procedural skills required to search the literature.

I spent many hours researching to find accepted articles, and I often wondered if [I] was searching effectively. Should I be in a different database? Should I be more - or less - inclusive of the terms I am using in my search? Am I exhausting all possibilities? [Participant 8]

One participant had a particularly challenging time dealing with the literature search, creating a research or PICO question, and placing articles in a table or matrix.

Researching [articles] and fully grasping what I was to do with the PICO question had me at a standstill…Part 3 of the project is where I could not figure out how to format the chart, nor could I find research articles to list within my chart. [Participant 3]

Seven of 11 participants described their challenges with formatting the table for the literature matrix in part 3 of the EBP Project and/or using APA guidelines.

Another time I was stuck was during the APA formatting of the paper, but especially during the formatting of the table. I had a very difficult time getting the table to have the proper lines and spacing, and it was very frustrating because I felt like I had the right information written in the table but it took me hours just to get it to look right and get rid of the extra pages and everything. [Participant 1]

To resolve these procedural bottlenecks, participants often "go it alone" initially, seeking out collaborative efforts only as secondary strategies as described by this participant:

I often felt "stuck" as if I was blindfolded in a maze.… I was just bumping painfully into the walls of the maze. I was slowly learning from my own mistakes, hearing from friends who were also learning from their mistakes helped me avoid further "stuckness" down the road. [Participant 6]

Participants lacked clarity on how to overcome their procedural bottlenecks. Participants described searching through course material, trial and error, and seeking online resources. Over half of the participants finally reached out to faculty and/or peers as a collaborative strategy; however, only one participant mentioned using faculty as their initial strategy. One participant

described the reference library as a beneficial resource. Several participants expressed this sentiment regarding the technical aspects of writing.

I think in the future having more guidance in that part would be very helpful because I know I wasn't the only one who struggled. [Participant 1]

4.3 Emotional Bottlenecks

Feelings evoked during participants' learning in liminality creating emotional bottlenecks. The expedient nature of this course contributed to participants' level of anxiety and feelings to rush to complete the required assignments. Encountering troublesome concepts related to EBP and writing elicited a variety of feelings. Participants most commonly used words that emoted a negative feeling, including *struggled, frustrated, difficult, and confused*. Other words used by some participants included *indecisive, fearful, uncertain, and defeated*. One participant described their experience in the course as a repeated cycle of emotions related to completing assignments, searching the literature, and writing.

Every week, I found myself in the same position as the week before – struggling to begin writing the part of my paper that was due on Sunday. I struggled finding the words to say without sounding repetitive. I struggled finding up to date and relevant research articles. Most frustrating, I struggled getting the words out of my head and thoughts onto my paper. [Participant 10]

In contrast, five participants expressed positive feelings using words like c*alm, lucky, fortunate, appreciative, and proud*. Expressions of positive emotion did not eliminate negative feelings. However, participants using positive words were more likely to share moments when they became 'unstuck' during their learning. One student described their experience searching for articles like this:

At first, I was spending too much time trying to narrow down my topic and find specific articles. …To get "unstuck" I watched videos on how to search for research articles and that helped speed up the process. Getting stuck often made me feel frustrated. … Giving myself enough time to work on the project also allowed me to remain calm and efficiently resolve any issues that came up without feeling rushed to finish by the deadline. [Participant 11]

To resolve these emotional bottlenecks, participants stepped away from their work and directed their efforts elsewhere, as described here: "*Surprisingly enough, focusing on other tasks helped me get "unstuck"* [Participant 10]. In contrast, one participant reached out to peers through group messaging to discuss the uncertainty they were feeling.

Discussion

Findings from this study identified that learning about EBP was troublesome, and participants often found themselves stuck in the liminal space of learning. Further, the writing-intensive and expedited nature of the course influenced participants' encounters with troublesome knowledge related to EBP. Participants' descriptions of their liminality revealed emotional, cognitive, and procedural bottlenecks that impeded their learning. Resolution of this liminality proved elusive for many participants. Participants lacked the resources to resolve the "stuck" places in their learning, and over half eventually sought faculty input to provide clarity.

This finding highlights the critical role faculty play in supporting students' progression towards EBP competency, especially for accelerated courses. Faculty should reflect on their knowledge and competence related to EBP (Orta et al., 2016) and have a strong understanding of the pedagogy most effective in teaching content in an accelerated format (Serfass & Wonder, 2018). Academic institutions should support faculty in gaining competency through mentorship and providing supportive resources, like a research librarian. Finally, faculty should encourage

students to reflect on their learning to help identify the bottlenecks that cause delays in building EBP competency. The following recommendations provide faculty strategies to address the cognitive, procedural, and emotional bottlenecks students may experience during liminality.

Understanding knowledge critical to the discipline of nursing, like EBP and scholarly writing, can be troublesome. Accelerated courses can leave students in the liminal space, requiring steps beyond the course to obtain competency. Scaffolding is beneficial to student learning of complex concepts (Hande et al., 2017). Extending these concepts beyond individual courses allows educators to scaffold learning across curricula allowing students to resolve their liminality emerging with a new understanding. This extended learning promotes opportunities for building competencies students can take into practice.

Participants expressed frustrations with the amount of time required to create a PICO question, search the literature, and format their findings in a scholarly work. The time necessary to resolve these cognitive and procedural bottlenecks stalls progression in an accelerated course. Collaborative partnerships with a research librarian (McGowan, 2019; Zannin-Yost & Dillen, 2019) and the writing resource center are beneficial strategies to aid students with these challenges. Because participants often choose to navigate these challenges independently, encouraging peer collaborations or mentorships can create opportunities for students to discuss their learning (Kachaturoff, 2019; Wonder & York, 2017). These discussions can be beneficial to improving students' EBP skills and reducing stress and anxiety related to their learning.

Further, students may find more clarity and make better connections when EBP is designed within the clinical environment (Ryan, 2016). EBP can be applied in the clinical setting through academic and practice partnerships, including connecting students with the clinical expertise of nurses on dedicated education units (Raines, 2016) or exposing students to the

process of a health policy review by collaborating with clinical leaders (Wonder & York, 2017). These opportunities place students within the environment to identify actual clinical problems helping students connect EBP to nursing practice.

A compounding factor identified in this student population was that their EBP course was writing-intensive. Their learning related to EBP was complicated by procedural bottlenecks related to scholarly writing. In particular, participants had difficulty creating a literature matrix in Excel and formatting their papers according to APA guidelines. Providing students with templates, exemplars, and accessible resources (Hunker et al., 2014) would allow students to transfer time stuck in procedural issues related to writing to be shifted to higher-level cognitive thinking that builds competency related to EBP. Finally, participant encounters with troublesome concepts related to EBP and writing elicited feelings that caused emotional bottlenecks. Reflective activities effectively help students identify and examine the emotional response to liminality (Contreras et al., 2020). Faculty should provide formal instruction and guide students to reach a deeper level in their thinking. This can be accomplished by embedding reflective assignments that build upon each other to promote a metacognitive approach to their learning (Alt & Raichel, 2020; Bjerkvik & Hili, 2019). Providing detailed feedback and allowing time for these reflective practices will likely reveal implicit difficulties or challenges outside of students' superficial awareness.

Implications for Future Research

Using a descriptive approach guided by the Threshold Concepts Framework was an effective method to examine the experiences students have when encountering complex concepts in accelerated nursing courses. Course documents and reflections provided initial insight into student learning of EBP. Future research should be inclusive and draw perspectives from faculty,

students, and clinical instructors to understand teaching and learning in accelerated programs. Additionally, studies designed to evaluate educational interventions should consider student awareness and emotional responses to being ‘stuck’ in liminality. Finally, creating measurements designed to identify liminal resolution ensures students can translate their learning to practice.

Conclusion

While EBP competency is an expected outcome of baccalaureate education, participants continued to report challenges during their learning. When students choose not to engage in troublesome or challenging concepts, it often results in failure; however, when students remain stuck too long, mimicry reflects regurgitated content in student coursework, not critical thought. Although participant learning evolved, most did not express liminal resolution in this study. However, many participants understood they could not back up and must continue to move forward, awaiting an expected "next-step." Faculty are an integral part of the system, helping students reach each step in their educational journey. Continued progress is essential to building competence that improves patient outcomes and optimizes healthcare in today's complex system.

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Declaration of competing interest

None.

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APPENDIX A

EBP Project Reflective Assignment

Evidence-based practice is complex and learning about it can be challenging. Take a moment and think about each part of the EBP project and the final paper you submitted in this course. Reflect on times when you felt 'stuck' and were challenged while completing these assignments. Being stuck can feel like you were having difficulty moving forward in your work or needed to reach out for help to complete a task. Since a picture is worth a thousand words, what picture or pictures represent these moments of 'stuckness'? You may draw an image or search for clipart, photos, emojis, memes, or other online images. As you draw or search for your image(s) think about what you did during those times. Provide a 2-3 paragraph written response that explains how your image(s) represent the times you felt 'stuck' including what caused you to feel 'stuck' and the strategies or resources you used to get 'unstuck'. Submit your image(s) and written response in the assignment link below.

APPENDIX B

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
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Notification of Exempt Certification

From: Social/Behavioral IRB
To: Kelly Kistler
CC: Deborah Tyndall
Date: 2/10/2021
Re: UMCIRB 20-003123
A Qualitative Exploration of RN to BSN Student Learning Experiences related to Evidence-Based Practice

I am pleased to inform you that your research submission has been certified as exempt on 2/10/2021. This study is eligible for Exempt Certification under category # 2ab.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

Document	Description
Demographic Survey & Image Response Prompt(0.01)	Surveys and Questionnaires
Dissertation Proposal(0.02)	Study Protocol or Grant Application
Informed Consent for No More than Minimal Risk Research(0.04)	Consent Forms
Recruitment Email Letter(0.01)	Recruitment Documents/Scripts
Recruitment Video(0.01)	Recruitment Documents/Scripts
Semi-Structured Interview Questions(0.01)	Interview/Focus Group Scripts/Questions

For research studies where a waiver or alteration of HIPAA Authorization has been approved, the IRB states that each of the waiver criteria in 45 CFR 164.512(i)(1)(i)(A) and (2)(i) through (v) have been met. Additionally, the elements of PHI to be collected as described in items 1 and 2 of the Application for Waiver of Authorization have been determined to be the minimal necessary for the specified research.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

APPENDIX C

IRB: Amendment Approved

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Amendment Approved

ID:	Ame1_UMCIRB 20-003123
Title:	Amendment 1 for IRB Study #UMCIRB 20-003123 A Qualitative Exploration of RN to BSN Student Learning Experiences related to Evidence-Based Practice
Description:	Your amendment has been approved. To navigate to the project workspace, click on the above ID.

APPENDIX D

IRB: Amendment Approved

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Amendment Approved

ID:	Ame2_UMCIRB 20-003123
Title:	Amendment 2 for IRB Study #UMCIRB 20-003123 A Qualitative Exploration of ABSN Student Learning Experiences related to Evidence-Based Practice
Description:	Your amendment has been approved. To navigate to the project workspace, click on the above ID.