Evidence-Based Practice Clinical Evaluation Criteria for Bachelor of Science in Nursing

Curricula

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Lina Bostwick

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Lois Linden, Ed.D., R.N.
Chair

Marcia Kube, Ed.D., R.N.
Committee member

Janet Philipp, Ed.D, R.N.
Committee member

Dedication Page

This dissertation is dedicated to my immediate family. First and foremost to my husband, Brett Bostwick, who has always been the greatest by-my-side multitalented resource one could ever imagine having. There were several times that you were involved in assessing, diagnosing, planning, implementing, and evaluating our lives in order to support me through this endeavor. Secondly to our children, Bryce and Morgan Bostwick, who were patient and allowed me the time needed to always do my homework. I love you all very much!

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EVIDENCE-BASED PRACTICE FOR CLINICAL CURRICULA

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Abstract

Core evaluation criteria for measuring pre-licensure Bachelor of Science in Nursing (BSN) students' application of Evidence-Based Practice (EBP) in the clinical setting have not previously existed. Students are largely products of the program culture from which they receive their education. With a sample of seventeen EBP expert nursing faculty, themes and sub-themes exposed current concerns placing best practice decision-making at risk. Evidence-based practice is about answering clinical inquires with today's most current scientific knowledge; therefore, BSN programs and their curricula have no option but to begin engaging in an EBP valued and supported culture. Findings disclose a ten core criterion evaluation tool for measuring student clinical progression toward competency in application of EBP. A nursing program curriculum requiring the use of core evaluation criteria in the clinical setting would not only support student learning outcomes, but also encourage faculty and preceptors to broaden their knowledge of EBP principles and processes.

Key words: Bachelor of Science in Nursing education; BSN clinical evaluation; BSN clinical competency; Evidence-Based Practice: education, nursing, culture, competency, decision-making, and outcomes.

Evidence-Based Practice Core Evaluation Criteria for Clinical Curricula in Baccalaureate

Nursing Programs

CHAPTER I: INTRODUCTION

Purpose for the Study

The purpose of this Delphi research study was to describe what nursing faculty Evidence-Based Practice (EBP) experts identify as core criteria needed for the evaluation of pre-licensure Bachelor of Science in Nursing (BSN) students' application of EBP during clinical experiences. A secondary purpose of the study was to identify the type of factors, if any, that nursing faculty EBP experts report in undertaking the evaluation of BSN students' application of EBP during clinical experiences.

Background and Rationale

A low utilization of evidence in professional nursing practice is related, in part, to the lag of undergraduate educational institutions' preparation of students as necessary (Forsman, Gustavsson, Ehrenberg, Rudman, & Wallin, 2009). The complexity of evidence transition, from education to practice and a direction of how to best support EBP, requires further exploration in both nursing theory and clinical educational settings. Where more emphasis is placed on procedural tasks by clinical faculty, there is a lack of formal knowledge about the nurse's role in EBP (Ritchie, Evans, & Matthews, 2010). Adding to this complexity is a continued undergraduate perception that the study of research and EBP are perplexing and dull, thus contributing to negative attitudes, anxiety, and stressors (Burrows & Baillie 1997; Celia & Falkenstein, 2007).

Leaders in nursing and multiple professional organizations have continued to debate the definition of EBP in nursing practice (Nolan, 2005). However, most recent literature in nursing

does reveal a pattern in expectation and application. This pattern encompasses an evidence-based approach in nursing practice for the integration of best available evidence, clinical expertise, and respect for patient values (Benner, Tanner, & Chesla 2009; Doumit, Gattellari, Grimshaw, & O'Brien, 2010; Finkelman & Kenner, 2012; Fineout-Overholt & Johnston, 2006). The "employment" of EBP through the *Institute of Medicine Five Core Competencies* is diagramed by Finkelman and entitled "Where Does Content Begin?" (2012, p. 84). See Figure1.1.

IOM Five Core Competencies: Where Does Content Belong?

Figure 1.1.The model describes where educational content is best integrated in a nursing program curriculum based on the overarching IOM five core competencies. From *Teaching IOM: Implications of the institute of medicine reports for nursing education (p.84),* by A. Finkelman and C. Kenner, 2012, Silver Spring, MA: American Nurses Association. Copyright 2012 by Anita Finkelman. Reprinted with permission (see Appendix A).

The model shown in Figure 1.1 provides an overview of how competencies, including EBP competencies, are best integrated into nursing program curricula. The "Employment of

EBP" section connects EBP content with practice (Finkelman & Kenner, 2012, p.84). Further specified is content within EBP employment, comprising the need for a "nursing EBP definition, an EBP relationship to research, the available categories of peer reviewed evidence, variations in EBP models, statistical foundation, an EBP relationship to policy, evidence-based management, and the appropriate identification, retrieving of, and reviewing of research literature" (Finkelman & Kenner, 2012, p. 84).

The gap from theory to practice, as well as EBP skills required for newly graduated Registered Nurses (RNs,) is largely unexplored (Forsman, et al., 2009). With the overall goal being safe, quality care as owed to the public, it has become "crystal clear" that the practice of nursing can no longer be based on tradition, but on evidence (Russell-Babin, 2009, p.32). There is minimal nursing literature on how to best teach and evaluate skills required for EBP (Steurer, 2010). When research literature is located, it mainly involves academic nurse educators rather than educators working with students in clinical settings. Finding current studies that measure the impact of clinical nurse educators' utilization of research is a challenge (Estabrooks, Kenny, Adewale, Cummings, & Mallidou, 2007).

Problem Statements

The problem statements for the research study were:

1) Core evaluation criteria for Bachelor of Science in Nursing students' application of evidence-based practice during clinical experiences have not been established.

2) There is a limited understanding of what type of factors, if any, are reported by nursing faculty evidence-based practice experts when undertaking the evaluation of Bachelor of Science in Nursing students' application of evidence-based practice during clinical experiences.

Research Questions

The questions for the research study included:

1) What are core evaluation criteria that nursing faculty evidence-based practice experts identify for evaluation of Bachelor of Science in Nursing students' application of evidence-based practice during clinical experiences?

2) What type of factors, if any, do nursing faculty evidence-based practice experts report in their undertaking of evaluation in Bachelor of Science in Nursing students' application of evidence-based practice during clinical experiences?

Definition of Operational Terms

The following operational definitions were used in the research study:

Bachelor of Science in Nursing Education

Bachelor of Science Nursing programs are accredited by either the Accreditation Commission for Education in Nursing, Inc. (ACEN) or the Commission on Collegiate Nursing Education (CCNE) for traditional or accelerated BSN programs. Although students were not a part of the sample, it was imperative to define characteristics of the level of BSN student being evaluated by clinical faculty. The level of nursing students were those that had progressed to understanding the provision of nursing care in more complex situations. Students at least midlevel of their education have been more exposed to nursing and healthcare practice terminology (Emerson, 2007).

Clinical experiences, either following or concurrent to EBP and Research courses, add the needed working knowledge learners must have in order to have a more meaningful impact for the application of EBP (Morris & Faulk, 2012). At this point in the curriculum, students have already had a fundamental exposure to patient care in the clinical area. The learner is more

prepared and not as likely to become distracted when it comes time for advancement in alternative ways of thinking, intervening, and clinical questioning (Morris & Faulk, 2012).

Clinical Experience

Within a nursing educational environment, students learn from their interactions with individuals who are being cared for when having a clinical experience (Morris & Faulk, 2012). These individuals may include the patient, family member, and/or significant other. In this environment, patients being cared for by nursing students have various health concerns which occur throughout various stages of the life span (Caputi, 2010; Morris & Faulk, 2012).

Evidence-Based Practice Nursing Faculty Expert

Experts are considered valid and necessary to estimate the aspects of everyday work (Malloch & Porter-O'Grady, 2010). In evidence based processes, "extensive clinical practice" is considered valid (Malloch & Porter-O'Grady, 2010, p. 3). Nursing faculty who were considered EBP experts for this study must have taught in the clinical area for a minimum of four years. Faculty that were no longer teaching in the clinical area, but had done so for at least four years and within the past two years were also included as EBP experts. A maximum of two years, when last taught in the clinical setting, was considered necessary for recall purposes. The clinical faculty expert's workload included instructing students that had completed two clinical practicas and had taken or were concurrently taking basic nursing courses in EBP and/or Research. In addition, these experts were expected to have taught courses in EBP and/or Research and contributed to the EBP body of knowledge through presentation(s), publication(s), and/or consultation.

During clinical experiences, clinical faculty facilitate, oversee, and advance learners' practice and professional behaviors (Morris & Faulk, 2012). Clinical faculty align clinical

expectations which are appropriate for the course level within the curriculum. Faculty are responsible for selecting clinical settings based on the anticipated impetus needed for learning, as related to course outcomes and competencies. Learning outcomes, theory application, and competency expectations move to higher levels as students advance through the clinical curriculum (Morris & Faulk, 2012).

Core Evaluation Criteria

Core evaluation criteria must be clear, fair, relevant, and measurable (Benner, Tanner, & Chesla, 2009). Utilization of criteria is a formal and most consistently standard approach for gauging the student's successful performance of a learned skill which is required for practicing in the profession.

Factor

A factor is a feature, component, or aspect that can be identified by an expert in their field of study. A factor relates to a particular circumstance or set of circumstances. A factor may contribute to or impede results. A factor may impact or be influential either in a positive, negative, or sometimes neutral way (Farlix, n.d.).

Clinical Framework for EBP Organizational Culture

The EBP framework , *EBP Paradigm Conceptual Framework: EBP Organizational Culture* (see Figure 1.2), displays a problem-solving approach in the delivery of care which involves the "best evidence from studies and client care data, along with clinician expertise and patient preferences and values" (Melnyk, Fineout-Overholt, Stillwell, & Williamson, 2009, p.50). In an EBP age, professional nursing has the societal responsibility of providing care that is regularly reviewed and validated. This framework is expected to yield "high quality patient

outcomes" in the end, through the process of regular practice review and validation (Melnyk et

al., 2009, p.50).
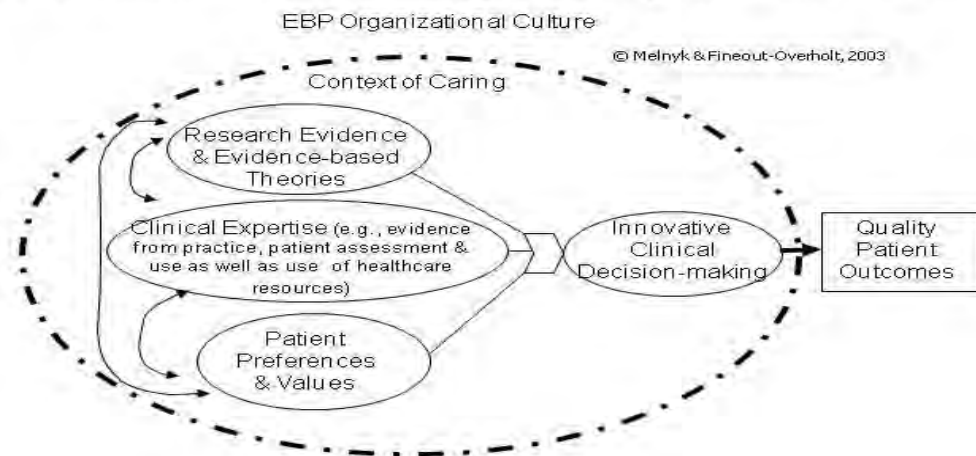
Figure 1.2. Framework depicting research evidence which evidence-based theories, clinical expertise, and patient preferences and values combined are required for clinical decision making in an EBP organizational culture. From "Evidence-based practice step by step: Igniting a spirit of inquiry: An essential foundation for evidence-based practice" by B. Mazurek Melnyk , E. Fineout-Overholt, S. Stillwell, & K. Williamson, 2009, *American Journal of Nursing, 109*(11), p. 50. Copyright 2003 by B. Melnyk & E. Fineout-Overholt. Reprinted with permission (see Appendix B).

Research Evidence

Nursing EBP involves the use of a systematic process for finding answers to everyday

clinical practice issues or problems (Melnyk, et al., 2009). The systematic process encompasses

creating a question to search reputable databases for relevant primary and secondary literature.

Secondary literature important to finding answers to everyday problems in nursing EBP includes clinical practice guidelines, systematic reviews, meta-analyses, and summative systems.

Progressive skills in information literacy and the ability to rapidly appraise literature to determine quantitative reliability, validity, and generalizability, or trustworthiness in qualitative studies are also important to EBP (Melnyk et al., 2010). In today's information readily- available world, the ability to determine knowledge needed, manage data, and use it appropriately is a required skill set in professional nursing (Malloch & Porter-O'Grady, 2010).

Clinical Expertise

Clinical expertise comes from foundational knowledge, advanced education, and clinical experience. Clinical experts have advanced skills in patient assessment, nursing diagnosis, planning, implementation, and evaluation through a culmination of both education and experience. Clinical expert nurses are distinguished from their peers by having an intuitive ability to efficiently make serious clinical decisions while incorporating the entire nature of a given situation (Benner, Tanner, & Chesla, 2009).

Clinical expertise also includes knowing when interprofessional collaboration is necessary. Expertise is located in peer-reviewed reports of research conducted. Health care disciplines outside of nursing should also be sought for their contributing expertise in relation to the clinical issue or problem. Examples of interprofessional experts outside of nursing may include but are not limited to physicians, pharmacists, occupational therapists, nutritionists, physical therapists, and social services.

Patient Preferences and Values

Patient preferences and values involve judgment by the individual patient and who they consider family in regard to available treatment options, health care provided, and health

outcomes. Unique aspects to be respected in the patient's judgment are their own personal experiences, values, and cultural preferences, their family and social interactions, and the health care options which exist for them. Also involved is the patient's consideration for potential benefit and harm (Cornelia, 2002; Hall & Roussel, 2014).

Innovative Clinical Decision Making

Nursing practice draws from various sources of data and multiple ways of knowing. Evidence-based practice conjugates internal and external factors on practice, stimulating critical thinking for the thoughtful application of such evidence to the care of individual patients, patient populations, or health care systems (Newhouse, Dearholt, Poe, Pugh, & White, 2007).

Clinical decision making includes the ability to use data from the most recent and reliable/trustworthy evidence, clinical expertise, and patient preferences and values (Melnyk et al., 2009). When this data is analyzed together, the most current best practice decisions are revealed. Thus, decision making is considered innovative, reasonable, and focused on problem-solving (Brown, 2012; Melnyk, Fineout-Overholt, Stillwell, & Williamson, 2010). High-quality patient outcomes were not explored in this study (Mazurek Melnyk, & Fineout-Overholt, 2012).

Conclusion

The concept of EBP in nursing education appears to be immense. Nursing educators, as leaders, are a substantial part of the equation for bringing nursing EBP into the clinical setting. Common competencies students are evaluated upon by clinical faculty are responsibility, accountability, professionalism, nursing process, safety, organization, prioritization, medication administration, following of standardized cares and care plans, procedural skills, communication, growth and development, delegation, interdisciplinary considerations, teamwork, and patient

education (AACN, 2008; Caputi, 2010). In today's evidence era, it is obvious that educational systems must have a means to measure students' capabilities in their application of EBP principles (Stevens, 2006). Research studies addressing the use of standard core evaluation criteria for BSN students' application of EBP in the clinical setting were not available and are needed to advance the practice of nursing science.

CHAPTER II: REVIEW OF RELATED LITERATURE

Historical Perspectives

National and Professional Mandates

In 2001, the Institute of Medicine (IOM), named EBP as one of the five core competencies for all health care professionals. Along with the IOM, the American Association of Colleges of Nursing (AACN) is an advocate for increasing the use of EBP (2008). The AACN Essentials of BSN includes the critical examination of research as a component of a BSN curriculum (2008). Position statements addressing the necessity to improve EBP clinical competence, at all levels of nursing practice, have been given by The National League of Nursing (NLN) in 2007 and the AACN (2008). These professional organizations have called for nursing education reform and for the development of specific EBP competencies in program curriculum (AACN, 2008; NLN, 2007).

Behind these mandates are reports, establishing a message to health care professions and the public, that 30%-40% of clients cared for in the United States do not receive health care treatment that accords with research evidence (IOM, 2001). As well, 20% receive care that is not needed or is potentially harmful (Doumit, et al., 2009). The 2001 IOM report concluded that hospital errors alone are responsible for 44,000– 98,000 fatalities each year. At the time of the report, hospital errors were related to the frequency of deaths occurring in highway accidents and life lost to breast cancer and Acquired Immune Deficiency Syndrome (AIDS) (Sammer, Lykens, Singh, Mains, & Lackan, 2010). Almost a decade later, data indicates that only 55% of adult clients receive recommended care for prevention of their acute or chronic conditions (Varnell, Hass, Duke, & Hudson, 2008).

According to AACN, BSN programs have a significant impact on the competence of practicing nurses (2008). The autonomy of an entry- level nurse continues to climb. Educational systems play a critical role in preparing nurses for this ever demanding field. Program curricula are accountable, as indicated by a directive by the IOM (2003), AACN (2008), and National League for Nursing Accrediting Commission (NLNAC) (2008), for adequately preparing and providing the public with knowledgeable and competent entry-level nurses who are equipped to participate in EBP for the positive progression of patient outcomes. The AACN also expects BSN education programs to produce graduates who are ready to identify practice issues where application of evidence is utilized for the improvement of patient outcomes (2008). Educational objectives have been set forth together by the Robert Wood Johnson Foundation (RWJF) and the IOM initiative for the call to "respond to the need to assess and transform the nursing profession" (IOM, 2010, p. 1). The committee developed four key areas to be addressed, the second of which identifies a need for higher education and competency levels in nursing.

> To ensure the delivery of safe, patient-centered care across settings, the
> nursing education system must be improved. Patient needs have become
> more complicated and nurses need to attain requisite competencies to
> deliver high-quality care. These competencies include leadership, health
> policy, system improvement, research, evidence-based practice, and
> teamwork and collaboration, as well as competency in specific content
> areas including community and public health and geriatrics. IOM, 2010, p. 2

Bachelor degree nursing programs have a moral imperative to teach, and in addition, expect student competence in the use of EBP in clinical practice. Implication to practice in previous research advises educators to teach the components of Information Literacy (IL) and

nursing EBP on repeated occasions (Breivik, 2000). A decade ago, work sessions for the Helene Fuld Leadership Initiative in Nursing Education (LINE) impacted BSN program outcomes (Bellack, Morjikian, Barger, Stachota, Fitzmaurice, Lee,… O'Neil, 2001). Themes applied to clinical nursing programs as a result included: 1) creation of leadership competencies to "bridge the gap" between curriculum and the actual world of practice; 2) the use of clinical practice settings where teaching outcomes are measured; 3) clinical practice setting flexibility which permits a responsiveness to environmental changes; 4) clinical faculty work toward the removal of barriers that prohibit the need to respond to changes in the practice environment; 5) clinical learning experiences that progressively develop; and 6) the competency level to which students are expected to be held accountable in subsequent clinical courses is clearly communicated within the curriculum (Bellack et al., 2001, p. 30).

Evidence-Based Practice Barriers

Professional Practice Barriers to EBP

It is a matter of concern that scientific nursing studies continue to demonstrate nursing clinicians' reliance on traditional and personal clinical experiences rather than research evidence (Doumit, et al., 2009; Egerod & Hansen, 2005). In a stratified random sample of Registered Nurses working in clinical settings across the United States, respondents were found to have more confidence in asking colleagues or peers about health care practices as opposed to searching databases and critiquing research reports for answers (Pierce, Pravikoff, & Tanner, 2005). The nurses were found to most often use databases located on the Internet or World Wide Web rather than peer-reviewed reports, such as the Cumulative Index to Nursing and Allied Health Literature (CINAHL) (Pierce, Pravikoff, & Tanner, 2005). Peer-reviewed databases

which are free for public access, such as PubMed, were also found to have significantly low utilization (Pierce, Pravikoff, & Tanner, 2005).

Descriptive studies have articulated barriers for the underutilization of evidence in practice, for both experienced nurses and new graduate nurses. These barriers include insufficient time, limited resource availability, and difficulty in understanding and judging the quality of research (Gerrish, Ashworth, Lacey & Bailey, 2008). Understanding the strength of evidence and the associating rigor with specific research designs is not well understood by practicing RN's (Jones, 2010). A mere 36% of nurses in middle management self-reported being offered an introductory course in EBP. Bedside RN clinicians were at a significantly lower percentage, with only 3% ($p = 0.042$) being offered an EBP course (Waters, Crisp, Rychetnik & Barratt, 2009).

Educational Practice Barriers to EBP

Review of Literature (ROL) illustrates that nurses must be aware of definition of evidence and understand what constitutes evidence for its placement into practice (Scott & McSherry, 2008). Quantitative research reveals that basic and even advanced curricula are not instilling the fundamentals of EBP and research into education (Forsman, et al., 2009). The application of EBP requires collaboration across program curricula (Halcomb & Peters, 2009). A significant hesitance exists among clinical faculty to directly incorporate updated EBP and research principles into their teaching. A notable number of clinical faculty are unable to find the time and equally are uncomfortable with the suggestion of embedding EBP into their practice; therefore its value is not apparent to students (Halcomb & Peters, 2009).

An additional tension for curriculum emphasis of EBP is the frequent lack of a culture supportive of EBP. This is often related to heavy teaching workloads for faculty where it is

viewed as problematic to add supplemental learning objectives to current clinical curricula (Beatriz & Pei-Fen, 2005). Barriers are also manifested by the shortage of academic EBP role models who are key contributors in the development of EBP curriculum threads (Beatriz & Pei-Fen, 2005; Egerod &Hansen, 2005).

Generational Barriers to EBP

A majority of undergraduate learners in today's academic setting are members of the millennial generation. The millennials are those born after 1982, a generation unconcerned with validity of the evidence they use. Rooted in technology and immediacy, this generation overall has a sporadic form of finding evidence (Taylor, 2012; Schams & Keunnen, 2012). With fingertip access, there appears to be little concern about the quality of information found. First year college students of this generation indicate that they view finding information or evidence to be a product, not a practice or procedure (Gross & Latham, 2009). The generation tends to search for literature at a shallow level, typically reading one to two pages, followed with a rapid judgment related to the significance (Taylor, 2012).

Components of EBP Student Evaluation

Building an EBP Culture in the Clinical Setting

The relevance of nursing EBP must be a required component of baccalaureate education early in the curriculum, so that nursing students' inquiry for knowledge becomes self-directed and independent (Profetto-McGrath, 2005). A concrete understanding of how to best evaluate a student's application of EBP is imperative for the engagement of learning to actually occur (Bartels, 2007). It is important to develop a culture in which nurses feel empowered to engage in activities supporting EBP (Gerrish, Ashworth, & Bailey, 2008). Adult learners in an EBP culture

must gain skills for "analyzing, applying standards, discriminating, seeking information, clinical reasoning, predicting, and transforming knowledge" (Fesler-Birch, 2005; Distler, 2007, p.56).

Clinical Evaluation

Student clinical practice is supervised by faculty who are prepared to evaluate skill sets and the performance of clinical reasoning corresponding to students' current level in the nursing program (Beatriz & Pei-Fen, 2005). Comprehensive and intelligible guides are needed for faculty evaluation of student nursing EBP application in the clinical setting (Ewin & Hayden-Miles, 2011; Scheckel, 2009). Where application competencies are required, nursing practice moves toward a more scientific model (Beatriz & Pei-Fen, 2005).

Existing Evaluation Tools for Student Application of EBP into Clinical Practice

Nursing researchers have used existing instruments for assessing nurses' attitudes and beliefs toward the use of EBP extensively, as compared to instruments designed for measuring clinical competence. Existing instruments showing reliability and validity in measuring participant perceptions include the Icelandic-EBP Beliefs Scale© (I-EBP Beliefs Scale), Information Literacy for Evidence Based Nursing Practice © (ILNP), and Evidence-based Practice Beliefs Scale © (Thorsteinsson, 2012). The "first national competencies for evidence-based practice in nursing" were developed in 2006 (Stevens, p. 1). These competencies may be purchased through the Academic Center for Evidence-Based Practice (ACE) ™ and include "basic, advanced, and doctoral levels of nursing and nursing education" (Stevens, 2006, p.1).

Johns Hopkins School of Nursing developed undergraduate nursing competencies for EBP focused on project quality and educational improvement work (Newhouse et al., 2007). A collaborative effort through the pairing of nursing students with an RN preceptor incorporates the evaluation of these student EBP competencies. A researchable practice problem is identified

by the nurse preceptor. The course project requires utilization of the objectives set forth by the

Johns Hopkins Nursing (JHN) EBP model (Newhouse et al., 2007). The JHN EBP model is

primarily a leadership format for developing and maintaining nursing skill sets in Magnet status

organizations. In the case where preceptors are not knowledgeable of or do not see the value

research evidence plays, the planned student-practitioner partnership will not accomplish the end

result of undergraduate students with competencies to apply EBP in a work settings (Pierce, et

al., 2005).

A Robert Woods Johnson grant funding the formation of The Quality and Safety

Education for Nurses © (QSEN) recommends EBP competencies utilizing the Institute of

Medicine's (IOMs) definitions on quality and safety. A QSEN professional commission has

steered EBP competencies toward knowledge, skill, and attitudes. QSEN provides an

unrestricted use of their published resources prepared for curricular development, including

development for the undergraduate curriculum (Sherwood, 2012; Spector, 2010). There are

differences in the undergraduate components offered by the previously presented competency

evaluation models. Table 2.1 provides a contrast and comparison of Academic Center for

Evidence-Based Practice Star Model (ACEStar), JHN EBP, and QSEN EBP competencies.

	ACEStar (Ready Inventory)	QSEN	Johns Hopkins (PET)
Competency			
Composition of answerable practice question	X	X	X
Selecting Evidence Resources	X		X
Appraising evidence	X		X
Critical Thinking		X	X
Translation	X	X	X
Recommend to Nurse Leaders	X		X
Clinical Expertise			X
Patient Values			X
Apply Evidence	X		
Re-evaluate for areas of improvement: Knowledge	X		
Patient centered plan of care / inter-disciplinary perspectives: Skills		X	
Value of collaboration: Attitude		X	

Table 2.1 *Contrast and Comparison of ACESTAR, QSEN EBP, and JHN EBP Competencies*

There are three reliable and validated EBP assessment tools utilized for advanced level healthcare practitioners. The Berlin and Fresno instruments assess all aspects of Evidence-Based Medicine (EBM) competencies (Dragan, 2009). The Occupational Therapy discipline uses the Fresno instrument to assess clinical competency. However, the appropriateness of other healthcare disciplines utilizing tools purposely validated for medicine is unclear (Dragon, 2009). The Fresno instrument which has been utilized in medicine, nursing, and health sciences is a more comprehensive tool as compared to the Berlin (Ilic, 2009). The Berlin and Fresno instruments focus on "assessing EBP competency in medical students; therefore neither can be used for assessing EBP competency across different health disciplines" unless they are validated to do so (Dragon, 2009, p. 65).

A third instrument found in the literature is the Objective Structured Clinical Exam (OSCE). This instrument also has demonstrated reliability and validity and assesses for EBP knowledge, clinical competency, communication, and reasoning skills in medicine (Ilac, 2009).

The OSCE has been adopted in healthcare professions such as dentistry, advanced practice nursing, midwifery, and pharmacology. The advanced level of expected achievement with these previously shared instruments would be inappropriate to use in a basic registered nurse program.

Processes of EBP in Practice

Order of Approach

Research studies conclude that EBP practices must be viewed in an orderly approach (Gerrish et al., 2008; Melnyk, et al., 2009). A structured clinical practicum produces conditions where the practice of theory content becomes an active learning experience (McAllister, Tower, & Walker, 2007). The students' knowledge of clinical criteria for which they will be evaluated and their preparation before the actual assigned clinical experience allow for enhanced critical thinking, practice of clinical judgment, identification of information correlating to the patient's condition, and proper articulation of the information (Morris & Faulk, 2012). Clinical educational strategies that enhance student transformation of theory to practice have been found to have a practical relevance for nursing education and are a way to motivate the learner (McAllister et al., 2006).

Clinical faculty select practical experiences for their students so that clinical competencies may be met. A careful curricular approach, appropriate for the level of learner, allows for an opportunity of achieving the intended outcomes and competencies (Scheckel, 2009). Students in clinical practica "listen, interact, observe, think, and do so in a manner that highlights the knowledge, attitudes, competencies, and skills to be acquired" (Scheckel, 2009, p. 154).

There are several opportunities for student clinical application of EBP in prelicensure undergraduate courses for which clinical evaluation of student learning occurs. Opportunities include using EBP as part of understanding a treatment regimen or plan of care, clinical problem

solving, enhancing knowledge base, in practical student intern programs, or preceptor-student projects (Scheckel, 2009). Active approaches used in occupational therapy educational environments, where students are evaluated for clinical competence, include assigning systematic literature searches "for one hour per week" (Beatriz & Pei-Fen, 2005, p.5).

Quality Literature Searches for Evidence

The development of skills in reading and interpreting research are essential if nursing students are to become clinicians who engage in EBP. Examples of quality and peer reviewed databases where primary research reports are typically located include PubMed, Cumulative Index to Nursing and Allied Health (CINAHL), Medical Literature Analysis and Retrieval System Online (MEDLINE), National Library of Medicine (NLM), American Nurses Association (ANA), National League for Nursing (NLN), and Sigma Theta Tau International (STTI).

Also crucial to clinical EBP are pre-synthesized secondary searches: 1) clinical practice guidelines: 2) systematic reviews; and 3) meta-analysis studies (Beatriz & Pei-Fen, 2005; Fineout-Overholt, Melnyk, & Schultz, 2005; Masurek et al., 2009). These forms of evidence combine multiple research findings into a unified whole to simplify and provide a trustworthy description of past research knowledge in various areas (Masurek et al., 2009). Secondary credible resources are found in the Cochrane database and informatics system databases like Joanna Briggs, Up-to-Date, or Turning Research Into Practice (TRIP) which are regularly peer-reviewed and updated by experts (Melnyk et al., 2009).

Competency Related Definitions in the Literature

Educational Assessment

An educational assessment is a process for measuring knowledge, skill sets, attitudes, and beliefs. Assessment involves an official valuation of an action to determine quality. Assessment procedures are used to gauge student learning and should be varied depending on the content and the teaching strategies used (Morris & Faulk, 2012).

Clinical Question

A well formatted EBP question assists the learner in a scholarly search and sorting of evidence. The PICO clinical methodology involves the ability of the student to formulate a researchable question containing: 1) the problem, patient, and/or population; 2) the intervention or exposure; 3) the comparison intervention or exposure when relevant; 4) the outcome(s) of interest; and 5) reflection and articulation of evidence findings by the student, as an advocate for patient care and patient outcomes (Beatriz & Pei-Fen, 2005; Fineout-Overholt, Melnyk, & Schultz, 2005; Masurek Melnyk B., Fineout-Overholt, E., Stillwell, S., Williamson, K., 2009).

Clinical Judgment

Evidence-based practice is a process, as defined by the literature, that allows clinicians to become more competent problem solvers. The learner is an active constructor of knowledge, and the faculty supports the learner's efforts and encourages them to reflect on the process (Bruner, 1996).

Clinical Reasoning

Clinical reasoning is a practice-based form of reasoning that requires a background of scientific and technological research-based knowledge about general cases. It also requires

practical ability to discern the relevance of the evidence behind general scientific and technical

knowledge and how it applies to a particular patient (Benner, 2009; Hughes, 2008).

Collaboration

The Latin meaning of collaboration is to "work together" (Alberto & Hearth, 2009, p.1).

Collaboration involves a mutual partnership representing common goals in which members are

obligated to contribute in the planning and decision making. Mattessich, Murray-Close, and

Monsey described collaboration as "a mutually beneficial relationship that is well-defined and

entered into by more than one organization or individual to achieve mutual goals (2001, p.24).

Adding even more definition to the term Henneman, Lee, and Cohen advised that collaboration

"is a process by which members of various disciplines (or agencies) share their expertise" (1995,

p. 105). Collaborative efforts therefore scrutinize practices critically, seeking better options in

the effort of bringing forth improvement (Alberto & Hearth, 2009).

Competence

Competence is a condition where an individual meets the qualities of a particular

performance in accordance with a specific standard. It entails measuring the student's precision

of previous and new knowledge, skills, and attitudes, which are essential for safe and quality

client care (National League for Nursing, 2010). Competence indicates sufficiency of

knowledge and skills that enable the student to act in a wide variety of situations. Because each

level of responsibility has its own requirements, competency from basic to more advanced occurs

at different periods of time in a program curriculum (Morris & Faulk, 2012).

Critical Appraisal

Critical appraisal determines the actual rigor or quality of the research design. This

includes the level of evidence, sample size, internal validity, external validity, statistical

significance, and clinical significance (Abreu & Chang, 2002; Hall & Roussel, 2014). Nursing is a discipline that, in addition to considering the rigor of research, values a combination of quantitative descriptive and qualitative methodology (Kaplan Jacobs, Rosenfeld, & Haber, 2003). In the application of best evidence, using a consistent appraisal system is a key component for clinical decision making. A basic appraisal of research is necessary to make distinctions on the strengths and limitations of the research study being evaluated (Hall & Roussel, 2014).

Critical Thinking

Critical thinking is the ability to actively intellectualize, relate, apply, investigate, synthesize, and evaluate information (Finkelman & Kenner, 2012). Profetto-McGrath ascserts that critical thinking is vital to evidence-based nursing practice (2005). Evidence-based practice contributes positively to patient outcomes across the continuum of care and its relevance to nursing should be a required component of baccalaureate education early on so that students become self-directed and independent learners (Profetto-McGrath, 2005).

Database Search

Searching and sorting the current best evidence is a time consuming process (Abreu & Chang, 2002). Information literacy skills are utilized in everyday practice; therefore decision making support systems must be accessed successfully by the learner (Finkelman & Kenner, 2012). A Boolean formatted key word search is best suited for finding related research articles for the health care professional. All English-language publications are indexed and examples of reputable databases which require subscription through a college library include Cumulative Index to Nursing and Allied Health (CINAHL), MEDLINE, and the U.S. National Library of Medicine (NLM). A critical international resource for locating quality systematic reviews is the

The Cochrane Collaboration (Polit & Tatano Beck (2008). A free to the public reputable database is PubMed.

Dissemination

Dissemination is the professional communication of clinical research evidence and the presentation of theoretical findings for the purpose of transitioning new knowledge at the direct point of patient care (Schmidt & Brown, 2012).

Evidence-Based Competence

Evidence-based practice competence can be generally described as a process that includes an array of realms comprising knowledge, abilities, and attitudes. Recently, an IOM directive for the evaluation of student nurses' performance in the clinical area has been updated to include the student's ability to synthesize evidence and communicate these findings to the clients they are caring for (Finkelman & Kenner, 2012). Students are expected to "combine evidence, knowledge about population outcomes, and patient preferences to individualize care" (Finkelman & Kenner, 2012, p.190).

An EBP approach necessitates diverse competencies, which involve the ability for formulating an intellectual question designed with key words to begin a search for related literature. Further systematic skills include searching multiple peer-reviewed literature databases for both primary and secondary resources, rapid critical appraisal of research, intraprofessional collaboration for expert judgment estimations, respecting the importance for inclusion of patient preferences and values, and the ability to communicate and transfer findings (Melnyk, et al., 2010). Breivik notes that faculty teaching EBP and IL skills necessary for BSN curricula must involve reinforcement through action to ensure student competency (2000).

Evidence Hierarchy

The hierarchy of evidence categorizes research study designs and methods by a Roman numeral grading method. Level I, the highest design, is also known as a Random Control Trial (RCT). Level II involves quasi-experimental designs comparing a group of subjects who receive the same intervention(s) before and after treatment. Level III are single subject designs that compare the changes a client group demonstrates over the course of treatment or intervention. Level IV includes descriptive research designs (DiCenso et al., 2000). The development of skills in reading and interpreting research is essential if nursing students are to become clinicians who engage in nursing EBP (Fineout-Overholt & Johnston 2005).

Educational Objectives

Benjamin Bloom and his colleagues published a taxonomy of learner behaviors which has been adopted by the education of health professions. This taxonomy has influenced curriculum development and driven the movement toward competency based instruction (Bloom & Krathwolh, 1956). Educational objectives are also called learning objectives, outcomes, terminal objectives, performance objectives, aims, competencies, and behavioral objectives. Whichever term is chosen to describe the growth of student learning, it must be precise, concrete, and measurable (Morris & Faulk, 2012).

Information Literacy

An unsystematic search for knowledge in both print and online information will most often lack creditability (Taylor, 2012). Navigating research databases is complex; therefore finding the best clinical evidence has become a necessary learned skill (Hallyburton & St. John, 2010). Evidence-Based Practice provides a method for "filtering the literature and its evidence to determine appropriate clinical application" (Kaplan Jacobs et al., 2003, p. 320). The

American Library Association (ALA) defines information literacy as "the understanding and set of abilities enabling individuals to recognize when information is needed and having the capacity to locate, evaluate, and effectively use the needed information" (Saranto & Hovenga, 2004, p. 504).

Interprofessional

There are several terms that have evolved from the term collaboration, such as interdisciplinary, multidisciplinary, transdisciplinary, and interprofessional all of which have similarities, but are different by definition. Interprofessionalism refers to practitioners learning together to promote collaborative practice (Barr, 2002).

Learning Goals

Goals are broadly set. Goals are met by having specific, measureable, attainable, relevant, and time-bound objectives. Goals must be attainable within a time frame. If goals do not cause the student to learn because of their simplicity, no growth in learning will occur (Morris & Faulk, 2012).

Learning Outcomes

Learning outcomes are student-centered and focus on empirical and qualitative measurements of student performance. The term itself does not specify or require any particular style of teaching or learning. Instead, it requires the student to demonstrate that they have learned the required skill and/or content (Morris & Faulk, 2012). Targeted nursing EBP learning outcomes include: 1) formulation of a focused clinical question related to a patient population or problem; 2) skills for searching for evidence within reputable databases; 3) rapid critical appraisal of the best available research; 4) collaboration; 5) professionally articulating and

disseminating evidence through student led discussions and reflections; and 6) presentation of

evidence findings with staff for the matter of patient advocacy (Melnyk et al., 2009).

Rapid Critical Appraisal

A Rapid Critical Appraisal (RCA) is completed with the aid of a checklist specific to the

research design of the study being evaluated. A rapid critical appraisal of both primary research

and secondary research is essential to determine reliability and validity (DiCenso et al., 2000;

Finkelman & Kenner, 2012; Guyatt & Rennie, 2002).

Skill

A skill is an ability acquired through deliberate, systematic, and sustained effort to

efficiently and adaptively carry out complex activities or job functions involving ideas (cognitive

skills), things (technical skills), and/or people (interpersonal skills) (Morris & Faulk, 2012).

Skill Development

A tangible, acute care clinical setting provides opportunities for learners to reflect and

acquire knowledge which cannot be attained by other settings in the curriculum such as the

traditional classroom (Morris & Faulk 2012).

Conceptual Framework

Evidence-Based Practice

Evidence-based practice is a process, as defined by the literature, that allows clinicians to

become more competent problem solvers. Formulating a researchable question must contain: 1)

the problem, patient, population; 2) the intervention or exposure; 3) the comparison intervention

or exposure when relevant; and 4) the outcome(s) of interest (Beatriz & Pei-Fen, 2005; Melnyk

& Fineout-Overholt, 2005; Masurek Melnyk et al., 2009).

Everyday practice concerns are a reason for formulating a question to search literature for evidence. For the scholarly search and sorting of evidence, a systematic and specific search must be conducted (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). Sorting pertains to ranking the evidence. The questions may be any topic related to "1) therapy and prevention, 2) etiology and harm, 3) prognosis, 4) diagnosis, and 5) economic analysis" (Abreu & Chang, 2002, p. 2). In addition, "knowledge gaps in clinical and community practice, as well as specific client needs" may lead to the formulation of a question (Abreu & Chang, 2002, p. 2). There are four parts to a well-designed question referred to as PICO: 1) the problem or the patient population, 2) the intervention, 3) the comparison, and 4) the outcome of interest (Mazurek Melnyk & Fineout-Overholt, 2012; McKibbon, Eady, & Marks, 1999).

Student Learning of Evidence-Based Practice

Crucial to EBP is the most current literature found in both primary and secondary literature sources. Relying completely on textbooks, tradition, and other healthcare disciplines outside of nursing for clinical practice is inadequate (Melnyk & Fineout-Overholt, 2005). Suggestions for EBP curriculum redevelopment encompasses: 1) interdisciplinary collaboration; 2) focus on providing EBP; 3) quality improvement measures; and 4) information literacy/utilization of informatics (Booth, 2006). Clinical inquiry begins in the clinical practice environment and EBP includes: 1) the examination of completed research studies (not a research project); 2) a complete review and recommendation process (not simply supporting national EBP projects); and 3) a critical appraisal of research coupled with the context of the organization, perspectives of patients, and perspectives of clinicians (not having research articles as references for policies) (Russell-Babin, 2009).

Theoretical Context

Framework for Evidence into Practice

In an EBP age, professional nursing has the societal responsibility to provide care that is regularly reviewed and validated. Evidence-based practice theory requires use of concepts in everyday practice; thus EBP frameworks are action oriented. Delivery of theoretical context must concentrate on those areas where there is a robust degree of influence. In nursing education, EBP context is noted by the integration of a "systematically derived research-based knowledge" where knowledge is "drawn from experience and interpretation of the needs and perspectives" in each student-patient "clinical encounter" (Craig & Smyth, 2012, p.7).

Summary

There is a considerable amount of concern in the literature related to the lack of entry-level nurses' preparedness for the required EBP knowledge needed to carry out patient care. Classroom delivered EBP theory cannot stand alone, but must be in conjunction with real-time clinical practice environments (Mennenga, 2005; Singleton & Levin 2008). Nurses need to be aware of related terminology and core principles, know what constitutes evidence, and understand how evidence-based nursing is put into practice (Scott & McSherry, 2008). In the Review of Literature (ROL), there is an absense of theory components directly involving clinical faculty evaluation of students' application of nursing EBP while directly caring for patients. Clinical teaching strategies must require students to pose a clinical question, seek appropriate databases for answers in the evidence, and then base their clinical decisions on the best available evidence, expertise, and patient preference (Singleton, Truglio-Londrigan, & Allan, 2006).

On a daily basis, clinical decision-making centers on the nurse's ability to assess, diagnose, implement, interpret, evaluate, and use information effectively, efficiently, and

ethically (AACN, 2008). In acute-care or long-term care, and in ambulatory-care settings,

clients along with their families expect to receive healthcare based on up-to-date scientific

findings (Gliklich & Dreyer, 2010). Evaluation of clinical skills validating nursing students'

learning and retaining of EBP knowledge will impact future patient outcomes by ultimately

improving safety and quality in nursing care through the assimilation of current evidence.

A lack of education models exists for teaching clinical EBP in BSN programs. This is not

uncommon in colleges and health care organizations (Beatriz & Pei-Fen, 2005). As a

consequence, both faculty and student motivation lags when it comes to identifying specific

practice problems or concerns, creating a well-structured EBP search question, utilizing

information literacy skills, validating and assimilating evidence, and giving consideration for

patient values. Therefore the process never becomes fully embedded for making best practice

decisions. Clinical curriculum must focus on solidifying students' overall EBP competencies in

a collaborative setting where multiple opportunities exist to practice these skills in a safe

environment (Bellack et al., 2001).

The demonstration of EBP competencies is multifactorial; "therefore no single

assessment method can adequately provide all of the necessary data to assess complete EBP

competence" (Ilac, 2009, p. 66). Based on the review of literature for this research study, further

research specific for studying how EBP competency should be evaluated in the clinical setting

for pre-licensure BSN students was found to be a need. Further use of existing and valid

instruments to measure student nurse clinical EBP application will facilitate a comparison in

future research findings (Newhouse, 2010).

CHAPTER III: METHODS AND PROCEDCURES

Introduction

The method used for a research study is dependent upon the type of research question(s) being asked. The research design must be the most accurate method for answering the given research question(s). The Delphi method, a basic research method known for forecasting standardization, was utilized in this study (Stitt-Gohdes & Crews, 2004). Delphi mixed method designs are appropriate when the approach requires using several available tools (Salkind, 2012). Delphi is a protocol driven process, which concludes an expert perspective for a problem (Adler & Ziglio, 1996). Both quantitative tools and qualitative analysis were used in this study and are discussed in detail.

Specific to the Delphi *structural methodology*, participants responded anonymously through a rounding format. This format was chosen as participants are expected to respond more openly, giving their individualized thoughts on associations and discernments (Stitt-Gohdes & Crews, 2004). The method has been publicized as useful process for communication among experts which facilitates a foundation and establishment for expertise group judgment (Stitt-Gohdes & Crews, 2004). In the end, the structural modeling offered a tool that may be utilized for the whole or system.

Research Design

Delphi methodology, as diagramed in Figure 3.1, is considered both a flexible and an acceptable research method for gathering data from respondents within their area of expertise (Hsu & Sanford, 2007). The strength of the Delphi method lies within the researchers processing of communication among experts in the field (Powell, 2003; Stitt-Gohdes & Crews, 2004). The foci for utilizing a three round Delphi was to answer the specific research questions as posed for

the attainment of knowledge and its application to the research problem (Salkind, 2012).   The

major aim of the method used was , by expert consensus, to define core EBP evaluation criteria

for BSN nursing students.

Typical Delphi Process
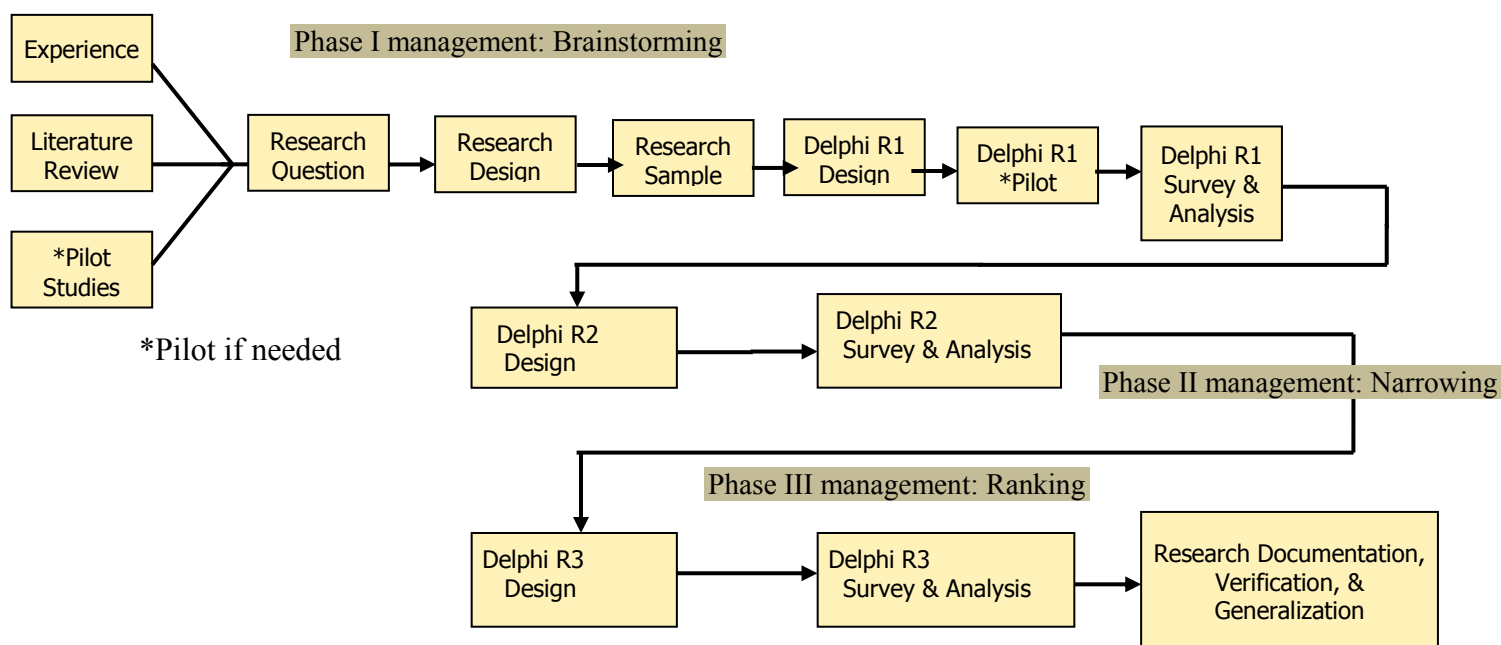
Figure 3.1. The graduate research Delphi model diagram describes steps before, during, and after the Delphi rounds. From The Delphi method for graduate research (p.3) by G. Skulmoski, F. Hartman, and J. Krahn, 2007, *Journal of Information Technology*, 6, 1-20. Reprinted with permission (see Appendix C).

The Delphi rounds were managed in three phases to support the overall communication

structure (Okoli & Pawlowski, 2004).

Phase I Management: Brainstorming

Phase one consisted of the researcher's own teaching experience and interest in the

application of EBP in the clinical setting, personal bracketing (see Appendix D), an extensive

review of literature, and subsequent concept mapping. Careful consideration was given to both

the researchers' and participants' time. Pilot studies are typically completed if concepts are not

defined in the literature (Skulmoski et al., 2007). A pilot study was not conducted as part of

phase one in this study as concepts in the literature were current, relevant, and clearly defined.

During this phase, the research questions were developed and nonparametric tools for statistical

measurement were established with statistician consultation. Additionally in this phase, the

design of the sample plan was determined which ensues with the demographic data results of the

study reported.

Identification of Sample

Purposive sampling was utilized which is compatible with the breadth of the investigation

required for the research questions under examination, where convening with experts having had

a number of experiences could be drawn from (Creswell, 2009). In alignment with the classic

1975 Delphi guideline from Delbecq, Van de Ven, and Gustafson on recruiting participants, a

multiple-step approach was utilized to identify the sample of experts: Step1) identify relevant

organizations and disciplines; Step 2) identify individual participants with relevant expertise;

Step 3) contact the experts listed and ask contacts to nominate other experts; Step 4) review of

expert qualifications; and Step 5) invite experts to participate considering the level of their

expertise and stop soliciting for participation once the determined sample size is reached

(Skulmoski, Hartman, & Krahn, 2007).

Identification of Relevant Organizations and Disciplines

The accessible population was gained through information-rich professional gatekeepers

(Creswell, 2009; Patton, 2002) from: 1) BSN program Nursing Deans where nursing faculty

members had been recognized for the establishment of an EBP grounded curriculum; 2)

consortium leaders where nursing faculty were known to have made EBP contributions through

presentations, posters, publications, or consultation; and 3) directors of professional nursing

organizations who have been involved with building EBP in nursing curricula (see Appendix E).

Contact information for all of these professionals was obtained via information directory

websites.

Identification of Individual Participants with Relevant Expertise

Sample selection was driven from a population of those who were experts on the research

issues being explored. A subset of the population was selected intentionally for this

representation (EPA, 2007). The following participant inclusion criteria were established for the

protection of human rights and the expertise required:

1. Age of 19 years or older.

2. Nursing faculty currently teaching in the clinical setting for at least four years or if no longer

teaching in the clinical area, have done so within the last two years and were involved with

clinical teaching for at least four years.

3. Faculty must have experience teaching students in the clinical area at the level where students

are enrolled in or have previously had courses in Evidence-Based Practice and/or Research.

4. Faculty must have contributed to nursing education by either teaching an Evidence-Based

Practice (EBP) and/or Research course.

5. Faculty must have developed and disseminated findings on teaching EBP through either

presentation, poster board presentations, papers, peer reviewed publication, or consultation.

The sample for this study included 17 geographically dispersed EBP nursing faculty

experts who teach in pre-licensure clinical settings for BSN or BSN accelerated programs. All

participants were over the age of 19 years with an overall age range falling into the category of

35-64 years; with a mean age range of 45-54. Ages 35-44 represented 11.76% of the sample;

ages 45-54 represented 70.59%; and ages 55-64 represented 17.65%. The participants

representing a doctoral level of education were 52.94%, MSN 23.52%, and those with an MSN

currently enrolled in a doctoral program or doctoral candidate were 23.52% (see Table 3.1).

Demographic	f	%	x
Age			45-54
19-24	0	0.00	
25-34	0	0.00	
35-44	2	11.76	
45-54	12	70.59	
55-64	3	17.65	
65-74	0	0.00	
≥75	0	0.00	

Demographic	f	%
Doctoral Degree	9	52.94
MSN/enrolled in Doctoral	4	23.52
MSN	4	23.52

Demographic	f	%
Nebraska	5	29.40
Texas	3	17.65
Ohio	2	11.76
Alabama	1	5.88
California	1	5.88
Colorado	1	5.88
Florida	1	5.88
N. Carolina	1	5.88
Oregon	1	5.88
S. Dakota	1	5.88

Table 3.1 *Demographic Characteristics of the Sample: Age, Degree, and State*

All participants were female, of which 29.41% were from Nebraska; 17.64% from Texas;

11.77% from Ohio; and Alabama, California, Colorado, Florida, North Carolina, Oregon, and

South Dakota represented 5.88% of the participants. All states, except for two would be

considered Mid-western or Southern portions of the country. The more Northern and Eastern

states were the least represented in this sample.

Contact with Experts and Use of Snowball Sampling

An introductory e-mail message providing information on the research study was sent familiarizing the preceding individuals (deans, directors, and leaders) with this study's research plan and with participant inclusion criteria. These individuals were asked to forward, by e-mail, an attachment containing details of the study, including consent to potential participants they identified as meeting the inclusion criteria (see Appendix F). Information in the forwarded attachment also asked the potential participant to forward the research study information to other colleagues whom they might determine as meeting the inclusion criteria as well, therefore creating a snowball sample.

Review of Expert Qualifications

Representativeness was assessed on the qualities of the expert participants, rather than on numbers (Powell, 2003, p. 378). Participants were initially screened for meeting the inclusion criteria by deans, leaders, and directors. Further screening occurred by the potential participants themselves through their assessment of meeting the study's inclusion criteria and finally by the researcher examining demographic information provided by the participants.

All participants reported involvement in teaching EBP and/or nursing research theory content and had developed and disseminated findings on teaching EBP through either presentations, poster board presentations, papers, peer reviewed publication, or consultation (see Table 3.2).

Demographic	*f*	%
Teaching EBP and or Research	17	100
EBP Presentations	17	100
EBP Posters	15	88.24
EBP Papers	17	100
EBP/Research Publication	5	29.42
EBP Consulting	3	17.65

Table 3.2 *Demographic Characteristics of the Sample: EBP Expertise*

The mean number of years teaching theory in the classroom was 11.24 and the mean number of years teaching students in the clinical setting was 10.11. The number of participants teaching EBP theory from one to ten years were nine; 11-20 years were five; and 21-30 years were two. The number of participants teaching in the clinical setting three years was one; four to ten years were 11; 11-20 years were eight; and 21-30 years were zero. Those participants either having a doctoral degree or currently working toward a doctorate were 76.46% of the sample (see Table 3.3).

The typical program enrollment mean for BSN nursing students was 298.55 with a standard deviation of 11.31. The overall span of BSN enrollment was reported from 120 to 625, with a range of 505. Those participants teaching in either a private for profit or public educational institution were fairly equally represented at 41.17% and 58.58% respectfully (see Table 3.3).

Demographic	f	%	$\bar{x}$
Years Teaching EBP Theory			11.55
2	1	5.88	
5	1	5.88	
6	3	17.65	
8	2	11.76	
9	2	11.76	
11	2	11.76	
13	1	5.88	
14	1	5.88	
15	1	5.88	
19	1	5.88	
22	1	5.88	
27	1	5.88	

Demographic	f	%	x
Years Teaching Clinical			10.11
*3	1	5.88	
5	4	23.51	
7	1	5.88	
8	1	5.88	
9	1	5.88	
10	3	17.65	
11	1	5.88	
13	1	5.88	
14	1	5.88	
15	3	17.65	

Table 3.3 *Demographic Characteristics of the Sample: Years of Teaching EBP Theory and Years of Teaching Clinical*

*Note: one participant did not meet the full inclusion criteria for having taught 4 years in the clinical setting.

Invitation for Participation and Sample Size Reached

There is wide variation in the sample sizes used for Delphi studies, which is acceptable (Skulmosk, Hartman, & Krahn 2007). A guide for the number of participants varies according to the scope of the problem and resources that are available (Hasson, Keeny, & McKenna, 2000; Powell, 2003). A study having more participants increases the number of expert "judges" (Murphy et al., 1998, p.37). However, "there is little actual empirical evidence on the effect of the number of participants on the reliability or validity of consensus processes" (Murphy et al., 1998, p.37). Large sample sizes do not always produce any more valuable information as compared to a study balanced with consideration to time factors and resources (Salkind, 2012).

Published Delphi research methodology having similar processes to this research on average had sample sizes of 12-20. Such examples include Kresbach's 1998 study determining a set of learning outcomes for students in community and technical colleges. Bragulia, in 1994, completed research on understanding the knowledge, skills, and attitudes needed by

merchandising students for entry level executive positions. Rosenbaum, in 1985, identified what knowledge, skills, and experiences would be needed by college graduates for careers in telecommunications, and Silverman's research in 1981 involved the development of appropriate content and objectives for junior high school Death and Dying curricula (Skulmoski, Hartman, & Krahn 2007).

A homogeneous group, driven by inclusion criteria, was established in this study to provide a sufficient sample size "between ten to fifteen" participants (Skulmoski, Hartman, & Krahn 2007, p. 10). Skulmoski et al. warn that at a certain threshold, should managing the Delphi process and analyzing the data become too cumbersome, only marginal benefits will be yielded (2007). A reduction in participant error and an increase in decision quality emanates with smaller sample sizes.

It is not known why four of the original participants did not finish all three Delphi rounds. However, the initial Delphi round went out to participants during a period of time that is typically spring break and ended during what is most often a finals week period. It is plausible to assume that during these busy times, faculty may have been rushed to complete a round, and this may be a reason for their discontinuation. This may also be a reason for some responses having only a few or no additional comments.

Research Question One

The groundwork in phase one involved qualitative exploration, in which the experts were treated as individuals, not as a panel (Okoli & Pawlowski, 2004). Participants gave narrative responses to the researcher's exploratory broad semi-structured question (see Appendix G). This exploration was labeled *Round One* (R1), asking expert participants to list, in any order, significant elements, concepts, and processes that from their experience were critical for the

evaluation of students' application of EBP in the clinical setting. Through the 17 initial

participant responses, a list consisting of 101 core evaluation criteria elements, concepts, and

processes was recognized, thus creating a foundation and infrastructure for future Delphi rounds.

Phase II Management: Narrowing Down

In phase two the researcher unified the given terminology and counted duplicate

elements, concepts, and processes in order to create a consolidated list of 24 initial core

evaluation criteria as defined by participants. Survey Monkey © Gold Level ®, 2013 was used

to manage the data. An important goal for this phase was to communicate the consolidated

findings to the participants via *Round Two* (R2). From this point forward, the respondents were

treated as a panel. The consolidated elements were sent to the participants for validation. The

anonymous panel were adept at deliberating over the given core evaluation criteria and also

contributed clarifying information which correlated with the findings from R1. Following a

second request sent via e-mail for participation in R2, a total of 16 participants confirmed

consensus.

Largely the analysis of R1 involved the researcher's careful narrowing down of the 101

elements to an initial 24 core clinical criteria. Following this the participants were asked to sort

the initial 24 core clinical criteria into 'Definitely Keep', 'Probably Keep', or 'Do Not Keep'

classifications. Defining exactly what quantitative consensus is in Delphi methodology ranges

considerably. Recommendations in the literature span from a simple majority to that of 70%

approval (Polit & Tatano Beck, 2008). From the researcher's academic teaching experience, it is

challenging to add more content into the curriculum; therefore a 75% consensus for approval was

determined for this study.

Phase III Management: Ranking

A guide for the management of phase three was to retain the "ten" most highly ranked

elements (Okoli & Pawlowski, 2004, p.25; June Smith, statistician personal communication,

January 24, 2013). Participant instructions provided in R2 explained that the goal of *Round three*

(R3) would be to have a final list of 10 core evaluation criteria. Analysis ('Definitely Keep',

'Probably Keep', or 'Do Not Keep') narrowed the 24 core evaluation criteria to 11. In the final

Delphi R3 sent, participants as with each previous round were asked to provide feedback,

additions, or any clarifying information based on the researcher's analysis of R2.

Each of the 11 core evaluation criteria retained from R2 and in R3 were provided back to

the participants so that they could rank each criterion from most to least essential. Ranking of

each core evaluation criterion was therefore done by participant marking it as '1' for being the

most essential, a rating of '2' was important, but less essential criteria, and so forth. The core

evaluation criterion receiving the rank of '11' was the very least essential.

Research Question Two

Given a second exploratory question in phase one, R1, participants were asked to

articulate what type of factors, if any, occur when they undertake the evaluation of students'

application of EBP in the clinical area. This semi-structured question was purposefully asked in

an undirected manner as the researcher was interested in all factors positive, neutral, or negative.

During phase two, Delphi R2 participants' related their teaching experiences and factors

were further expanded upon, giving their meanings more depth. Data were extracted and

managed by using Microsoft Home & Office © Excel ®, 2013 spreadsheet for counting the

number of times similar words or word phrases were used by the participants. There were a total

of 66 narratives, and this data were further managed by using a coding system to highlight

categories for which the words and phrases fit. Coding assignments were given while similar words and/or word phrases were extracted. Initial categories recognized were: faculty, preceptors, time, classroom assignments, clinical assignments, expectation of students, culture, and competence. During this time, notes were written in the margins and coding occurred directly on the researcher's Excel® generated spread sheets and automated spread sheets provided by the Survey Monkey © Gold Level ®, 2013 computer program.

Category placement and development continued allowing for researcher reflection and confirmation of the organization of the categories (Creswell, 2009). During this process, the researcher did move certain participant phrases into different categories for a better fit. The researcher's field notes and documents, as described, served as audit trail information for auditing purposes (see Appendix H).

Ethical and Human Protection

The e-mail attachment deans, directors, and leaders forwarded to the potential participants provided clear information on the purpose of the study and outlined what participant involvement in the study destined. Consent information provided study design, data collection strategies, nature of the commitment required for the researcher and the participants, participant selection, potential benefits of the study, and the researcher's confidentiality pledge and procedure (see Appendix I).

Clearly conveyed to all participants was the opportunity to contribute as a volunteer in the study and if so desired at any point, to knowingly withdraw. All Delphi rounds were sent with a URL link which returned data anonymously. The researcher's telephone number and e-mail address were provided in the consent and with each round, should the participant have had questions about the study.

The risks and benefits of the study were clearly described within the consent written format. There were no participant risks other than normal everyday circumstance. Benefits included the provision of core evaluation criteria for BSN students' application of EBP during clinical experiences and an understanding of what type of factors, if any, were identified by nursing faculty EBP experts when undertaking the evaluation of BSN nursing students' application of EBP during clinical experiences.

Survey Monkey ® Gold level © 2013 automatically protected participant anonymity by using a numbered coding system. Therefore, participant names were never and can never be associated with returned rounds. All quantitative and qualitative data from each round were anonymously received and stored in password protected data collection storage formats provided by Survey Monkey ® Gold level © 2013 and Microsoft Home and Office ® Excel © 2013 statistical packages. In addition, any researcher created spreadsheets were saved in password protected computer files only accessible by the researcher during and after the data collection period. Data will continue to be stored under password protected and encrypted protected software for a maximum of seven years.

Researcher preparation for the protection of human rights included the researcher's current certificate for the conduction of ethical research (see Appendix J) and having received an expedited Institutional Review Board (IRB) approval from the College of Saint Mary on March 7, 2013, prior to any data collection (see Appendix K).

Reliability, Validity, and Trustworthiness

Choosing relevant and credible EBP experts was a critical starting point for this research. The participants were viewed as credible and qualified by their deans, directors, and leaders for participation in this study. Data collection methods were valid as the researcher's instructions,

communication, and follow-up with consecutive Delphi rounds was consistently maintained for the purpose of continued participant engagement. The initial 17 participant responses in R1 yielded a 113% response rate from the original sample plan of 15 (March 11–April 4, 2013); R2 a 106% response rate (April 8–18, 2013); and R3 an 80% (12) response rate (April 21–May 6, 2013). The overall participant response rate for the study was 75%.

It was not noted by the researcher until the last round was closed that one participant had three years of experience in clinical teaching versus the four years as required by inclusion criteria. However, this participant did have 11 years of theory teaching experience and was recommended by a dean, director, leader, or other participant; therefore this participant's data was included in the overall results of the study.

An extensive ROL and telephone conversation (see Appendix L) in regard to previous research with a well-known and published Nursing EBP author ensured that the variables and concepts presented to participants in this study were current and relevant to the overall problem and purpose statement of this research. The design of each Delphi round clearly reflected the variables and concepts under study and was reviewed by a content expert, statistician, and an experienced nursing researcher prior to being sent out to participants.

Over the course of data collection, three interactive Delphi rounds were sent to expert participants through e-mail web links. Multiple data collection methods were used including: demographic questions; three in-depth Delphi rounds with semi-structured questions with typed written responses from participants; multiple reviews of participant responses by the researcher; detailed field notes; coding systems; collapsing data into related categories; and an audit trail review by an experienced researcher. Web link on-line operators were confirmed prior to each

round being sent to participants. Data collection and analysis occurred concurrently, where inductive particulars were moved to more general perspectives (Creswell, 2009).

There are several calculations used for measuring the level of expert consensus in the literature (Powell, 2003). For this study, a quantitative means for narrowing and ranking was used (Okoli & Pawlowski, 2004; June Smith, statistician personal communication, January 15, 2013). Recommendations in the literature span from a simple majority to that of 70% approval (Polit & Tatano Beck, 2008). As pointed out previously, from the researcher's educator experienced standpoint of it always being difficult to add more content into the curriculum, a 75% consensus for approval was determined for this study, as in the end core evaluation criteria used in the clinical setting were to be the absolute most essential.

Triangulation is presented through a corroboration of different sources which illuminated the core clinical criteria for BSN students' application of EBP and qualitative themes and sub-themes. There were refinements made to all parts of analysis through writing and engaging in the literature (Grove & Burns, 2008).   Triangulation included: 1) the researcher's extensive ROL; 2) the researcher's identification of a literature gap pertaining to a sequential and recognized evaluation for BSN students application of EBP in clinical curricula; 3) the utilization of expert peer content and content review; 4) audit trial; 5) narrative thick descriptions and direct quotes; 6) the researcher's reflexivity; 7) participant confirmation validation strategies utilized (member checks); 8) factor correlations completed; and 9) endorsement of the emerged themes and sub-themes by the participants.

Round two revealed participant full agreement with all 24 elements and categorizations of the qualitative data. In addition, the participants' expansion on previous factors given in R3 supported the saturation point of data, as there were no new types of information being offered.

This also significantly contributed to the researcher's confidence in developing of themes and subthemes. In one response pertaining to factors, a participant disagreed with the researcher's interpretation of sub-theme II in R3, but in actuality, the participant was providing further identification and detail for faculty expectations both in the clinical and theory settings which in no way disagreed with the overall theme.

Summary

Delphi methodology has long been used for the arrangement of future systems, as well as used in the creation of scenarios for planning purposes in business, education, sociology, and healthcare services. Even more specifically, the method has been used in social work, nursing, and medical education for the design of new curricula (Adler & Ziglio, 1996). The balance for managing the Delphi process and analyzing the data has been detailed in the literature and utilized for this research study (Skulmosk, Hartman, & Krahn 2007).

Nonprobability research plays a crucial role in nursing and educational research. Many problems are not responsive to quantitative experimentation. Nonprobability testing is a well-organized means for collecting data about a problem. There is a strong element of realism with this process. Therefore, nonprobability research has a distinguishing lure for solving practical problems (Polit & Tatano Beck, 2008). Delphi experts need "not be a representative sample for statistical purposes, as representativeness is actually assessed on the qualities of the expert panel rather than its numbers" (Powell, 2003, p. 378). The researcher's analysis of the data were completed through internal logic via measures used for checking consistency in the expert panels output (Murphy et al., 1998).

Quantitative reliability involved inter-reliability as one researcher collected data. Sorting and ranking statistical methods were utilized for measuring the concepts under study. All rounds

were reviewed for analysis, wording, and meaning prior to being sent out to participants by the researcher. In addition, a content expert and statistician reviewed R1 and the Dissertation Committee Chair reviewed R2 and R3 prior to the researcher's launch of rounds to the participants. Content validity was also statistician confirmed as related to the use of means, frequencies, percentage consensus, and standard deviations to descriptively summarize the data.

In the final Delphi round (R3), the emerged themes and sub-themes were presented to the participants, and they were asked to give either their full agreement or disagreement with each theme and sub-theme as its own entity. Full participant agreement of the themes and subthemes was achieved. Qualitative trustworthiness is demonstrated by length of time the researcher was involved in the on-line setting with study participants, coding of data and saturation, confirmation of the major themes and subthemes, the researcher's strong commitment to answering the research questions, and adherence to the research design and plan. Lastly, significance was demonstrated by relating participant confirmed themes, participant confirmed core evaluation criteria, and participant direct quotes.

CHAPTER IV: RESULTS

Introduction

Each Delphi Round was a prolonged and interactive process involving both quantitative statistics and qualitative analysis. Resulting from the amalgamation of quantitative and qualitative analysis conclusive and final core evaluation criteria developed. The criteria were found to be ordered progressively, captivating the most basic (essential) to more advanced skills which also appear to allow for some flexibility in the approach of content to be taught. The flexibility allowed the researcher to make groupings of criteria which initially require faculty support for the student's application of EBP in the clinical setting to a more progressive level of EBP skill and finally advancing to where the student independently performs all criteria with faculty overview.

Research Question One

The first research question for this study was: What are the core evaluation criteria that nursing faculty evidence-based practice experts identify for evaluation of Bachelor of Science nursing students' application of evidence-based practice during clinical experiences? In R1the 17 participants submitted a total of 101 items which were analyzed into 24 evaluation criteria. The initial list of these core evaluation criteria may be found in Table 4.1

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1. Ability to create a well-developed and relevant to the scope of nursing practice PICO question, related to a clinical problem, population, or concern
2. Demonstrate use of a systematic approach (theory) for searching for evidence in a reputable database, i.e. development of synonyms from the PICO question and correct use of Boolean operators per the database being searched
3. The student should be required to find at least one source of evidence from a reputable database relating to their PICO clinical question
4. The student is able to identify a research article from other types of literature, i.e. secondary resources, guidelines, systematic reviews, systems
5. The student is able to demonstrate understanding of which databases are appropriate to begin a search depending on the nature of the PICO question i.e. CINNAHL, PubMed, Cochrane, etc.
6. Search for alternative interventions through either guidelines or highest levels of published

evidence (meta-analysis, systematic review, etc.)
7. Integrate external evidence while caring for the patient that day for optimal outcomes
8. Integrate internal evidence while caring for that patient that day for optimal outcomes
9. Student consults with the manager or staff nurse/resource nurse to understand their perspective of the problem, reasoning for the current intervention being used, and the history of the clinical problem or issue
10. The student will identify and use healthcare resources, such as experts in the field
11. The student will identify and use health care resources such as up-to-date Evidence Based Practice Systems, i.e. JoAnna Briggs, TRIP, etc.
12. The student will incorporate Evidence Based Practice while perceiving the uniqueness of each individual (patient preferences and values)
13. Has the ability to demonstrate a beginner level of critically analyzing research literature in respect to generalizablity to the overall or target population
14. Ability to use beginner level statistical terminology
15. Ability to derive reliability, validity, and limitations of the research evidence
16. Identify strengths and limitations of various forms of literature
17. Identify where the research falls within the hierarchy (pyramid) of evidence
18. Determine if and how the evidence is clinically relevant to nursing practice
19. Relate and articulate research findings/current evidence to the patients they are caring for in clinical
20. Identify patient specific outcomes related to particular clinical problems
21. Relate cost outcomes
22. Ability to synthesize, summarize results of research and effectively communicate them to others as identified, i.e. faculty, peers, staff, etc. to develop recommendations for nursing practice
23. Develop recommendations for nursing practice
24. Demonstrate a provision of care from the standpoint of evidence rather than tradition, i.e. "this is how we have always done it"

Table 4.1 *Initial 24 Core Evaluation Criteria*

Following the establishment of 24 core evaluation criteria, in R2 participants were asked to sort the elements into one of the following categories: 'Definitely Keep', 'Probably Keep', or 'Do Not Keep'. With central tendency calculations employed, a mean of 2.0 (100%) indicated the participants' full consensus agreement for keeping the core evaluation criterion.

When the mean for a core criterion fell below 1.75 (75%), the researcher considered this as having less significant participant consensus because at least one-half or more of the participants placing the criterion in the 'Probably Keep' classification and up to 18% were placing the criterion in the 'Do Not Keep' classification. Therefore, any criteria calculated with

a mean of less than 1.75 (75%) were not included as core evaluation criteria. A criterion with a

calculated mean of 1.74 (74%) or less indicated that at least one-fourth (25%) of the participants

or more did not value the criterion enough for it to be retained (see Table 4.2). To further

organize criteria, each criterion was numbered as it appeared in original random order, labeled

with a "C" for *criteria,* and given a one-word related identifier and abbreviated definition.

Criteria *=retained	Criteria Definition	
*C1 *Inquiry of Evidence*	Ability to create a well-developed and relevant to the scope of nursing practice PICO question, related to a clinical problem, population, or concern	2.00 (100%)
*C2 *Data Search*	Demonstrate use of a systematic approach (theory) for searching for evidence in a reputable database, i.e. development of synonyms from the PICO question and correct use of Boolean operators per the database being searched	1.88 (88%)
*C3 *Evidence*	The student should be required to find at least one source of evidence from a reputable database relating to their PICO clinical question	2.00 (100%)
C4	The student is able to identify a research article from other types of literature, i.e. secondary resources, guidelines, systematic reviews, systems	1.50 (50%)
C5	The student is able to demonstrate understanding of which databases are appropriate to begin a search depending on the nature of the PICO question, i.e. CINNAHL, PubMed, Cochrane, etc.	1.63 (63%)
C6	Search for alternative interventions through either guidelines or highest levels of published evidence (meta-analysis, systematic review, etc.)	1.67 (67%)
C7	Integrate external evidence while caring for the patient that day for optimal outcomes	1.69 (69%)
*C8 *Internal Data*	Integrate internal evidence while caring for that patient that day for optimal outcomes	1.75 (75%)
C9	Student consults with the manager or staff nurse/resource nurse to understand their perspective of the problem, reasoning for the current intervention being used, and the history of the clinical problem or issue	1.69 (69%)
C10	The student will identify and use healthcare resources, such as experts in the field	1.69 (69%)
C11	The student will identify and use health care resources such as up-to-date Evidence Based Practice Systems, i.e. JoAnna Briggs, TRIP, etc.	1.63 (63%)
*C12	The student will incorporate Evidence Based Practice while	1.81 (81%)

Values	perceiving the uniqueness of each individual (patient preferences and values)	
*C13 Appraisal	Has the ability to demonstrate a beginner level of critically analyzing research literature in respect to generalizablity to the overall or target population	1.81 (81%)
C14	Ability to use beginner level statistical terminology	1.38 (38%)
C15	Ability to derive reliability, validity, and limitations of the research evidence	1.63 (63%)
C16	Identify strengths and limitations of various forms of literature	1.69 (69%)
C17	Identify where the research falls within the hierarchy (pyramid) of evidence	1.69 (69%)
*C18 Relevance	Determine if and how the evidence is clinically relevant to nursing practice	2.00 (100%)
C19	Relate and articulate research findings/current evidence to the patients they are caring for in clinical	1.69 (69%)
*C20 Outcomes	Identify patient specific outcomes related to particular clinical problems	2.00 (100%)
C21	Relate cost outcomes	0.94 (94%)
*C22 Disseminate	Ability to synthesize, summarize results of research, and effectively communicate them to others as identified, i.e. faculty, peers, staff, etc.	1.81 (81%)
*C23 Guideline/ Recommendation	Develop recommendations for nursing practice	1.75 (75%)
*C24 Evidence Decision	Demonstrate a provision of care from the standpoint of evidence rather than tradition, i.e. "this is how we have always done it"	1.75 (75%)

Table 4.2 *Initial Core Evaluation with Mean Rating*
Note: *= Criterion with a 1.75 mean retained for future Delphi R3

Those criteria asterisked in the far left column of Table 4.2 indicates retained criteria for

R3 as the mean was at least 1.75 or greater and consensus was at least 75% or greater. This

column also displays a one-word related criterion identifier given by the researcher, which will

be referred to subsequently. The middle column gives the original participant definition of each

criterion and the far right column displays the mean with percentage as described previously.

Inquiry (C1), *Evidence* (C3), *Relevance* (C18), and *Outcomes* (C20) criteria were the

only core clinical criteria with a mean of 2.00 and 100% participant consensus. *Data Search* (C2)

had a mean of 1.88 (88%); *Values* (C12), *Appraisal* (C13), and *Disseminate* (C22) mean

calculations were 1.81 (81%); and *Internal Data* (C8), *Guideline/Recommendation* (C23), and

Evidence Decision (C24) mean calculations were 1.75(75%). Consensus was valued when all of

participants were placing criteria into the 'Definitely Keep' classification, but also included those

criteria when 13 (81.25%) out of the 16 participants were placing the criterion in the 'Definitely

Keep' category with a maximum of 3 (18.75%) participants placing that same criteria in the

'Probably Keep' category. The criteria not retained were C7, C9, C10, C16, C17, C19 having a

mean of 1.69 (69%); C6 having a mean of 1.67 (67%); C5, C11, C15 having a mean of 1.63

(63%); C4 having a mean of 1.50 (50%); C14 having a mean of 1.38 (38%); and C21 having a

mean of .94 (0.94%).

For future ranking in R3, it was the researcher's intent to extract the top ten most

essential core competencies; however because the criterion were pointedly narrowed in R2 from

24 to 11, the researcher made the decision to include all the 11 remaining criteria for the ranking

process. Participants, as a panel, were presented with each of the remaining 11 criteria and were

asked to rank in order, with a ranking of one being the most important and the ranking of 11 as

the least important criterion. Criteria ranking results are shown in Table 4.3. With this ordinal

ranking, all items received a distinct ordinal number (Polit, 2010); however, two criteria in the

fourth position were compared as equal. The left hand column shows the order of the elements

from one being the most essential to ten being the least essential. The ranking shows the pattern

of those criteria consistently ranked higher, in the middle, and lower. The far right hand column

of the table gives the definition of the ranked criteria as given by the participants.

Order of elements from most essential to least essential (1-10)	Ranked Score (1-9.25)	Core Clinical Criterion Element
1-*Internal Data*	3.0	**C8**: Integrate internal evidence (client care data) while caring for that patient, that day for optimal outcomes
2-*Guideline/ Recommendation*	3.17	**C23**: Develop recommendations for nursing practice
3-*Values*	4.50	**C12:** The student will incorporate Evidence Based Practice while perceiving the uniqueness of each individual (patient preferences and values)
4-*Evidence*	*5.17	**C3**: The student should be required to find at least one source of evidence from a reputable database relating to their **PICO clinical question**
5-*Relevence*	*5.17	**C18**: Determine if and how the evidence is clinically relevant to nursing practice
6-*Data Search*	6.25	**C2**: Demonstrate use of a systematic approach (theory) for searching for evidence in a reputable database, i.e. development of synonyms from the PICO question and correct use of Boolean operators per the database being searched
7-*Outcomes*	6.50	**C20**: Identify patient specific outcomes related to particular clinical problems
8-*Disseminate*	6.58	**C22**: Ability to synthesize, summarize results of research, and effectively communicate them to others as identified, i.e. faculty, peers, staff, etc.
9-*Appraise*	7.75	**C13**: Has the ability to demonstrate a beginner level of critically analyzing research literature in respect to generalizablity to the overall or target population
10- *Evidence Decision*	8.67	**C24**:Demonstrate a provision of care from the standpoint of evidence, rather than tradition, i.e. "this is how we have always done it"
11-*Inquiry*	9.25	**C1**: Ability to create a well-developed and relevant to the scope of nursing practice **PICO question, related to a clinical problem, population, or concern**

Table 4.3 *Core Evaluation Criteria Ranked from Most to Least Essential*
Note:*=criteria with same ranking score.
Note: the lower the number in the "Ranking Score" column indicates that the element had the highest rank for being essential core clinical criteria.

A concluding and final order of core evaluation criteria numbered C1 through C10,

according to rank of importance for students' application of EBP in the clinical setting was

created (see Table 4.4). Along with the key word criterion identifiers, the researcher reworded

criteria so they may be used as learning outcomes. With ongoing analysis, the criteria naturally

fell into associated groupings from more basic to advanced levels of EBP application. The two

criteria that shared equal rank previously fell into a grouping together. The criteria stating "the

student should be required to find at least one source of evidence from a reputable database

relating to their PICO clinical question" (C4. Evidence) was nearly the same as "Demonstrate

use of a systematic approach (theory) for searching for evidence in a reputable database, i.e.

development of synonyms from the PICO question and correct use of Boolean operators per the

database being searched" (C10. Inquiry) which was ranked in the very last position. Therefore,

these two criteria were merged and relabeled: C4. *Inquiry of Evidence*. The grouping of criterion

associated C1-C3, C4-C6, and C7-C10 together.

C1. *Internal Evidence*	Integrate internal evidence (client data) while caring for that patient, that day for optimal outcomes.	**Group 1:** C1-C3 Novice
C2. *Guideline Recommenda-tion*	Develop recommendations utilizing clinical practice guidelines for nursing practice (realizing policies and procedures in place).	
C3. *Values*	Incorporate nursing EBP while perceiving the uniqueness of each individual (patient preferences and values).	
C4. *Inquiry of Evidence*	Locate at least one source of evidence from a reputable database relating to the PICO clinical question.	**Group 2:** C4-C6 Higher Level Skill; Connecting
C5. *Relevance*	Determine if and how the evidence is clinically relevant to nursing practice.	
C6. *Data Search*	Demonstrate use of a systematic approach (theory) for searching for evidence in a reputable database, i.e. development of synonyms from the PICO question and correct use of Boolean operators per the database being searched.	
C7. *Outcomes*	Identify patient specific outcomes related to particular clinical problems.	**Group :3** C7-C10 Advanced Clinical Nursing Discernment
C8. *Disseminate*	Disseminate accurately synthesized results of the research to faculty and others as identified.	
C9. *Appraisal*	Demonstrate beginner level critical appraisal of the research literature in respect to generalizability (consistent use of critical rapid appraisal recommended).	
C10. *Evidence Decision*	Demonstrate a provision of care from the standpoint of evidence, rather than tradition, i.e. "this is how we have always done it."	

Table 4.4 Final Order of Core Evaluation Criteria Numbered C1 through C10 with Associated Groupings

The given order indicates a high importance of students' ability to incorporate the individual patient's health care concerns, preferences, and current physical data (i.e. vital signs, laboratory results, test results) into the nursing care plan. The group one associations logically place the student's foremost need to have an accurate picture of the patient. In moving forward, the more novice level student would find a practice related guideline database from which correlations of the current nursing care being provided would be made by the student ~ *"For UG* (under graduate) *students it may be best that they search for pre-synthesized evidence (i.e. CPG, SR"s) that way if they find one item of evidence then it is already synthesized for use in practice."* The correlations and potential recommendations with the patient's values and preferences considered would then be reported to the clinical faculty for further discussion and exploration.

Within the group two associations, a higher level of skill development is indicated, where a more sophisticated inquiry of evidence occurs. The student would be expected to make connections from other sources of data beyond already synthesized resources and appraised practice guidelines. A well-developed search question, therefore an organized search, leads the student to a variety of reputable resources within the hierarchy of evidence. These evidence resources are then available to be examined for their relevance to the clinical problem and individualized patient values.   These criteria require the student to find appropriate and current evidence using a theoretical approach, thus reducing error by avoiding a haphazard or unorganized search for evidence.

Criteria associations in Group 3 require advanced clinical nurse process discernment, where the student uses recall from an array of previous clinical experiences. Students at this level in the program have clinical faculty confirmation and valuation for making sound decisions

based on nursing theory and clinical practice. Stimulation overload is less frequent, and students are less distractible, therefore more capable of actively intellectualizing, relating, applying, investigating, synthesizing, and evaluating information of many forms. Advancement of skill requires repetitive practice to a level where students effectively use EBP principles more independently appraising evidence and accurately sharing information as expected.

Research Question Two

The second research question for this study was: What type of factors, if any, do nursing faculty evidence-based practice experts report in their undertaking of the evaluation of Bachelor of Science nursing students' application of evidence-based practice during clinical experiences?

Themes and Sub-themes

During the qualitative data analysis final stages of coding, there were six categories that dominated: 1) Culture; 2) Competence; 3) Time; 4) Student Clinical Assignments; 5) Preceptors; and 6) Faculty. Through further researcher data reduction, three overall themes emerged: Theme I): Lack of an Overall EBP Culture; Theme II): Lack of Program EBP Culture; and Theme III): EBP Expectations for Curriculum. The two Sub-themes that emerged under Theme II were: 1) Sub-theme I: Faculty and Preceptor EBP Knowledge and Educational Development; and 2) Sub-theme II: Competence for Teaching EBP. The two Sub-themes that emerged under Theme III were: 1) Subtheme III: Expectations for Classroom Didactic; and 2) Sub-theme IV: Expectations for Clinical Instruction. At this point in the analysis, participants as a panel had fully reviewed one another's exact words and phrases; thus definitions for each Theme and Sub-Theme could be applied. The researcher at times used terms to consolidate the definitions; for example in Theme I the word 'stakeholders' was used by the researcher to umbrella participant words such as 'administration, faculty, facility preceptors, and organizations' (see Table 4.5 for definitions).

Theme	Definition
Theme I: Lack of an Overall EBP Culture	A lack of collaboration and organization among stakeholders who should be sharing mutual partnerships for common goals associated with the education of clinical EBP. Stakeholders include program administration, faculty, facility preceptors, and organizations serving as clinical sites.
Theme II: Lack of Program EBP Culture	The lack of a program EBP culture is multifactorial, resulting in a hesitance or disinterest among clinical faculty to directly incorporate student application of EBP principles into their clinical learning outcomes.
Sub-Theme	
Sub-Theme I: Faculty and Preceptor EBP Knowledge and Educational Development	Clinical educators and preceptors are required to develop their knowledge and key nursing science EBP skills for the purpose of supporting and educating others in both an efficient and appropriate manner where accessing and using current evidence in real, everyday clinical nursing practice occurs.
Sub-theme II: Competence for Teaching EBP	EBP competence is comprised of knowledge, skills, and attitudes. Faculty are required to be competent and proficient in the content they are teaching.
Theme	
Theme III: EBP Expectations for Program Curriculum	EBP threads are evident throughout a BSN program. Student clinical outcome expectations are determined through faculty collaboration and may focus on either empirical and/or qualitative measures to ensure the required skill level is attained. Operational resources are needed for supporting an EBP curriculum culture.
Sub-theme	
Sub-theme III: Expectations for Classroom Didactic	The integration of EBP within an existing conceptual model where nursing curriculum involves the study of EBP steps (*not research) precise to the discipline of nursing. *Note: professional steps for research and for EBP are not one and the same.
Sub-theme IV: Expectations for Clinical Instruction	The integration of EBP skills within an existing conceptual model where nursing clinical curriculum involves the practice of EBP steps. "Advances in research are meaningless unless they reach clinicians at the point of care" (Dufault, 2001, p.1).

Table 4.5 *Theme and Sub-theme Definitions*

The researcher was able to correlate positive, neutral, and negative factors to one Theme and two Sub-Themes. In the future this information may assist in further exploration of the current environments where faculty are teaching students in both the classroom and clinical setting. Included were Sub-Theme I, Theme III, and Sub-Theme IV and the correlations are described in their proceeding sections.

Theme I

A participant supporting direct quote for Theme I: Lack of an Overall EBP Culture included *"…health care professionals are not practicing defined concepts of EBP… the lack of interest among other health care team members can be discouraging."* Participants recounted a variety of examples where the overall organizational systems within which they are teaching BSN students lack an EBP culture. There is limited physical space, narrow internal and external database availability, and the inadequate access or restriction on student computer use makes the application of EBP difficult at times. Participant experiences in the clinical setting have found clinical institutions with limited database subscriptions and handheld devices are not always welcome in clinical areas for a multitude of reasons from professional appearance concerns to Wi-Fi availability.

An interprofessional collaborative plan is recommended *"Nursing programs need to collaborate with nurse leaders in hospitals and other clinical settings to incorporate EBP."* Factors that have been found to be supportive when teaching the application of nursing EBP included having the opportunity to *"engage students in* (EBP) *issues they can actually see in clinical."* However these opportunities are not happening as frequently as they need to. There are certain *"top down expectations to just get it done…* (that) *have a negative impact on EBP in the clinical area."*

Barriers reported by study participants included*:* Existing concerns such as adding cost to education, the inability to incorporate the application of EBP in the clinical setting due to high faculty to student ratios, preceptor and faculty expectations of students to take challenging patient care loads during clinical experiences, the main faculty focus being one of evaluating students' delivery of safe patient care through tasks and procedural performances, and time

constraints related to faculty workload *"Lack of knowledge on 'how to' incorporate EBP and time constraints are barriers...".*

Theme II

In Theme II: Culture of BSN Programs, participant data substantiated the lack of congruence both among and within educational and clinical educational settings. *"There is an under appreciation of the importance of EBP in the clinical setting by faculty, preceptors, and students. There is also a lack of an appreciation of EBP in the classroom setting; the two do not often seem to cross paths."*

EBP expectations of the faculty teaching in both the classroom and clinical setting and preceptors teaching in the clinical setting requires a level of competency. Participant direct quotes sharing data on factors that were found to be supportive included: there are *"faculty that value and practice based on evidence."* In addition, those *"faculty that are currently involved in EBP implementation projects have a better understanding."*

Sub-theme I

For Sub-theme I: Faculty and Preceptor EBP Knowledge and Educational Development participants share that *"Faculty and preceptors lack knowledge, lack interest."* Faculty development and preceptor education is needed after an organizational assessment on the knowledge of their own faculty and preceptors. There appears to be a need to motivate those that are teaching BSN students. *"If doctoral prepared or MSN prepared faculty were educated years ago"* (or the study was entirely a research track, then)… *"they were not exposed to EBP principles in their education, therefore they lack the ability to teach EBP correctly."*

Equally concerning to participants is *"…a lack of a spirit of inquiry; authoritative figures are telling students that 'this is how we do it and have always done it continues to*

exist'.'' "I wonder if some of this attitude from students is reflective of the gap in knowledge of faculty related to EBP.'' An interprofessional collaborative educational plan is recommended for the *"knowledge journey."*

      There continue to be several barriers for changing curricula; however, the study findings reveal that there are as many counters to these barriers as there are barriers themselves when a comparison of the curriculum, student experience, faculty experience, preceptor experience, as well as learning strategy and expectation positive, neutral, and negative factors are analyzed. Table 4.6 shares the comparison of positive, neutral, and negative factors for faculty experience.

Positive Factors	Neutral Factors	*Negative Factors*
Faculty Experience		
"Faculty that value and practice based on evidence." In addition, those *"faculty that are currently involved in EBP implementation projects have a better understanding."*	*"Sufficient and current faculty* (are needed). *Faculty ready and willing to teach EBP in class and in practice consistently."*	*"If doctoral prepared or MSN prepared faculty were educated years ago, they were not exposed to EBP principles in their education."* *"Faculty ... lack of knowledge, lack of interest."* *"It is particularly a concern if nursing faculty are not consistent and their approach to EBP search and use. Faculty are their* (students') *first role models."* *"I believe that many faculty lack the knowledge and skills to teach and facilitate EBP with UG students."*

Table 4.6 *Faculty Experience Comparison of Positive, Neutral, and Negative Factors*

Table 4.7 shares the comparison of positive, neutral, and negative factors for preceptors experience.

Positive Factors	Neutral Factors	Negative Factors
Preceptors Experience		
"Staff nurses who believe in and utilize and reinforce that EBP provides the best patient care, then students notice and follow in their footsteps.		*"There is a lack of a spirit of inquiry; authoritative figures are telling students that 'this is how we do it and have always done it' continues to exist."* *"...health care professionals are not practicing defined concepts of EBP... the lack of interest among other health care team members can be discouraging."* *"If faculty instills the knowledge base but the students don't see the staff using and believing in EBP, the student sees the lack of follow through into the real world of nursing and they may not continue to use EBP in their own future practice."* *"...preceptors lack of knowledge, lack of interest."* There is a *"great deal of lack of knowledge about what nursing EBP and how to apply it among practicing nurses whom serve as preceptors."* *"Health care individual's lack of interest is a major discouragement when students are new to the field. Lack of physical space, database availability, computer access sometimes* (is) *difficult"*

Table 4.7 *Preceptor Experience Comparison of Positive, Neutral, and Negative Factors*

Sub-theme II

In Sub-theme II: Competence for Teaching EBP, participants were concerned with the inconsistent, typically individualized approach for teaching EBP. *"It is particularly a concern if nursing faculty are not consistent in their approach to EBP search and use."* *"Faculty are their* (students') *first role models."* Competence entails precision development through new knowledge, skills, and attitudes. *"I believe that many faculty lack the knowledge and skills to*

teach and facilitate EBP with UG (under graduate) *students."* Competence is measurable and, when met, indicates suitability of attitude and sufficiency of knowledge and skills (National League for Nursing, 2010).

Participants also expressed a concern over the gap of student applied EBP in both the classroom and clinical setting which is a direct reflection of low faculty and preceptor competence.*"Staff nurses who believe in and utilize and reinforce that EBP provides the best patient care... students notice and follow in their footsteps. If faculty instills the knowledge base but the students don't see the staff using and believing in EBP, the student sees the lack of follow through into the real world of nursing and they may not continue to use EBP in their own future practice."*

Participants agreed that EBP competencies are diverse, involving steps and skills that are often unknown to those teaching BSN students. *"I heard a presenter addressing nurses for the 2013 nursing banquet report that the collection and reporting of 'any' information from 2003 to present day takes a minimum of 48 hours as a result of IT, compared to the starting of the ages to 2003...takes an environment inundated with information."* An overwhelming concern participants identified were the variations of different ideas faculty and preceptors have about what EBP is. Faculty and preceptors must be able to articulate the differences between research and EBP and function within the processes and/or framework of nursing EBP.

Theme III

In Theme III: EBP Expectations for Program Curriculum, program and curriculum measures and the means for supporting an EBP culture were deduced.*"Integrating more* (EBP) *into all classes along with having a designated Research and EBP course. Expectations need to be EBP specific early on and clear in all courses...clear expectations and demonstration of those*

expectations by the student, not just having in the guidelines or rubrics to find a research article

that applies." Expectations also require the establishment of measurable student learning

outcomes. *"Student competence, understanding the true principles of EBP is needed."* Table 4.8

compares the positive, neutral, and negative factors given for curriculum.

Positive Factors	Neutral Factors	Negative Factors
Curriculum		
"Classes with theory about EBP are helpful; students being able to use what they have learned in an EBP that are coinciding with clinical courses helps them to be able to apply (EBP). *Students that are allowed to work on PICO questions in the EBP course when they have research or EBP assignments in other courses that have a clinical component."*	*"Integrating more* (EBP) *into all classes along with having a designated Research and EBP course. Expectations* (of EBP) *need to be EBP specific early on and clear in all courses—clear expectations and demonstration of those expectations by the student..."*	*"There is an under appreciation of the importance of EBP in the clinical setting by faculty, preceptors, and students. There is also a lack of an appreciation of EBP in the classroom setting; the two do not often seem to cross paths."* *"...is not done outside of the classroom, I have yet to see clinical faculty do more than having students randomly choose an article related to a patient they cared for and then assigned to compare and contrast treatment/care... is not using the theory of EBP accurately."* *"...in addition, if students do not find the relevance of EBP to their practice, getting taught in a standalone course, they will not value EBP"* Must be integrated *across the curriculum."* *"...not just having in the guidelines or rubrics* (state) *to find a research article that applies."* *"Top down expectations to just get it done... that have a negative impact on EBP in the clinical area."* *"Once the tipping point is reached within the academic setting, the momentum of knowledge and understanding for clinical application will explode. Nurse champions will equate evidence and innovation to quality patient care outcomes"* (at that time).

Table 4.8 *Curriculum Comparison of Positive, Neutral, and Negative Factors*

Sub-theme III

Sub-theme III: EBP Expectations for Classroom Didactic, is where participants expressed their thoughts on the needed updates for the classroom in the delivery of BSN curriculum. "*…Reorganization of curriculum must be established with current faculty…ready and willing to teach EBP in class and in practice consistently.*" There were several statements from 13 different participants that individually shared expectations on both classroom and clinical expectations. The participant panel related to classroom didactic as follows:

"I believe that consistent integration of EBP throughout the curriculum is key."

"Integrating more (EBP) into all classes along with having a designated Research and EBP course. Expectations (of EBP) need to be EBP specific early on and clear in all courses…clear expectations and demonstration of those expectations by the student, not just having in the guidelines' or rubrics' to find a research article that applies."

"Different hierarchal pyramids" (of evidence are used). "Should be consistent."

"First off students need to be able to determine the design of the study which many times students have difficulty doing."

Sub-theme IV

For Sub-theme IV: Expectations for Clinical Instruction*,* the participant panel related clinical curriculum instruction requirements. "*In addition, if students do not find the relevance of EBP to their practice, getting taught in a standalone course they will not value EBP. Must be integrated across the curriculum.*" Further views relating EBP skill development during clinical instruction included:

 "EBP" (application) is not done outside of the classroom, I have yet to see clinical faculty do

more than having students randomly choose an article related to a patient they cared for and then

assigned to compare and contrast treatment/care… is not using the theory of EBP accurately."

"Often students want to get their assignments completed, therefore rush through searches in

order to find at least some information that will be acceptable for their assignments given…"

"I would think that you would want to have them be able to find more than one (source of

evidence) from a reputable database relating to their PICO clinical question.

 "Students frequently use the principle of least effort when looking up information."

 "I would think that you want them to be able to find more than one (reference). Maybe at least

three, so they can practice how to synthesize the evidence."

 "This should be rapid critical appraisal, which is beyond generalizability. That is only one

component. Consistency in choice of appraisal tools."

        Table 4.9 shares the comparison of positive, neutral, and negative factors for the student

experience and learning strategies and expectations.

Positive Factors	Neutral Factors	Negative Factors
Student Experience		
"Students have stated to me that connecting real experiences to evidence is fun." *"Students have stated to me that connecting real experiences to evidence is meaningful."* *"Some students appreciate the knowledge of using appropriate databases and understanding the information literacy skills to obtain relevant literature."*		*"Students are not recognizing the value of research as evidence to be considered."* *"Students frequently use the principle of least effort when looking up information."*

Positive Factors	Neutral Factors	Negative Factors
Learning Strategies and Expectations		
"Case studies can be helpful, but they (students) *have to have adequate time to search for evidence."* *"When students are required to use EBP or develop a PICO question in the clinical area they do incorporate into their cares or at least their knowledge repository. If you ask the students to 'step up to the plate, they will."*	*"First off students need to be able to determine the design of the study which many times students have difficulty doing"* *"I would reword to be patient-centered outcomes."* *"Would not want student to go against hospital policy and procedure."* *"Student competence, understanding the true principles of EBP."* *"Being able to determine reliable sources of information is needed"* *"Very important to have support and facilitation from a librarian."* *"...engage students in issues they can actually see in clinical"* (for application to EBP).	(students) *"… have to have adequate time to search for evidence."*

Table 4.9 Student Experience/Learning Strategies and Expectations Comparison of Positive, Neutral, and Negative Factors

Other factors listed by the participants that were found to support the students'

application of EBP in the clinical setting included:

"Some students" I have found to "appreciate the knowledge of using appropriate databases and

understanding the information literacy skills to obtain relevant literature."

"When students are required to use EBP or develop a PICO question in the clinical area they do

incorporate into their cares or at least their knowledge repository. If you ask the students to 'step

up to the plate' they will."

A factor, one participant shared, was the need for students to clearly understand about

what the differences are between standards of care established by the health care institution they

are having a clinical experience in and what EBP care guidelines represent. *"Would not want*

student to go against hospital policy and procedures."

Data brought forth a requisite that teaching faculty and EBP experts must work together to establish an EBP comprehensive plan. The lack of EBP integration with measureable outcomes in the classroom and clinical setting, the lack of leveling skills across the curriculum, or an improper sequencing when faculty are left on their own how to address EBP expectations in their course leads to an overall lag of the use of EBP in clinical practice. Participant additional comments offered in R3 added expansion on initial responses which assisted the researcher's confirmation of meaning and, therefore, interpreting and determining the themes and subthemes (Okoli, & Pawlowski, 2004; Skulmoski, Hartman, & Krahn, 2007).

Correlation of Quantitative and Qualitative Results

Triangulation is the "process by which the phenomenon of topic under study is examined from different perspectives…findings of one type of method (or data, researcher, theory) can be checked out by reference to another" (Holloway & Wheeler, 2010, p. 308). Correlation of quantitative and qualitative data, which were analyzed separately are shown in Table 4.10.

Core Evaluation Criteria		
C1. Internal Data: Integration of patient internal evidence.		
C2. Guideline/Recommendation: Database practice related guidelines utilized for nursing care plan.		
C3. Values: Perceiving uniqueness of the individual patient.		
C4. Evidence Inquiry: At least one source of evidence following a theoretical organized database search.		
C5. Relevance: Determine if and how evidence is clinically relevant.		
C6. Data Search: Demonstration of an organized database search.		
C7. Outcomes: Identification of patient specific healthcare outcomes.		
C8. Disseminate: Summarize results of research and share information.		
C9. Appraise: Demonstration of beginner level appraisal in respect to generalizability.		
C10. Evidence Decision: Provision of care from standpoint of evidence, rather than tradition.		
Theme/ Sub-theme	**Criteria**	**Participant Quote**
Theme I: Lack of an Overall EBP	-Evidence Decision	~ continue to encounter "…*this is how we have always done it*" ~ "*top down expectations to just get it done*"

Culture		~ *"…a lack of a spirit of inquiry; authoritative figures are telling students that 'this is how we do it and have always done it continues to exist."* ~ *"Nursing programs need to collaborate with nurse leaders in hospitals and other clinical settings to incorporate EBP."*
Theme II: Lack of Program EBP Culture	-Data Search -Appraise	~ *"EBP (application) is not done outside of the classroom, I have yet to see clinical faculty do more than having students randomly choose an article related to a patient they cared for and then assigned to compare and contrast treatment/care… is not using the theory of EBP accurately."* ~ *"There is an under appreciation of the importance of EBP in the clinical setting by faculty, preceptors, and students. There is also a lack of an appreciation of EBP in the classroom setting; the two do not often seem to cross paths."*
Sub-theme I: Faculty and Preceptor EBP Knowledge and Educational Development	-Evidence Decision	~ *"Faculty and preceptors lack knowledge, lack interest."* ~ *"If doctoral prepared or MSN prepared faculty were educated years ago, they were not exposed to EBP principles in their education."*
Sub-theme II: Competence for Teaching EBP	-Internal Data -Guideline/ Recommendation -Values -Evidence Inquiry -Relevance -Data Search -Outcomes -Disseminate -Appraise -Evidence Decision	~ *"It is particularly a concern if nursing faculty are not consistent in their approach to EBP search and use. Faculty are their (students) first role models."* ~*"Theory faculty need to pre-assess their knowledge base for EBP. If they feel competent then they must build EBP into the course they teach. If they 'need more information' - then they would need to participate in a prerequisite course…. and be expected to build course objectives using EBP. Clinical faculty would be required to do the same."*
Theme III: EBP Expectations for Curriculum	-Internal Data -Guideline/ Recommendation -Values -Evidence Inquiry -Relevance -Data Search -Outcomes -Disseminate	~*"Integrating more (EBP) into all classes along with having a designated Research and EBP course. ~Expectations (of EBP) need to be EBP specific early on and clear in all courses…clear expectations and demonstration of those expectations by the student, not just having in the guidelines' or rubrics' to find a research article that applies."* ~ *"I believe that consistent integration of EBP throughout the curriculum is key."*

	-Appraise -Evidence Decision	~ *"....Consistency in choice of appraisal tools."* ~ *"Adult learning principles apply and need to be considered in helping swing the pendulum for tipping EBP into reality."* ~ *"Curriculum advisory panels need to guide the shifting paradigm from 'this is the way we've always done it' to a culture founded in EBP. A task force needs to conduct an in-depth review of core subjects to sustain a culture for EBP."* ~ *"Lack of integration across the curriculum and improper sequencing lead to a lag in the use of EBP in the clinical setting."* ~ *"...101 courses should be introduced early in the curricula to build a strong foundation for Boolean searches and apply to lab practicums for the purpose of 'connecting' evidence to real experiences - the 'aha' moment; introduction to databases, introduction to healthcare statistics, introduction to EBP with a lab practicum."* ~ *"Faculty experts would need to work together to establish a comprehensive 101 course to cover material in each area. A topic related to other nursing 101 courses could be selected such as nutrition or assessment and the objectives developed. Such a course would be a prerequisite to other nursing courses."* ~ *"Technological resources are not always accessible."*

Table 4.10 *Triangulation: Question One Criteria, Question Two Themes and Sub-themes, and Participant Direct Quotes*

Summary

Through expert consensus, the study results provide core evaluation criteria exclusive to BSN student application of EBP in the clinical setting. The criteria were narrowed by the participants in such a way that progressive skill criteria groupings evolved. These groupings display EBP application skills from the most basic to the more advanced. On a whole, themes and sub-themes depict nursing EBP clinical skills as being diverse, where both didactic and clinical application play an exact role. Collaborative planning, therefore proper sequencing of content, was viewed by the participants as a program and curriculum obligation. EBP knowledge and competency for teaching clinical EBP was viewed as a faculty and preceptor obligation.

CHAPTER V: DISCUSSION AND SUMMARY

Text books that are considered current have been estimated on average to contain information that is at least 17 years old (Melnyk & Fineout-Overholt, 2005). For the clinical instruction of BSN students where EBP application is valued and viewed as an important focal point, nursing programs and their curricula must be supportive, assess threads, and where determined, faculty will need to change behavior and update their own EBP proficiency. Data analysis from this study indicated that participants were not satisfied with faculty, preceptor, or student knowledge of the principles and, therefore, application of EBP.

Health care professionals including teaching faculty are accustomed to using standard criteria for measuring student clinical competence (Bloom & Krathwolh, 1956). Description of student growth or change in behavior determining if learning has or has not taken place requires outcomes that are precise, concrete, and measurable (Morris & Faulk, 2012). The creation of EBP core evaluation criteria, as done by this study, will support clinical curricula through its given standardization and by its adaptability for concretely measuring student EBP clinical competence across the curriculum. Thus, an initial tool has been developed for BSN program clinical settings.

Research Questions and Interpretation

Research Question One

The discussion begins by going back to the chief purpose of answering the given research questions. Addressing the first research question, ten core clinical evaluation criteria were defined by expert EBP nursing faculty for use in evaluating BSN students' application of EBP by clinical faculty during student clinical experiences. The findings demonstrate that EBP faculty experts from a variety of college settings and locations across the country express the support

required for making certain that students are competent in using basic nursing EBP principles. It is clear that participants associated successful behavior with the student's ability to use current evidence in their patient care plan, identification of clinical practice issues, patient or population problems, and application of further EBP actions.

It is crucial for BSN nursing education to move beyond the technical acts of conveying knowledge. Educational settings must embrace EBP as a culture, where students engage in the understanding of the professional nurses' role for using evidence in practice (Forsman et al., 2009). An introduction of EBP should begin early in the program and develop accordingly so knowledge is used and skills are practiced routinely (Oermann, 2008). As well, teaching the relevance of nursing EBP must be a required component of baccalaureate education early on so that nursing students' inquiry for knowledge becomes self-directed and independent (Profetto-McGrath, 2005). *"Expectations need to be EBP specific early on and clear in all courses."*

The results of this study have also produced phases of learning, where the novice level student in phase I will need faculty support, the midway level student in phase II will be at a stage where progressive application is expected, and the phase III student will competently apply clinical EBP on a more independent basis. Therefore, an initial step toward clinical evaluation of BSN students' application of EBP utilizing a curriculum phasing process is entitled the *Bostwick EBP Clinical Nursing Evaluation Criteria* as shown in Table 5.1. The researcher added Bloom's Taxonomy objective wording to the participants' definition of each criterion for the purpose of creating statements with specific measureable outcomes (Bloom & Krathwolh,1956)**.**

Bostwick EBP Clinical Nursing Evaluation Criteria	Competency Outcome (the student will :)	
C1. *Internal Evidence*	Integrate internal evidence (client data) while caring for that patient, that day for optimal outcomes.	**Phase 1:** Faculty Guided Support C1-C3
C2. *Guideline Recommendation*	Develop recommendations utilizing clinical practice guidelines for nursing practice (realizing policies and procedures in place).	
C3. *Values*	Incorporate nursing EBP while perceiving the uniqueness of each individual (patient preferences and values).	
C4. *Inquiry of Evidence*	Locate at least one source of evidence from a reputable database relating to the PICO clinical question.	**Phase 2:** Faculty Guided Progression C1-C6
C5. *Relevance*	Determine if and how the evidence is clinically relevant to nursing practice.	
C6. *Data Search*	Demonstrate use of a systematic approach (theory) for searching for evidence in a reputable database, i.e. development of synonyms from the PICO question and correct use of Boolean operators per the database being searched.	
C7. *Outcomes*	Identify patient specific outcomes related to particular clinical problems.	**Phase 3:** Independent with Faculty Overview C1-C10
C8. *Disseminate*	Disseminate accurately synthesized results of the research to faculty and others as identified.	
C9. *Appraisal*	Demonstrate beginner level critical appraisal of the research literature in respect to generalizability (consistent use of critical rapid appraisal recommended).	
C10. *Evidence Decision*	Demonstrate a provision of care from the standpoint of evidence, rather than tradition i.e. "this is how we have always done it."	

Table 5.1 *Bostwick EBP Clinical Nursing Evaluation Criteria*

Because study participants provided criteria from most essential to more advanced

nursing EBP skills, learning outcomes can more easily be across the curriculum. Phasing allows

for placement and sequencing of core evaluation criteria across the curriculum. "*There won't be*

time for students to do all of these competencies with each patient, but more in a semester

approach on a whole." The three phases: 1) Faculty Guided Support; 2) Faculty Guided

Progression; and 3) Independent with Faculty Overview are expected to be flexible without

complicated borders, sometimes overlapping with the threading EBP competencies from course

to course.   Introductory nursing courses with faculty guided support should be comprised of the

more basic initial criteria, whereas the program final semester courses would expect students to

be independently applying all EBP criteria. Curriculum assessment reporting would ensure that

all criteria are being utilized at certain points across the curriculum and that final semester

students are independently applying all nursing EBP criteria in practice.

Relationship to Theoretical Context

Melnyk and Fineout-Overholt's (2003) EBP framework (see Figure 1.2) is interconnected

and demonstrates a cyclical course via distinct aspects within a context of caring. The aspects of

the framework focused on in this study were: 1) *Research Evidence and Evidence-based*

Theories; 2) *Clinical Expertise*; 3) *Patient Preferences and Values*; and 4) *Innovative Clinical*

Decision-Making. The aspect of *Quality Patient Outcomes* was not addressed in this research.

As an entire entity, the framework creates an *Overall EBP Organizational Culture.* Core

evaluation criteria resulting from this study which support the different aspects of the theoretical

framework are shown in Table 5.2.

Bostwick EBP Clinical Nursing Evaluation Criteria	**Association with Theoretical Framework**
C1. *Internal Evidence*	*Innovative Clinical Decision-Making*
C2. *Guideline Recommendation*	*Patient Preferences and Values*
C3. *Values*	*Research Evidence and Evidence-based Theories* *Clinical Expertise*
C4. *Inquiry of Evidence*	*Innovative Clinical Decision-Making*
C5. *Relevance*	*Research Evidence and Evidence-based Theories*
C6. *Data Search*	*Research Evidence and Evidence-based Theories* *Innovative Clinical Decision-Making*
C7. *Outcomes*	*Research Evidence and Evidence-based Theories*
C8. *Disseminate*	*Research Evidence and Evidence-based Theories* *Innovative Clinical Decision-Making*
C9. *Appraisal*	*Innovative Clinical Decision-Making*
C10. *Evidence Decision*	*Innovative Clinical Decision-Making*

Table 5.2 *Final Core Evaluation Criteria Association to Theoretical Framework*

Common evaluation of student performance in the clinical area includes personal

motivation to learn, professionalism, caring attitude, correlation of the patient's illness to

assessment, nursing diagnosis, plan for care, implementation of that care, evaluation, new and

previous knowledge connections, ability to reflect and prioritize, recognition of normal and abnormal, implementation of appropriate care, critical thinking, communication, collaboration, and technical skill abilities (Benner, Tanner, & Chesla, 2009). Fitting with these evaluation points is students' ability to competently perform EBP criteria as identified by the expert participants in this study.

In nursing education, students have long been evaluated for using their learned patient assessment skills. During clinical experiences, students are expected to report what they have recognized as being within normal limits or abnormal. Phase I, core evaluation criteria addressing this include: C1: <u>Internal Evidence</u> being patient specific and C3: <u>Values</u> or preference of the patient. Following internal data collection, C2: <u>Guideline Recommendations</u> utilizing already synthesized clinical practice guidelines may be explored during which there is both faculty and ideally an embedded course librarian. *"For UG* (under graduate) *it may be best if they search for pre-synthesized evidence (i.e., CPG or SR's) that way if they find one item of evidence then it is already synthesized for use in practice."*

Phase II evaluation criteria are considered to require more skill and clinical experience beginning with C4: <u>Inquiry of Evidence</u>, the student uses a well-designed PICO question where often interprofessional collaboration is desired for key word development, i.e. faculty, content, or practice experts, and classroom peers; C5: <u>Relevance</u> of the evidence found is to be determined based on the original PICO question for which revisions may be needed; and C6: <u>Evidence Search</u> where students use a theory base approach in advancement of information literacy skills for a multi-database search not only for clinical practice guidelines, but also primary and secondary research across the evidence hierarchy.

Phase III evaluation criteria are the most advanced skills for a basic nursing program and final semester students would be expected to independently initiate and successfully complete these EBP clinical competencies: C7: <u>Outcomes</u> address the student's ability to confidently identify patient specific outcomes related to particular clinical problem(s); C8: <u>Dissemination</u> where the student effectively communicates synthesized internal and external evidence to faculty and or others; C9: <u>Appraisal</u> via a beginner level rapid critical appraisal approach is added for additional synthesis of research evidence and its application to the population; and finally C10: <u>Evidence Decision</u> demonstrates a collective EBP provision of care from the standpoint of evidence, rather than tradition.

Research Question Two

In addressing the second research question, participants responded to what factors currently exist for nursing faculty EBP experts when undertaking the evaluation of BSN nursing students' application of evidence-based practice during clinical experiences. This exploration provided real-situation accounts of current clinical EBP barriers and even more importantly counters for those barriers. Further discussion will be presented through the study's theme and sub-theme findings.

Theme I

Theme I: Lack of an Overall EBP Culture. Although educators are held accountable for maintaining an up-dated program curriculum and for maintaining current lesson outcomes (Oermann, 2008), this must be supported by an overall EBP culture. This includes the collaborative support of stakeholders who share mutual partnerships for common goals associated with the education of clinical EBP.

Theme II

With lack of an overall supportive culture, it is not surprising to find that there is a Lack of Program EBP Culture. Those faculty and preceptors who are individual champions of clinical EBP within educational programs will continue to have an upward battle where faculty goals are not mutual and educational institutions do not embrace what is structurally a sound EBP culture. An EBP soundly structured curriculum applies "… conscientious, explicit, and judicious use of theory derived, research-based information in making decisions about care delivery to individuals or groups of patients and is in consideration of individual needs and preferences" (Ingersoll, 2000, p. 152).

Not only must clinical faculty and preceptors broaden their own knowledge base on the principles of EBP, but they must also incorporate these principles by using them in their own practice. For those educators that are incorporating EBP into their own practice, an ease of transiting EBP into the content they teach will occur .*"…faculty that are currently involved in EBP implementation projects have a better understanding."* In addition, clinical faculty will be better educationally suited to incorporate EBP without causing further workload issues.

Sub-theme I

Sub-theme I: Faculty and Preceptor EBP Knowledge and Educational Development address the need of clinical educators' and preceptors' advancement and expansion of EBP education. The characteristics of current faculty and preceptors provided by participants in this study all concur with the need for knowledge, especially if not keeping up with EBP principles by teaching a course specific to EBP processes, being involved in clinical EBP projects, or having had formal education on EBP within the last five years. Previous research has noted a minimal comfort level among clinical faculty when suggestions for embedding EBP principles

into their clinical practica are made; therefore, its value is not apparent to students (Halcomb & Peters, 2009). Even Advanced Practice Registered Nurses (APRNs), who hold prescribing qualifications and are often employed in academic roles, have diverse opinions on the concept of evidence (Banning, 2005). These professionals not only had difficulty in defining, but also in differentiating between research and EBP (Banning, 2005).

Sub-theme II

By definition, a skill is an ability and capacity acquired through deliberate, systematic, and sustained effort to efficiently and adaptively carry out complex activities or job functions involving ideas (cognitive skills), things (technical skills), and/or people (interpersonal skills) (Morris & Faulk, 2012). Sub-Theme II: Competence for Teaching EBP addresses although well prepared and knowledgeable faculty may understand the steps involved in research and research methods, the application of that knowledge differs between EBP and research (Oermann, 2008). Reiterated again by this study, it cannot be assumed that faculty teaching a research course have the knowledge base to teach EBP for nurses, nor can it be assumed that faculty members who devotes themselves to full-time research have the knowledge and competency to teach EBP and its applications. As students need to be competent, those faculty teaching EBP must not be only competent, but proficient. If faculty do not have a skill level of proficiency, the designing of student clinical curricula for the accomplishment of essential criteria will fail in the light of having an EBP focus.

> Clinical experiences must be designed to enable accomplishment of essential
> competencies for the level of educational preparation. Clinical experiences
> provide exposure for learners to encounter specific concepts related to
> health/illness/disease or professional behaviors within the curriculum.

Experiences assist leaners to discover pertinent connections between theory

and practice. Experiences in health care settings provide opportunities for

learners to develop cognitive and psychomotor, or affective learning. Morris &

Faulk, p. 131-132

In order for faculty and preceptors to evaluate students, they are also expected to be competent, if

not proficient in nursing EBP principles that are to be applied in the clinical setting.

Theme III

Influencing Expectations for Program Curriculum (Theme III), EBP curriculum threads

must be evident and measureable. Student clinical outcome expectations are to be determined

through faculty collaboration and may focus on empirical and/or qualitative measures to ensure

the required skill level is attained. Sub-themes under Theme III further divided this into didactic

and clinical specifications.

Sub-theme III and IV

In the classroom, didactic (Sub-theme III) revisions need to consider what knowledge

levels students must achieve to meet the classroom learning outcomes of each course.

Expectation data for clinical instruction (Sub-theme IV) strongly indicate that faculty evaluation

of students' competent clinical application of EBP for bridging theory to practice is of critical

nature.

If nursing EBP is not evaluated in the clinical area, practice will not engage the

application of theory (Distler, 2007) and the lack of an EBP culture and curricula will remain

part of the real world. This all requires expectations of faculty, preceptors, and students as

emerged in Theme III and Sub-theme III of this study. The expert participants produced baseline

clinical expectations for BSN students through established core clinical criteria which were

based on EBP concepts within the current literature and linked to a substantial EBP framework for nurses.

Secondary Finding

Certain characteristics were required of the purposive sample in order to participate in the study; however, beyond this, the sample was varied. There were interesting secondary findings related to the sample. The average of faculty age fell within 45-54 years, with the majority (88.24%) over the age of 45 years. Twelve participants (70.59%) were between the ages of 45-54 and three (17.65%) were between the ages of 55-64. This coincides with the aging population of nursing educators. The average age that a nurse educator retires in this country is 62.5 years. Anywhere from 200-300 doctorally-prepared nurse educators and 220-280 MSN- prepared educators will be retiring between the years of 2012 and 2018 (Rosseter, 2012).

Delimitations

Delimitations are those characteristics selected by the researcher to define the boundaries of the study (Leedy & Ormrod, 2013).

1. Faculty who do not have EBP teaching knowledge or four years of clinical teaching experience as defined by both the *Clinical Nursing Faculty* and *Clinical Nursing EBP Experts* definitions will be excluded.

2. Faculty self-efficacy in other subject areas will not be considered.

3. Deans, Leaders, and Directors will screen potential participants initially. Participants will self-screen according to inclusion criteria. The demographic questions in R1 will allow the researcher to further screen participants for proper inclusion criteria. Participants who do not meet all inclusion criteria will not be included in this study.

4. The results of the proposed study will not be generalizable to other degree-bearing nursing programs outside of BSN education or other health science curricula (Adler & Ziglio, 1996). Delimitations of this study are related to the sample. This study was conducted using a single, purposive sample of BSN teaching faculty that met inclusion criteria as defined by the researcher. An attempt was made to collect data from a geographically dispersed EBP expert faculty, where ten states were represented; therefore, the ability to generalize these results to all BSN programs is limited.

Limitations

While care was taken to assure rigor of the study design, various limitations are acknowledged. Quantitative measures used were lower level statistics. Within the I to VII scaled research evidence hierarchy, non-probability research designs are given a lower ranking at the level of IV (Polit & Tatano Beck, 2008). Despite an acceptable response rate, in self-reported data a multitude of personal variables related to the individual participants may have contributed to bias. A challenge in interpreting findings from this level of evidence branches from the real world where participant behaviors, states, attitudes, and characteristics are interconnected in multifaceted and intricate ways (Creswell, 2009; Polit & Tatano Beck, 2008). Furthermore, a bias that may have influenced the results is of those contacted but who chose not to respond; therefore, unknowingly there may be important contributions that differed from the participants. Potential EBP faculty experts may have not had the opportunity to participate should some of the deans, leaders, or managers had chosen not to, or were too busy to, forward the study information on to potential participants as requested by the researcher.

The inclusion criteria for this purposive study called for participants that were experts. It would seem reasonable to assume that all participants were experts with the knowledge and

experiences that would raise them to the level of expertise required. However, another limitation of the study may present itself if the underlying educational assumption was inaccurate: Experienced and educationally prepared nursing EBP experts were expected to provide their honest expert opinions.

Implications for Nursing Education

The adoption of clinical core competencies to be utilized by clinical faculty for the evaluation of BSN students' application of EBP from theory to practice is an important initial step for curricula. Core clinical competencies need to be accepted by all faculty involved in the education of BSN students. All levels of curriculum from a foundational course to advanced medical-surgical course must collaborate, deciding where core clinical criteria would be introduced and at which levels expected competencies will be evaluated. The leveling of the ten criteria across the curriculum may be a more feasible option in relation to faculty concerned with heavy classroom and clinical teaching workloads.

The core evaluation criteria as a unit, presented by rank and order in the findings of this study, offer an option for faculty, during the revision of clinical curricula to include student application of EBP expectations through established criteria which have measurable outcomes. These core evaluation criteria, not only allow for determining student competency at higher levels in a BSN program, but are arranged in an order such that evaluation criteria may be used across the clinical curriculum from a basic level to a more advanced level. Therefore, they may also serve as a tool and vehicle for standardization and communication between faculty to faculty and faculty to student. Actual level determination for each competency should be evaluated by an internal EBP expert in every program.

Curriculum Recommendations

Integrating a strong EBP culture is not yet a priority in the nursing profession. Nursing as a science is new on the scene of producing research evidence as compared to medicine, psychology, occupational therapy, physical therapy, and other science based disciplines, yet the profession is among the oldest. Professional autonomy and self-sufficiency furthering the securement of the profession's distinct body of knowledge requires astute plans toward the growth an EBP culture. These plans need to be endorsed or at least accepted by all faculty teaching in BSN classrooms and clinical environments. The clinical evaluation created in this study, knowing that it may require future revision, is readily available and will serve as an immediate progressive evaluation strategy for the enhancement of delivering nursing EBP care.

Beyond the scope of the research questions posed, but within the exploration of factors, program recommendations for BSN curriculum include:

1) Prompt curriculum revision and planning, inclusive of internal or external EBP expert consultation. The plan must support faculty development and preceptor education, as well as ongoing EBP education. During this planning period, it is also encouraged that the program addresses how curriculum EBP threads will be assessed for annual reporting.

2) Initiation of EBP core evaluation criteria tool (*Bostwick EBP Clinical Nursing Evaluation Criteria*) across the clinical curriculum.

3) Curriculum review of assessment reports after the evaluation tool is in place, along with future literature review for understanding current use of core evaluation criteria for the application of EBP by the BSN student in the clinical setting.

Summary

The study findings provide incentive for all clinical educators, as part of their responsibility, to provide nursing students with clinical instruction bridging EBP theory to EBP practice. Nursing education, as an intercollaborated body, must examine curricula, as well as the preparation for faculty and preceptors teaching in the clinical setting. There continue to be several barriers for changing curricula; however, important findings from this study reveal that there are as many counters as barriers. It is no longer professionally appropriate or acceptable to have a lack of interest, lack of knowledge, lack of inquiry, or to perceive a lack of authority (Gerrish et al., 2008) when EBP, used in a theoretical approach, is the best option for making nursing care and practice decisions.

As one participant summarize, (there are) …*"champions that have taken the information and are attempting to disseminate the importance of the practice of nursing, based on the evidence at the clinical level. Academic leaders have been discussing the importance of EBP within their inclusive circles for almost a decade. A rush within BSN programs* (is) *to have those teaching students become up-to-date and* (also) *have clear threads of EBP within the curriculum itself. Once the tipping point is reached within the academic setting, the momentum of knowledge and understanding for clinical application will explode. Nurse champions will equate evidence and innovation to quality patient care outcomes."*

In anticipation, there are actions that BSN programs may now take promptly in order to ease that tipping point. A program required use of core evaluation criteria in the clinical setting would not only support student learning outcomes, but also encourage faculty and preceptors to broaden their knowledge of EBP principles and processes. Application of EBP in the clinical setting removes the learning from having only a hypothetical realm (Nolan, 2005). Because EBP

is about answering clinical inquires with today's most current scientific evidence, program curricula have no option but to begin supporting EBP for the application of EBP in student clinical experiences.

Future Research

Efforts to determine strategies that work best in clinical practice are a necessity. Descriptive studies identifying the barriers to EBP have given the nursing profession a strong foundation; however, "pilot intervention work" involving quantitative experimental study is required (Fineout-Overholt, Melnyk, & Schultz, 2005, p. 343). Further investigation, testing the core evaluation criteria as a result of this study may offer a reliable and valid instrument specific for the measurement of EBP competencies for which nursing professionals are responsible. Future research should also encompass the current barriers to nursing EBP and those efforts from this study which are described to counter these barriers, all of which may lead to additional nursing measures that indeed contribute to patient quality outcomes.

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APPENDIX A

PERMISSION TO REPRINT COPYRIGHT

Lina Bostwick

From:	Finkelman, Anita [A.Finkelman@neu.edu]
Sent:	Sunday, December 09, 2012 2:50 AM
To:	Lina Bostwick
Subject:	RE: Permission to reprint

Hi Lina
Yes you may have my permission to use:
Figure 1.1.The model describes where educational content are best integrated in a nursing program curriculum based on the overarching IOM five core competencies. From *Teaching IOM: Implications of the institute of medicine reports for nursing education (p.84),* by A. Finkelman and C. Kenner, 2012, Silver Spring, MA: American Nurses Association. Copyright 2012 by Anita Finkelman. Reprinted with permission.

I am very interested in what you are going to do your research so when you are able and wish to would

love to hear more details. The integration of the 5 IOM healthcare core professions competencies is my

passion. I am very glad you must see some of this too.

Anita Finkelman

Anita Finkelman, MSN, RN
School of Nursing
Bouve College of Health Sciences
Northeastern University
102 Robinson Hall
Boston, MA 02115
a.finkelman@neu.edu
Mobile: 513-827-1373
Office: 513-871-5670
Fax: 617-373-7195 or 8675

From: Lina Bostwick [Lina.Bostwick@bryanhealth.org]
Sent: Saturday, December 08, 2012 4:22 PM
To: Finkelman, Anita
Subject: Permission to reprint

Lina Bostwick, Ed.D.-C, RN
Bryan College of Health Sciences
5035 Everett Street
Lincoln, NE 68506
Office #311
lina.bostwick@bryanlgh.org
402-481-8717

Dear Ms. Finkelman,

1

APPENDIX B

PERMISSION TO REPRINT COPYRIGHT

Lina Bostwick

From:	Ellen Fineout-Overholt [efineoutoverholt@etbu.edu]
Sent:	Sunday, December 09, 2012 4:41 PM
To:	Lina Bostwick
Subject:	Automatic reply: Permission to use Framework: EBP Organlizational Culture

I am so glad that you wrote. I will be out of the office December 3 until December 10th, but will be checking email regularly. Your correspondence is so important to me. Please know that I will reply to you as soon as I can. If you need immediate assistance, please email Ms. Hannah Allen, ETBU Nursing's Administrative Secretary, and she will be able to assist you (hallen@etbu.edu).

Have a terrific day,
Ellen

Anything is Possible, When YOU Believe!
Ellen Fineout-Overholt PhD, RN, FNAP, FAAN
Dean & Professor, Groner School of Professional Studies
Chair, Department of Nursing
East Texas Baptist University
One Tiger Drive
Marshall, TX 75670
Ph: 903-923-2211
Fax: 903-938-9225
efineoutoverholt@etbu.edu
ETBU Nursing: Intentionally Transforming Lives...
Developing Clinical Leaders for the 21st Century

1

I am currently writing a research proposal and working toward an Ed.D at the College of Saint Mary in Omaha, Nebraska. I am currently teaching EBP and Research for Nurses for an undergraduate course and an EBP and Informatics graduate level course. My research interest is creating a standard evaluation tool for clinical faculty supervising BSN nursing students in clinical settings for their application of EBP. I would like to use your copyrighted diagram from 2012, in order to display educational content as best integrated into nursing program curriculum which is based on the overarching IOM five core competencies.

The exact diagram would be displayed in a figure. Figure 1.1.The model describes where educational content are best integrated in a nursing program curriculum based on the overarching IOM five core competencies. From *Teaching IOM: Implications of the institute of medicine reports for nursing education (p.84)*, by A. Finkelman and C. Kenner, 2012, Silver Spring, MA: American Nurses Association. Copyright 2012 by Anita Finkelman. Reprinted with permission.

Thank you for your time and consideration.
Sincerely, Lina Bostwick

Lina Bostwick, Ed.D.-C, RN
Bryan College of Health Sciences
5035 Everett Street
Lincoln, NE 68506
Office #311
lina.bostwick@bryanlgh.org
402-481-8717

2

Lina Bostwick

From: Ellen Fineout-Overholt [efineoutoverholt@etbu.edu]
Sent: Monday, December 10, 2012 11:02 AM
To: Lina Bostwick; melnyk.15@osu.edu
Subject: RE: Permission to use Framework: EBP Organizational Culture
Attachments: EBP Paradigm Framework 2009.jpg

HI Lina...your work sounds wonderful. Please consider this permission to use our Conceptual Framework in your research. Attached please find the latest jpg of this framework.

Looking forward to hearing more about your work. Please drop us a line and let us know how things are going as you move forward.

All the best,
Ellen

Anything is Possible, When YOU Believe!
Ellen Fineout-Overholt PhD, RN, FNAP, FAAN
Dean & Professor, Groner School of Professional Studies
Chair, Department of Nursing
East Texas Baptist University
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efineoutoverholt@etbu.edu
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EAST TEXAS BAPTIST UNIVERSITY

From: Lina Bostwick [mailto:Lina.Bostwick@bryanhealth.org]
Sent: Monday, December 10, 2012 12:32 AM
To: Ellen Fineout-Overholt; melnyk.15@osu.edu
Subject: RE: Permission to use Framework: EBP Organlizational Culture

Dr. Fineout-Overholt and Dr. Melnyk,
I appologize for this second e-mail, however I was writing feverishly with an actual physical fever due to a head cold the first time I wrote.

This should make more sense.

Thank you, Lina

1

Lina Bostwick, Ed.D.-C, RN
Bryan College of Health Sciences
5035 Everett Street
Lincoln, NE 68506
Office #311
lina.bostwick@bryanlgh.org
402-481-8717

Subject: Permission to use Framework: EBP Organizational Culture

Dear Dr. Melnyk and Dr. Fineout-Overholt,
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I would like to use your copyrighted framework from 2003, in order to display the application needs for evidence & theory, expertise, and client values. The framework truly describes the required needs for best practice decision making.

I personally have been practicing the use of your framework in my own clinical work with students. With upper level students, assigned in the clinical area I have been expecting each student to create a solid question to search the literature regarding a patient or family or practice issue. They rapidly critique the evidence found, they take into consideration experts i.e. sometimes this is staff on the floor or nurse practitioners or physician that has time. They also are to incorporate the needs of the client they are directly caring for that week. Either in post conference or one on one with faculty the student disseminates their new knowledge. Students may also explore Qualitative work in order to get a better handle on patient values. Verbal feedback from students on this activity has been exceptional. I have some absolutely wonderful stories of student learning using this approach.

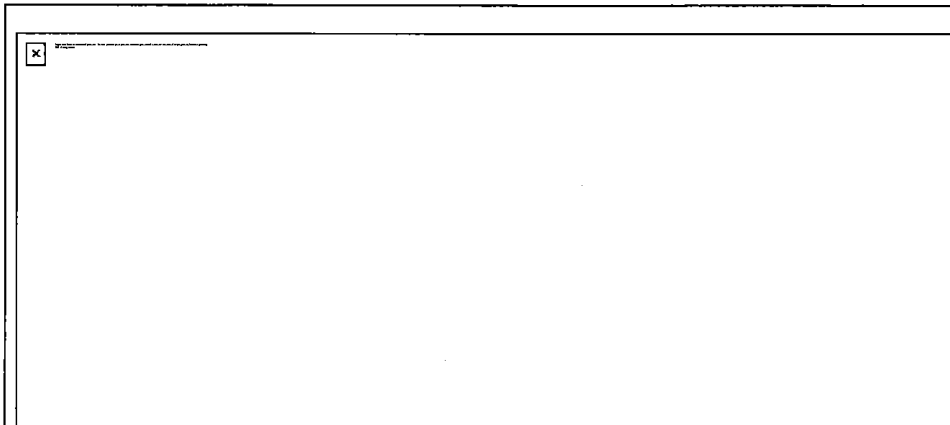I appreciate your consideration for this, Lina Bostwick

Figure 1.2. Framework depicting research evidence and evidence-based theories, clinical expertise, and patient preferences and values combined are required for clinical decision making in an EBP organizational culture. From "Evidence-based practice step by step: Igniting a spirit of inquiry: An essential foundation for evidence-based practice" by B. Mazurek Melnyk , E. Fineout-Overholt, S. Stillwell, & K. Williamson, 2009, *American Journal of Nursing, 109*(11),

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ETBU Nursing: Intentionally Transforming Lives...
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APPENDIX C

PERMISSION TO REPRINT COPYRIGHT

Lina Bostwick

From: Jenny Krahn [jkrahn@ucalgary.ca]
Sent: Wednesday, December 12, 2012 2:16 PM
To: Lina Bostwick
Cc: Fthartman; gregory.skulmoski@zu.ac.ae; Fhartman@ucalgary.ca
Subject: Re: Permission to use Framework: EBP Organlizational Culture

Hello Lina,

Nice to hear from you. If the copyright is with the authors, you also have my blessing. I do concur that you should consider contacting the journal and recommend acknowledging Dr. Skulmoski.

Best wishes with your program!

Jenny

Dr. Jenny Krahn, Ph.D., PMP
BSEN (Project Management) | Haskayne School of Business | Scurfield Hall
University of Calgary | Calgary | AB T2N 1N4 Jenny.krahn@haskayne.ucalgary.ca

On 12-12-11 9:23 AM, Fthartman wrote:

Hi Lina,

I do not recall who owns the copyright to the diagram, but if it is with the authors, you have my permission and blessing. Alternatively, young wish to contact the journal. I might suggest, either way, that you may wish to acknowledge Dr. Skulmoski for developing that great diagram.

In my research team, over the years, we have used various forms of the Delphi method and even developed variants to suit circumstances.

We do pilot studies in two ways. One is to use the planned Delphi approach to test it and knock the kinks out of it. The other approach is part of data validation by triangulation, so we use a different (qualitative or quantitative) approach to capture some overlapping information in order to test whether the data is sensitive to the collection method.

I hope I have helped. Please let me know if yo need more information.

Kind regards and best wishes,

Francis

Francis Hartman PhD FEIC FICE FCAE CEng PEng
President
QeD Inc.
Tel: +1 403 681 7337.

Emeritus Professor, Department of Civil Engineering, University of Calgary

On 2012-12-11, at 7:18, Lina Bostwick <Lina.Bostwick@bryanhealth.org> wrote:

1

Dear Dr. Skulmoski, Dr. Hartman, and Dr. Krahn,

I am currently writing a research proposal. I am seeking an Ed.D at the College of Saint Mary in Omaha, Nebraska. I am currently teaching EBP and Research for nurses for an undergraduate course and an EBP and informatics graduate level course. My research interest is creating a standard evaluation tool for clinical faculty supervising BSN nursing students in the clinical settings for their application of EBP.

I would like to use your Typical Delphi Process diagram exactly as printed from your research article entitled "The Delphi Method for Graduate Research" from 2007. This diagram is the best I've found in the literature to assist in describing a three Round Delphi.

My research proposal is designed to use Delphi rounds with Nursing experts that have Evidence-Based Practice knowledge and are currently supervising BSN nursing students in acute care clinical settings for the purpose of creating a faculty evaluation for student competence in the application of Evidence-Based Practice.

I would also appreciate any knowledge that you would be willing to share on the importance of an initial pilot study. What are the benefits of a pilot when utilizing the 3R Delphi method? How does this make the research process more reliable therefore valid? Sample size for my proposal is 20.

Thank you so much for your publication of this informational research article. I appreciate your consideration for my requests.
Sincerely, Lina Bostwick

Lina Bostwick, Ed.D.-C, RN
Bryan College of Health Sciences
5035 Everett Street
Lincoln, NE 68506
Office #311
lina.bostwick@bryanlgh.org
402-481-8717

Lina Bostwick

From:	Fthartman [fthartman@gmail.com]
Sent:	Tuesday, December 11, 2012 10:24 AM
To:	Lina Bostwick
Cc:	gregory.skulmoski@zu.ac.ae; Fhartman@ucalgary.ca; jenny.krahn@haskayne.ucalgary.ca
Subject:	Re: Permission to use Framework: EBP Organlizational Culture

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Francis

Francis Hartman PhD FEIC FICE FCAE CEng PEng
President
QeD Inc.
Tel: +1 403 681 7337.

Emeritus Professor, Department of Civil Engineering, University of Calgary

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> Dear Dr. Skulmoski, Dr. Hartman, and Dr. Krahn,
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lina.bostwick@bryanlgh.org
402-481-8717

APPENDIX D

RESEARCHER BRACKETTING

1. Clinical experiences in nursing curriculum provide learning opportunities for the application of theory.

2. Learners must build on previous knowledge and experiences to provide tangible nursing EBP care in clinical settings.

3. New situations, anticipated or unexpected, arise in clinical experiences and provide opportunity for new knowledge as well as critical reflection regarding previous knowledge.

4. Nursing is a holistic science and a profession that has its own body of knowledge, therefore is dissimilar to other healthcare disciplines.

5. A consistent approach in evaluation of student clinical competencies provides both the faculty and learner guidance for the process. Use of uniform terminology allows for clearer communication, as well as, reflects the importance of shared practice values.

7. EBP knowledge and skill competency are a necessity for a graduating BSN student.

8. EBP principles, as concepts and processes, are taught in BSN program curricula.

9. EBP knowledge and competency are related to the individual's EBP use in the clinical setting.

The profession of Nursing is both a holistic art and a science. Attaining an education at either the undergraduate or the graduate level requires cognitively and culturally learned behaviors, actions, and procedures. A career in the profession is challenging. Teaching students, so that they may become skilled practioners in the profession is even more challenging. Wisely, selected teaching strategies will promote passion, energy, and a student mindset that welcomes continual change. Classroom and clinical success, for both faculty and students, is dependent upon creativity, critical thinking, use of evidence-based practice, and the ability to explore. All of

us are all born into one era and we build our careers in another, for this reason faculty must also be futuristic (Bevis & Watson, 2000). Society and health care needs are constantly evolving, even over relatively short periods of time in this 21st century. Because of this, the role of the educator changes often. Nurses are more autonomous and the responsibility of the practice itself has expanded. Therefore, the educational preparation of undergraduate and graduate students must be responsive and continually updated.

A particular emphasis on separating complex tasks into sub-skills is often useful (Bradshaw &Lowenstein, 2010). This approach allows students to accomplish a certain number of tasks that eventually will be used all together. The provision of a nursing education is complex for which there are many parts. One might compare the professor role to that of a trainer in an athletic club. Students are given access to the equipment (text books, literature, hands on lab and clinical experiences, expertise, assignments, projects, feedback, classroom group or individual activities) and after that, it is the educators job to expect that students learn (Paush, 2008). It is the educator's position to assess the student, making sure that they are exerting themselves.

Formal assessment of student learning is done through multiple approaches. Testing, quizzes, short written assignments, formal written paper assignments, reflection activities, graded simulation, class and post conference participation, clinical skills, standard testing in preparation for NCLEX, clinical facility project assignments, and student led findings of current or historical literature of relevance to explore possible answers to current day issues in nursing. Formal assessment allows faculty to have a concrete measure of what students have learned. Assessment measures allow faculty to analyze gaps that may exist in the curriculum.

An educator's role is not only of teacher and role model, but also of being an expert learner as well. Serious life-long-learners seek both student and colleague feedback, take time for reflection on educational approaches for best student learning outcomes, use evidence-based practice approaches to enhance student learning experiences, improves communication and student understanding of concepts, and also seeks knowledge in the field through formal education, faculty development, and other professional networking relationships.

Student clinical evaluations for this researcher have revealed that students have appreciated the application of nursing EBP principles in either an individual or collaborative approach. Rather than creating a care map in preparation and planning for clinical experiences, senior students allowed to: 1) relate their patients internal data for the creation of a PICO question; 2) use information literacy skills and the guidance of a science librarian for the search of appropriate evidence; 3) complete a rapid research appraisal on one source of evidence; 4) identify their assigned patients preferences and values; and 5) articulate findings in report to the clinical faculty relating the relevance of the evidence and outcomes has provided learning opportunities where the students practiced application of EBP skills. Having expected students to do this on multiple occasions has always delivered positive student feedback both verbally and written.

Another form of application of EBP in the clinical setting has been during post conference. The researcher, working with sophomore and junior level nursing students are asked to collaborate on a topic of interest to all based on patient care assignments in the clinical setting. Students then create a PICO question together and the science librarian meets with the students in a post conference to help them refine their PICO question for a best suited search. From there quantitative and qualitative abstracts are reviewed and students decide on which articles appear

to be the most relevant. It is expected that students pair up to read and critically appraise one of

the research articles. Another post conference day is used for the students to share their findings.

This use of EBP application has brought about students inclusion of staff nurses, advanced

practice nurses, and unit managers in the process.

On one other note, this researcher while in the clinical setting has found that students seem

to be prepared to ask better question of their resource nurses, advanced practice nurses,

physicians, physician assistants, dieticians, physical therapists, respiratory therapists, etc. when

expected to use nursing EBP principles and systems.

<div align="center">References</div>

Bevis, E., Watson, J., (2000). *Toward a caring curriculum: A new pedagogy for nursing*.

    International Sudbury, Massachusetts: Jones & Bartlett.

Bradshaw, M., Lowenstein, A., (2010). *Innovative teaching strategies in nursing related health*

    professions (5th ed.). International Sudbury, Massachusetts: Jones & Bartlett.

Pausch, (2008). *The last lecture.* New York, New York*:* Oxford University

EVIDENCE-BASED PRACTICE FOR CLINICAL CURRICULA

APPENDIX E

DEANS OF NURSING COLLEGES, CONSORITUM LEADERS, AND PROFESSIONAL

ORGANIZATION DIRECTORS LIST FOR OBTAINING PURPOSFUL SAMPLE

Contact List for Deans of Nursing Colleges:

Nursing faculty from these colleges have presented poster board presentations on teaching EBP at the annual Summer Institute of EBP in San Antonio, Texas.

1. Appalachian State University, Nursing Program
   Boone, North Carolina

2. Auburn University School of Nursing
   Downers Grove, Illinois

3. Bemidji State University, Nursing Program
   Bemidji, Minnesota

4. Cedarville University, Nursing Program
   Cedarville, Ohio

5. Concordia College, Moorhead, Nursing Program
   Moorhead, Minnesota

6. Drexel University College of Nursing and Health Professions
   Philadelphia, Pennsylvania

7. Frances Payne Bolton School of Nursing
   Cleveland, Ohio

8. Grand Valley State University, School of Nursing
   Allendale, Michigan

9. Indiana University of Pennsylvania, School of Nursing
   Indiana, Pennsylvania

10. Johns Hopkins School of Nursing
    Baltimore, Maryland

11. Lamar University, Nursing Program
    Beaumont, Texas

12. Mount Carmel College of Nursing
    Columbus, Ohio

13. Northland College, Nursing Program
    St. Cloud, Minnesota

14. Nebraska Methodist College, Undergraduate Nursing
    Omaha, Nebraska

15. New Mexico Highlands University, School of Nursing
    Las Vegas, New Mexico

16. Nebraska Wesleyan University, Nursing Program
    Lincoln, NE

17. Oral Roberts University, Anna Vaugn School of Nursing
    Tulsa, Oklahoma

18. Spring Hill College, School of Nursing
    Mobile, Alabama

19. Tarleton State University, Nursing Program
    Stephenville, Texas

20. Texas Woman's University, School of Nursing
    Dallas, Texas

21. UT Health Science Center at San Antonio, Nursing Program
    San Antonio, Texas

22. University of Central Florida, College of Nursing
    Orlando, Florida

23. University of Texas at El Paso SON, Nursing Program
    El Paso, Texas

24. University of Texas, School of Public Health
    a. Austin Campus
    b. Brownsville Campus
    c. Dallas Campus
    e. El Paso Campus
    f. Houston Campus
    g. San Antonio Campus

25. University of Texas at Tyler, Nursing Program
    Tyler, Texas

26. Winona State University, School of Nursing
    Winona, Minnesota

EVIDENCE-BASED PRACTICE FOR CLINICAL CURRICULA

Contact List for Nursing EBP Consortiums Leaders:

The Oregon Consortium for Nursing Education (OCNE) is a consortium of public baccalaureate and associate degree nursing programs that developed a nursing curriculum grounded in recommendations for the IOM.

1. Augustana College, School of Nursing
    Sioux Falls, South Dakota

2. Catholic University of America, Nursing Program
    Washington, DC

4. Charleston Southern University, Nursing Program
    Mt. Pleasant, South Carolina

5. Curry College
    Milton, Massachusetts

6. Emory University, Nell Hodgson Woodruff School of Nursing
    Atlanta, GA

7. LaSalle University, Nursing Program
    Philadelphia, Pennsylvania

8. Oregon Consortium for Nursing Education, OHSU School of Nursing
        a. OHSU – Ashland, Oregon Campus
        b. OHSU - Klamath Falls, Oregon Campus
        c. OHSU - La Grande Oregon Campus
        d. OHSU – Monmouth, Oregon Campus
        e .OHSU – Portland, Oregon Campus

8. St. Johns College of Nursing of Southwest Baptist University, Nursing Program
    Springfield, Missouri

9. University of Colorado Denver, School of Nursing
    Denver, Colorado

10. University of Massachusetts, Boston College of Nursing & Health Sciences
    Boston, Massachusetts

11. University of Nebraska Medical Center, Nursing Program
    Omaha, Nebraska

12. University of South Dakota, Department of Nursing
    Sioux Falls, South Dakota

13. University of Tennessee, Health Science Center
    Memphis, Tennessee

14. University of Wisconsin, Madison, Nursing Program
    Madison, WI

15. UPMC Shadyside School of Nursing
    Pittsburgh, Pennsylvania

16. Wright State University, Nursing Program
    Dayton, Ohio

EVIDENCE-BASED PRACTICE FOR CLINICAL CURRICULA

Contact List for Professional Organizational Leaders:

1. Academic Center for Evidence-Based Practice (ACE)

2. Center for Transdisciplinary Evidence-Based Practice (CTEP)

3. East Texas Baptist University (ETBU), EBP Practice Paradigm Conceptual Framework

4. Helen Fuld Leadership Initiative in Nursing Education (LINE)

5. National League for Nurses (NLN)

6. National League for Nursing Accrediting Commission (NLNAC)

7. Quality and Safety Education for Nurses (QSEN) initiative

8. Sigma Theta Tau International (STT)

APPENDIX F

INTRODUCTORY INFORMATION TO COLLEGE DEANS, CONSORITUM LEADERS,

AND PROFESSIONAL ORGANIZATION DIRECTORS

COLLEGE OF SAINT MARY

March 12, 2013

Lina Bostwick, Ed.D.-C, RN
College of Saint Mary
 7000 Mercy Road
Omaha, NE, 68144

<Name>
<Address1>
<Address2>

Dear <Name>,

I am writing you to let you know about an important research study for nursing educators called *Defining Evidence-Based Practice Evaluation Criteria for Clinical Curricula with Bachelor of Science in Nursing Students.* I am requesting your assistance by recommending potential participants for this research study. The research study is being conducted by me as a Doctor of Education candidate at the College of Saint Mary, an accredited program located in Omaha, Nebraska. I am contacting you because (< you are a College Dean> <you are a leader in the _____ consortium><professional organization director>). As a (<Dean> <consortium leader><Director>), you may also have the option to take part in the research study.

Participant inclusion criteria:
1. 19 years of age or older
2. Nursing faculty currently teaching in the clinical setting for at least 4 years or if no longer teaching in the clinical area, have done so within the last two years and were involved with clinical teaching for at least 4 years
3. Faculty must teach the level of student in the clinical that are enrolled in or have previously had courses in Evidence-Based Practice and/or Research
4. Faculty must also have contributed to nursing education by either teaching an Evidence-Based Practice (EBP) and/or Research course.

5. Faculty must also have contributed to or developed and disseminated findings on teaching EBP through presentations, poster board presentations, papers, through peer reviewed publication, or consultation

Once you have given thought to potential participants that meet the above inclusion criteria, I would ask that you forward the attachment in this e-mail to those individuals.

Evidence-based practice from theory to practice requires further exploration in clinical educational settings. It is vital for nursing educators to know more about core criteria for BSN students' application of EBP during clinical experiences as we know evidence transition is complex.

Please do not hesitate to contact me if you have any questions as you read over this material. I am happy to review any part of the research with you and answer any questions you may have. My contact information is 402-481-8717 or lbostwick@bryanlgh.org.

If your decision is not to forward this e-mail's attachment to potential participants, your decision will have no effect on you or the organizations for which you are associated with.

Thank you for your time.

Sincerely,
Lina Bostwick

Lina Bostwick

Enc. e-mail attachment

APPENDIX G

Delphi ROUND 1

Defining Evidence-Based Practice Evaluation Criteria for Clinical Curricula with Bachelor of Science in Nursing Students

<Dear Study Participant>

Sharing your expertise will take approximately 20-30 minutes or less. Please return this questionnaire round no later than (Date/time).

There are two main topics with this round that I am asking you to address. While completing, please have in mind the undergraduate nursing students in your program that have completed or are concurrently enrolled in an EBP or Research course and a basic statistics course.

Please note that if you have any additions or thoughts later during the course of this research process you may add these during Round 2 and Round 3.

Topic Area 1)
What are core evaluation criteria you identify as necessary for Bachelor of Science nursing students' application of evidence-based practice during clinical experiences? Please list all processes and elements/concepts within those processes you view as necessary. The list should describe what you see as primary in the fulfillment of student learning outcomes related to nursing EBP. In the box below, I have provided a brief unrelated example using the Nursing Process.

Example:

Category one: Patient Assessment

Concepts: On completion of the clinical experience the nursing student will

a) create an accurate correlation map from the clients history, current condition (physically, emotionally, spiritually, socially), and physical assessment
b) demonstrate a proficient head to toe assessment
c) document the head to toe assessment of client appropriately within one hour of the assessment
d) articulate an organized report of the client assessment to faculty

---

Topic Area 2)

What type of factors, if any, do you as a nursing faculty evidence-based practice expert experience in your undertaking of the evaluation of Bachelor of Science nursing students' application of evidence-based practice during clinical experiences?

If you have comments or questions about the research rounds, please contact the researcher at 402-481-8717 or lbostwick@bryanlgh.org.

Thank you for sharing your expertise! Lina Bostwick

APPENDIX H

COLLEGE OF
SAINT MARY

June 24, 2013

Lina Bostwick requested an Audit Trail be conducted for her qualitative aspect of her dissertation, "Evidence-Based Practice Core Evaluation Criteria for Clinical Curricula in Baccalaureat Nursing Programs". The Audit Trail was conducted on March 20, 2013.

In my opinion, the analysis followed the established processes for qualitative studies, remaining consistent with the intended purpose statement, research questions, and planned procedures approved by the Institutional Review Board. From a list of 101 core evaluation criteria elements, concepts, and processes reported by participants, the researcher unified the given terminology and counted duplicate items in order create a consolidated list of 24 initial core evaluation criteria. A coding system was used to highlight categories in which words and phrases fit. Research notes were written in the margins and coding occurred directly next to participant written responses. Coding assignments were given for similar words and/or word phrases to assist in organization as categories began to develop and themes emerged from the qualitative data analysis. The themes identified flowed directly from the participant written responses. The procedures utilized were clear, transparent, and well documented.

In summary, I attest that the criteria for trustworthiness, credibility, and dependability of the findings met the standards for data quality management. I served as auditor as part of my role as Doctoral Committee Chair.

Sincerely,

Lois Linden, EdD, RN
Associate Professor
Doctor of Education Program
College of Saint Mary
7000 Mercy Road
Omaha, NE 68106

PARTICIPANT CONSENT

(ATTACHMENT TO DEAN, LEADER, OR DIRECTORS INVITATION E-MAIL)

March 12, 2013

DEFINING EVIDENCE-BASED PRACTICE EVALUATION PRACTICE EVALUATION CRITERIA FOR CLNICAL CURRICULA WITH BACHELOR OF SCIENCE IN NURSING STUDENTS

IRB# CSM 1302

Dear Nursing Faculty,

You are invited to take part in an important research study for nursing educators. You have been identified by your <Dean><Leader><Director> as a clinical faculty with Evidence-Based Practice (EBP) expertise. Your expertise is key to this research.

The purpose of this research study is to describe what nursing faculty EBP experts identify as core criteria needed for the evaluation of Bachelor of Science in Nursing (BSN) students' application of EBP during clinical experiences. A secondary purpose of this study is to identify the type of factors, if any, that nursing faculty evidence-based practice experts report in their undertaking of the evaluation of Bachelor of Science nursing students' application of evidence-based practice during clinical experiences identify factors, if any, that expert EBP nursing faculty report when evaluating BSN students' application of EBP during clinical experiences. This research study is being conducted as part of my scholarly doctoral work at the College of Saint Mary in Omaha, Nebraska.

Participant Inclusion Criteria:
1. 19 years of age or older
2. Nursing faculty currently teaching in the clinical setting for at least 4 years or if no longer teaching in the clinical area, have done so within the last two years and were involved with clinical teaching for at least 4 years

3. Faculty must be teaching students in the clinical setting whom are at the level of being enrolled in or have previously had courses in Evidence-Based Practice and/or Research
4. Faculty must have contributed to nursing education by either teaching an Evidence-Based Practice (EBP) and/or Research course;
5. Faculty must have also developed and disseminated findings on teaching EBP through either presentations, poster board presentations, papers, through peer reviewed publication, or consultation

This is an on-line survey, therefore a link toward the end of this letter is provided.

The design of this study requires that you respond to a minimum of three; a maximum of four question rounds. The rounds will come on an every third day basis for over a nine day period of time. It will be vital to the research results that you participate in each round. The initial questionnaire will include demographic questions. Each round will take you no longer than 20-30 minutes to complete; and possibly less time than that. You are the EBP experts, so there is no need to overthink the questions asked.

You may receive no direct benefit from participating in this study, but it is possible you may gain some personal insights as you think through the round of questionnaires. The information gained from the study will enhance teaching at the College of Saint Mary and will contribute to the general teaching and learning knowledge, helping educators understand EBP competencies students should be held accountable to in their clinical experiences. Should you decide to participate, you are being asked to complete demographic information, faculty EBP experience survey, and a maximum of four on-line questionnaires. Your participation is strictly voluntary. Furthermore, your response or decision not to respond will not affect your relationship with the College of Saint Mary or any other entity. Please note that your responses will be used for research purposes only and will be anonymous. No one at College of Saint Mary will ever associate your individual responses with your name or e-mail address. The information from this study may be published in journals and presented at professional meetings. Your completion and submission of the surveys indicate your consent to participate in the study. You may withdraw at any time by exiting the questionnaire process.

At the end of the study, you will be asked if you would like to have your name associated as being a contributing participant to this research. This will be totally optional. Again your responses will never be associated with your name for privacy purposes.

This study does not cost the participant in any way, except the time spent completing the surveys. There is no compensation or known risk associated with participation. Please read *The Rights of Research Participants* below. If you have questions about your rights as a research participant, you may contact the College of Saint Mary Institutional Review Board, 7000 Mercy Road, Omaha, NE 68144 (402-399-2400).

Thank you for your consideration. If you have comments or questions about the research rounds, please contact the researcher at 402-481-8717 or lbostwick@bryanlgh.org.

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If you are 19 years of age or older and agree to the above please proceed to
https://www.surveymonkey.com/s/5KNYSBK and begin the survey.

Sincerely,

Lina Bostwick
Associate Professor of Nursing
Bryan College of Health Sciences
5035 Everett Street
Lincoln, Nebraska 68506
402-481-8717
lina.bostwick@bryanhealth.org
lbostwick63@csm.edu

SECTION 8: RIGHTS FOR RESEARCH PARTICIPANTS Each participant in your research study needs to receive a hard copy of the form below (or one like it that has been adapted to your population): **THE RIGHTS OF RESEARCH PARTICIPANTS* AS A RESEARCH PARTICIPANT AT COLLEGE OF SAINT MARY YOU HAVE THE RIGHT:**
1. TO BE TOLD EVERYTHING YOU NEED TO KNOW ABOUT THE RESEARCH BEFORE YOU ARE ASKED TO DECIDE WHETHER OR NOT TO TAKE PART IN THE RESEARCH STUDY. The research will be explained to you in a way that assures you understand enough to decide whether or not to take part.

2. TO FREELY DECIDE WHETHER OR NOT TO TAKE PART IN THE RESEARCH.

3. TO DECIDE NOT TO BE IN THE RESEARCH, OR TO STOP PARTICIPATING IN THE RESEARCH AT ANY TIME. This will not affect your relationship with the investigator or College of Saint Mary.

4. TO ASK QUESTIONS ABOUT THE RESEARCH AT ANY TIME. The investigator will answer your questions honestly and completely.

5. TO KNOW THAT YOUR SAFETY AND WELFARE WILL ALWAYS COME FIRST. The investigator will display the highest possible degree of skill and care throughout this research. Any risks or discomforts will be minimized as much as possible.

6. TO PRIVACY AND CONFIDENTIALITY. The investigator will treat information about you carefully and will respect your privacy.

7. TO KEEP ALL THE LEGAL RIGHTS THAT YOU HAVE NOW. You are not giving up any of your legal rights by taking part in this research study.

8. TO BE TREATED WITH DIGNITY AND RESPECT AT ALL TIMES.

THE INSTITUTIONAL REVIEW BOARD IS RESPONSIBLE FOR ASSURING THAT YOUR RIGHTS AND WELFARE ARE PROTECTED. IF YOU HAVE ANY QUESTIONS ABOUT YOUR RIGHTS, CONTACT THE INSTITUTIONAL REVIEW BOARD CHAIR AT (402) 399-2400. *ADAPTED FROM THE UNIVERSITY OF NEBRASKA MEDICAL CENTER, IRB WITH PERMISSION.

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APPENDIX J

NATIONAL INSTITUTE OF HEALTH CERTIFICATE OF COMPLETION

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Lina Bostwick** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 01/27/2013

Certification Number: 1094163

APPENDIX K

March 7, 2013

Dear Lina,

Congratulations! The Institutional Review Board at College of Saint Mary has granted approval of your study titled *Defining Evidence-Based Practice (EBP) Evaluation for Clinical Curricula with Bachelor of Science in Nursing (BSN) Students Through EBP Faculty Expert Consensus.*

The only suggestions from the board were the following:

- In section #6 (Recruitment of Participants), it is suggested that you invite participants via email no more than three total times, and provide more detail about the snowball sample procedure.
- In section #7 (Study Sites), it is suggested that you elaborate on the activities done in the online environment.
- In the Adult Consent form, some wording should be eliminated as indicated on the attached page.

Your CSM research approval number is **CSM 1302**. It is important that you include this research number on all correspondence regarding your study. Your study is in effective through April 1, 2014. If your research extends beyond that date, please submit a "Change of Protocol/Extension" form which can be found in Appendix B at the end of the College of Saint Mary Application Guidelines posted on the IRB Community site.

Please submit a closing the study form (Appendix C of the IRB Guidebook) when you have completed your study.

Good luck with your research! If you have any questions or I can assist in any way, please feel free to contact me.

Sincerely,
Vicky Morgan

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Dr. Vicky Morgan
Director of Teaching and Learning Center
Chair, Institutional Review Board   *   irb@csm.edu

APPENDIX L

Lina Bostwick

From: Ellen Fineout-Overholt [efineoutoverholt@etbu.edu]
Sent: Sunday, February 10, 2013 8:28 AM
To: Lina Bostwick
Subject: RE: Use of EBP Paradigm Conceptual Framework for Delphi Study

It was a pleasure to speak to you, Lina. I am always encouraged by others who have a passion for improving healthcare through EBP. As you progress in your work and you find a time when you want to collect data on aspects of EBP, including beliefs, implementation and culture of an organization, I wanted to make you aware that Bern and I have 3 EBP scales, the EBP Beliefs (EBPB) scale, EBP Implementation (EBPI) scale and the Organizational Culture & Readiness for System-wide Implementation of Evidence-based Practice scale (OCRSIEP). If you feel at some point that these could be useful in your research, please let me know.

Please consider this email as formal permission to use the EBP paradigm graphic and concept in your work, with appropriate copyright and permission noted.

I wish you all the best as you progress with your study and look forward to your findings!

Take good care,

Ellen

Anything is Possible, When YOU Believe!
Ellen Fineout-Overholt PhD, RN, FNAP, FAAN
Dean & Professor, Groner School of Professional Studies
Chair, Department of Nursing
East Texas Baptist University
One Tiger Drive
Marshall, TX 75670
Ph: 903-923-2211
Fax: 903-938-9225
efineoutoverholt@etbu.edu
ETBU Nursing: Intentionally Transforming Lives...
Developing Clinical Leaders for the 21st Century