THE EXPERIENCES OF NURSE EDUCATORS IN IMPLEMENTING THE EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING

by

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DECLARATION

Student number: 33504636

I declare that **THE EXPERIENCES OF NURSE EDUCATORS IN IMPLEMENTING THE EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

SIGNATURE

12/01/2018

DATE

GLORIA NOZIPHO MTHIYANE

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THE EXPERIENCES OF NURSE EDUCATORS IN IMPLEMENTING THE EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING

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ABSTRACT

The purpose of this study was to determine the nurse educators' experiences in implementing the evidence-based practice (EBP) in teaching and learning, and to describe the importance and benefits of EBP teaching and learning to the nursing profession, especially for nurse educators and student nurses. A qualitative research design and methods were followed in conducting the study. A non-probability purposive sampling technique was used to access the sample of twelve nurse educators from two nursing campuses under KwaZulu-Natal College of Nursing within Umgungundlovu Health District. Data were collected using semi-structured interviews, the interview guide, and the digital voice recorder. Data were analysed manually, following a content thematic data analysis approach. Two themes emerged as follows:

- Challenges experienced by nurse educators with the implementation of EBP in teaching and learning.
- Benefits/value of EBP in teaching and learning.

Findings revealed that, although most of the nurse educators are supportive and displayed a positive attitude towards implementing EBP in teaching and learning, the level of knowledge and skills was questionable. This was coupled with a lack of motivation and commitment towards research. Therefore, recommendations for nursing education, nursing practice, and future research were suggested, for successful implementation of EBP in teaching and learning.

Key concepts: Evidence-based practice, experiences, implementation, nurse educators, teaching, learning, research, student/learner

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LIST OF ABBREVIATION

A&P	Anatomy and Physiology
AACN	American Association of Colleges of Nursing
ANE	Academic Nurse Educators
APN	Advanced Practice Nurse
ARCC	Advanced Research and Clinical practice through close Collaboration
ATR	Attitudes towards Research
DoH	Department of Health
EBHC	Evidence-Based Health Care
EBM	Evidence-Based Medicine
EBN	Evidence-Based Nursing
EBP	Evidence-Based Practice
HOD	Head of Department
HPS	Human Patient Simulators
IT	Information Technology
KZN	KwaZulu-Natal
KZNCN	KwaZulu-Natal College of Nursing
NEI	Nursing Education Institution
PARIHS	Promoting Action on Research Implementation in Health Services
PDA	Personal Digital Assistants
RN-BSN	Registered Nurses-Bachelor of Science in Nursing
RSA	Republic of South Africa
RU	Research Utilization

SA	South Africa
SANC	South African Nursing Council
SAQA	South African Qualifications Authority
UNISA	University of South Africa
US	United States
USA	United States of America

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Evidence-based practice (EBP) is described by Melnyk, Fineout-Overholt, Gallagher-Ford and Kaplan (2012:410) as a problem-solving approach to clinical decision-making in health care. EBP integrates the best evidence from well-designed studies with the clinicians' expertise, including internal evidence from patients' assessments, practice data, patients' preferences and values. Melnyk et al (2012:410) further revealed that implementation of EBP leads to a higher quality of care, improved patient outcomes, and decreased health-care costs.

EBP teaching and learning has become an important function for nursing education. Research is used as an instrument in developing new teaching and learning strategies. Nurse educators base their EBP in teaching and on research reports. EBP in learning is also based on research, meaning that students learn by using research findings. Research-based teaching and learning encourages and stimulates critical thinking for students (Felicilda-Reynaldo & Utley 2015:91).

Although EBP is known to improve health-care quality, decreasing costs and empowering nurses, the challenge is which way ensures that EBP is implemented successfully by the nurses (Levin, Fineout-Overholt, Melnyk, Barnes & Vetter 2011:21). The implementation of successful EBP education serves the function of developing practitioners who value EBP and have the knowledge and skills to implement such practice (Lehane, Warren, O'Riodan, Savage, Drennan, O'Tauthaigh, O'Connor, Corrigan, Burke, Hayes, Lynch, Sahm, Heffernan, O'Keefe, Blake, Horgan & Hegarty 2017:8).

1.2 BACKGROUND TO THE RESEARCH PROBLEM

Nurse educators have a vital role to mentor student nurses in relation to developing EBP skills, accessing research products and participating in research projects. South African Nursing Education is undergoing transformational changes with the introduction of new nursing qualifications for the South African Nursing Council (SANC) in conjunction with Department of Health (DoH) of the Republic of South Africa (RSA) (Nursing Strategy 2008:8). This requires more innovative teaching approaches that

promote active participation, creativity and critical thinking in students, for example, online teaching and learning, accessing electronic resources, video conferencing, and research-based teaching and learning.

EBP teaching and learning functioning seem to be difficult to implement for both the nursing practice and education. Technological skills for accessing information, adequate resources, for example, libraries and good knowledge about research, are needed by nurse educators and student nurses for successful implementation of EBP in teaching and learning. Some barriers to the implementation of EBP are identified in literature as politics and organizational culture that avoid change (Nurses Struggle 2012:410-417). Nurses cannot implement EBP consistently even when they believe in evidence-based care; some barriers remain prevalent, for instance, resistance from colleagues, nurse leaders and managers (Nurses Struggle 2012:410-417). Therefore, the responsibility remains with nursing education to ensure that EBP in teaching and learning is implemented, and that it is properly delivered or taught to student nurses. However, it remains a challenge for those providing nurse education.

Nurse educators play a key role in creation of opportunities for implementing EBP and in facilitating the implementation process. The question now is how to foster implementation of EBP. The most important factor that is likely to help nurses and nurse educators to adopt EBP is the provision of adequate training in EBP (Hikkila, Hopia, Hasselberg, Tiittanen & Baighorzina 2017:3).The importance of embedding EBP in nurse education programmes cannot be underestimated if EBP and its positive patient outcomes are to be realised in health-care settings. Again, in the findings of the study conducted by Felicilda-Reynaldo & Utley (2015:93), one nurse educator noted that “nurse graduates will be prepared to facilitate a transformation of the health care system culture by implementing practice review and revision consistent with evidence-based nursing (EBN) research”. The above-mentioned statement highlights the importance of incorporating EBP throughout the curriculum to prepare students for future success in using EBP in their professional nursing practice (Felicilda-Reynaldo & Utley 2015:93). According to Massey & Bassendowski (2017:54), utilizing nursing best practice guidelines, reviewing and implementing applicable research evidence, and taking advantage of technological advances are all ways in which nursing can move forward as a well-informed discipline.

Findings from the study conducted by Malik, McKenna and Griffiths (2015:158) in Australia indicated that integrating EBP into undergraduate nursing education and preparing future nurses to embrace EBP into clinical practice becomes crucial in todays' complex and evolving health-care environment. The study further implies that the role that EBP plays in the practical lives of student nurses will depend on the degree to which it is promoted by academics, the extent to which it is incorporated in course objectives, content, assessments, and its application within the clinical setting (Malik et al 2015:158). In this way, nurses' willingness to carry out research projects, as well as to utilise the research findings effectively in practice is enhanced.

1.3 STATEMENT OF THE RESEARCH PROBLEM

Traditional teaching methods and learning styles still dominate in nursing education and these strategies do not encourage critical thinking amongst the student nurses, therefore, these methods will not prepare student nurses to make sound clinical judgements in practice (Subhan 2014:35). With the nursing profession experiencing many changes on contemporary issues, student nurses need to be prepared for these challenges. Using EBP as one of the teaching and learning strategies will qualify student nurses to become excellent critical thinkers, able to solve problems in the clinical area. However, EBP remains a relatively new concept to nursing, and there is limited literature available addressing the incorporation of EBP into nursing curricula, especially at the undergraduate level (Malik et al 2015:158). In South Africa, there is a dearth of literature in the implementation of EBP in education.

1.4 RESEARCH AIM/PURPOSE

The purpose of the study is to determine the experiences of nurse educators in implementing the EBP in teaching and learning, and to describe the importance and benefits of EBP in teaching and learning in the nursing profession, especially for nurse educators and student nurses.

1.5 RESEARCH OBJECTIVES

- To explore and describe the experiences of nurse educators regarding the implementation of EBP in teaching and learning.
- To make recommendations for nurse educators on implementing the EBP in teaching and learning.

1.6 RESEARCH QUESTIONS

- What are the experiences of nurse educators regarding implementation of EBP in teaching and learning?
- What recommendations may be made for nurse educators to implement the EBP in teaching and learning?

1.7 SIGNIFICANCE OF THE STUDY

Significance refers to the relevance of the research to some aspect of a profession, its contribution towards improving the knowledge base of the profession, and its contributions towards EBP (Polit & Beck 2012:708).

The findings of the study will also be used by nursing education institutions (NEIs) for the development of the curriculum, and in the reviewing of the curriculum. On completion of training, student nurses will be expected to be critical thinkers and problem solvers, advocates for patients in the clinical area.

1.8 DEFINITIONS OF KEY CONCEPTS

Evidence-based practice

This is defined as the clinical problem-solving strategy that emphasises the integration of best available evidence from disciplined research with clinical expertise and patient preferences (Polit & Beck 2012:727). In the context of this study, this refers to the integration or the use of best available evidence of research into teaching and learning.

Experiences

Experience relates to the knowledge that comes from being personally involved in an event, situation, or circumstances. The amount of experience affects the complexity of knowledge for the individual (Burns, Gray & Grove 2013:10). It may also refer to an incident which actively involved the person (individual or in a group context) at an emotional, physical, or social level. In this study, experience refers to feelings, perceptions and observations encountered by nurse educators regarding implementation of EBP in teaching and learning.

Implementation

This is defined as putting a decision or planned change into effect (Oxford English Dictionary 2012:363). In the context of this study, implementation is about using or incorporating research literature and findings into teaching and learning.

Learning

Learning is defined as the knowledge or skills gained through study or by being taught (Oxford English Dictionary 2012:413). In the context of this study, learning refers to knowledge and skills gained by student nurses through studying and through being taught.

Nurse educator

This is defined as a professional nurse with an additional qualification in Nursing Education, registered with the SANC. The nurse educator functions as lecturer, clinical educator, education management, researcher, and specialist (Competencies-Nurse Educator 2014:1). In the context of this study, nurse educators are the ones involved in classroom teaching.

Research

This is defined as a systematic inquiry that uses disciplined methods to answer questions or solve problems (Polit & Beck 2012:3). In the context of this study, research refers to an enquiry that seeks to gain understanding of the experiences of nurse educators in the implementation of EBP in teaching and learning.

Student/Learner nurse

This is defined as the person who is following a programme of study in a nursing education and training institution (Nursing Act 2005:30). In the context of this study, this refers to a person undergoing basic nursing training on a four-year R425 programme. In terms of section 45(1) of Nursing Act 50 of 1978, regulation R425 is set out as the regulation relating to the Approval of and Minimum Requirements for the Education and Training of a Nurse (General, Psychiatric and Community) and Midwife leading to the Registration. The duration of the study course is four academic year.

Teaching

Teaching is an act by a teacher which gives a student knowledge or skill or training (Oxford English Dictionary 2008:465). In the context of this study, this refers to the guidance provided by nurse educators to nursing students.

1.9 RESEARCH DESIGN AND METHODS

Research design is the action plan or blueprint of the research which provides a logical sequence of activities allowing the readers of the projects to see the connection between the research question that was posed in the introductory phase of the project,

the approach that was adopted to address the questions, the assumptions underlying the approach, ways in which to collect and analyse data, as well as the findings and conclusions (Kuada 2012:57). This study followed a qualitative research approach which is discussed in detail in Chapter 3.

1.9.1 SETTING

Setting is the overall location in which a study is undertaken (Polit & Beck 2012:742). For this study, the setting was at Edendale and Greys nursing campuses under the KwaZulu-Natal College of Nursing (KZNCN) within Umgungundlovu Health District.

1.9.2 POPULATION

A population is the entire population in which a researcher is interested and to which he or she wishes to generalise the study results (Polit & Beck 2012:744). For this study, all nurse educators comprised the population, drawn from the two selected nursing campuses involved in classroom teaching of the four-year R425 programme. Eligibility criteria are further explained in Chapter 3.

1.9.3 PARTICIPANT SAMPLING

Participant sampling is the process of selecting a portion of the population to represent the entire population so that inferences about the population may be made (Polit & Beck 2012: 290). Through the principals of both campuses, all nurse educators who met the inclusion criteria were requested to volunteer for participation in the study. The sampling process followed the non-probability method using a purposive sampling technique to select the participants. More details were provided in Chapter 3.

1.9.4 DATA COLLECTION

A semi-structured interview was the approach and method chosen for data collection. The researcher used an interview guide with pre-selected questions as the data-collection instrument. All interviews were captured on the digital voice recorder with the help of the research assistant. All the data-collection procedures are discussed further in Chapter 3.

1.9.5 DATA ANALYSIS

Data analysis entails techniques used to reduce, organise, and give meaning to data (Burns & Grove 2011:535). The researcher used a content thematic manual analysis to organise data. All recorded data were transcribed into written format. Transcriptions

were read thoroughly and repeatedly; common themes and categories of information were identified and grouped together. Files for each theme were created and labelled. Discussion and interpretation of the findings commenced thereafter. More details in Chapter 4.

1.9.6 SCOPE OF THE STUDY

The study was conducted at two nursing campuses of KZNCN within Umgungundlovu Health District. As such, its findings will have limited generizability outside of similar colleges within similar settings in KwaZulu-Natal (KZN) province. The study has the potential to be replicated in other settings; it could serve as a blueprint model for others in the field. The scope of the study was limited to nurse educators involved in classroom teaching at the two campuses that provide the four-year R425 programme under KZNCN.

1.9.7 TRUSTWORTHINESS

Standards of trustworthiness of qualitative research are parallel with the standards of reliability and validity in quantitative research. Trustworthiness is the degree of confidence qualitative researchers have in their data. The researcher assessed trustworthiness using credibility, transferability, dependability, and confirmability as suggested by Lincoln and Gubas' framework (Polit & Beck 2012:584).

1.10 ETHICAL CONSIDERATIONS

Ethics approval was obtained from the Research Ethics Committee of the Department of Health Studies, University of South Africa (Unisa). Permission was granted by the DoH KZN, KZNCN, and both principals of Edendale and Greys Nursing Campus (see annexures A to I). Participants were informed about the study and requested to sign the informed consent forms. Principles of autonomy, justice beneficence, privacy, confidentiality, and anonymity were adhered to; and scientific integrity of the research was maintained throughout the study.

1.11 STRUCTURE OF THE DISSERTATION

Chapter 1	**Gives overview and orientation to the study**
Chapter 2	**Focuses on literature related to the topic**
Chapter 3	**Explains the research designs and methods used to conduct the study**
Chapter 4	**Presents data analysis, interpretation and description of research findings**
Chapter 5	**Includes conclusions and recommendations**

1.12 CONCLUSION

The chapter provided the orientation and an overview of the study. The background, nature of problem under study, and significance of the study are explained, together with the study aim. Key terms were defined and the structure and layout of the report provided.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The topic under study is “The experiences of nurse educators in implementing the EBP in teaching and learning.” The purpose of the study is to determine the experiences of nurse educators in implementing the EBP in teaching and learning, and to describe the importance and benefits of research into EBP in teaching and learning for the nursing profession, especially for nurse educators and student nurses.

Experience relates to the knowledge that comes from being personally involved in an event, situation, or circumstances. The amount of experience affects the complexity of knowledge for the individual (Burns et al 2013:10). The researchers’ understanding is that experience may be good or bad, and may include opportunities or challenges for the individual. In this context, experience relates to knowledge that nurse educators have about EBP implementation in teaching and learning.

Literature on experiences of nurse educators in implementing the EBP in teaching and learning has not been clearly defined over the past ten years from the African and South African perspectives. This is supported by Schoonees, Rohwer and Young (2017:1-18) in the study conducted in a sub-Saharan academic institution to evaluate evidence-based health-care (EBHC) teaching and learning in the allied health-care undergraduate students. The study revealed lack of evidence relevant to the South African context as one of the challenges experienced by the lecturers when teaching and practising EBHC (Schoonees et al 2017:13-14).

Available international studies show more literature related to perceptions, attitudes, skills and knowledge of nurse educators on EBP implementation. The researcher had difficulty in locating literature that related to nurse educators’ experiences apropos of implementation of EBP in teaching and learning. A descriptive survey conducted in the United States (US) to assess the perceptions of EBP among nurses revealed that, even though the nurses (nurse educators formed 25% of the respondents in the survey) believe in evidence-based care, such care is not routinely implemented by nurses and other clinicians in health-care systems across the US (Melnyk et al 2012:411). Nurse educators are expected to be role-models for EBP implementation. However, findings

from the study show that nurse educators continue to teach research methods, instead of teaching how to use research in an EBP approach to care. This leads to graduate students completing their educational experience with negative attitudes towards research (Melnyk et al 2012:415).

Students undertake research purely to obtain a qualification; they believe that research has no value for the future. In addition, nurse educators cannot be expected to teach what is not known to them, therefore they must be equipped with knowledge and skills so that they can teach EBP to produce professional nurses competent in evidence-based care (Melnyk et al 2012:416).

McIntosh-Scott, Mason, Mason-Whitehead & Coyle (2014:197) define literature review as a summary of all relevant evidence available on a topic which is determined by the research question, parts of it being for inclusion in a literature review report.

The overall purpose of the literature review in a research study is to present a strong knowledge base for conducting the study. Literature review is essential to all steps of research process. This helps the researcher to choose the appropriate design and methods, and to accurately interpret and discuss the results (LoBiondo-Wood & Haber 2014:51).

The researcher focuses on the literature related to nursing education and research, nurse educators, the use of EBP in nursing education and practice, ways in which other related fields (e.g. medicine and social work) use EBP in their education, barriers and facilitators to the implementation of EBP, conceptual framework/models, and teaching/learning strategies to enhance the use of EBP in nursing education.

A search for relevant literature was undertaken with the assistance of the allocated librarian from the Unisa Library, and by means of the Internet. To guide the search for relevant literature, the researcher selected keywords relevant to the research topic. Search sites used were EBSCOHOST, CINAHL, and Curationis. Google scholar, NEXUS, and ProQuest were used for databases. South African Journal Articles, International Journal Articles, South African Research Projects were extracted from these search sites.

2.2 NURSING EDUCATION AND RESEARCH

Nursing research is defined as a scientific process that validates and refines existing knowledge, and generates new knowledge that directly and indirectly influences the delivery of EBP nursing (Burns, Gray & Grove 2015:3). Research is essential in any discipline and should form the foundation of all aspects of staff development. It is also important to create in practice a research-based culture by:

- Making research a fundamental part of a practice so it becomes an everyday aspect of practice.
- Ensuring that practice is built on research and informed by research so that health-care practitioners may consider research when making decisions about practice.
- Supporting research-based cultures by practice development, staff development, and by developing research relationships (McIntosh-Scott et al 2014:9).

A similar culture should be created for nursing education. The ultimate goal of nursing education is the production of a highly competent and professional practitioner, which is that of a registered professional nurse. Through nursing education, students are facilitated, guided, assisted, and given the means to learn the art and science of nursing, so that they may be placed into nursing practice (Bruce, Klopper & Mellish 2013:14).

It is a fact that research is an integral part of nursing practice, education, and management; therefore, it is critical for nurse educators to foster research-mindedness in student nurses right from the beginning of their education and training programme. A nursing education system cannot advance without research (Bruce et al 2013:373). It is the responsibility of the health-education institutions to encourage student nurses to promote and deliver EBP from the onset of training. The principles of EBP must be introduced to students as part of pre-registration education (Emanuel, Day, Diegnan & Pryce-Miller 2011:21). Findings from the study conducted by Malik, McKenna & Plummer (2015:46) in a tertiary health-care facility in Victoria, Australia, investigating the perceptions of nurse educators on factors promoting EBP and perceived barriers to facilitating EBP in clinical settings before developing educational programmes, revealed that (1) nurse educators relied heavily on personal experience, and organisational policies and protocols as formal sources of knowledge, (2) nurse educators, clinical

coaches and nurse specialists had positive attitudes towards EBP implementation; however, they demonstrated a lack of knowledge and skills in appraising and putting evidence into practice, (3) these senior nurses indicated a desire for educational opportunities to upskill themselves in the process of EBP (Malik et al 2015:46).

The goal of nursing is to provide evidence-based care that promotes quality outcomes for patients, families, health-care providers and the health-care system (Burns et al 2015:3). Nursing education is constantly changing and evolving; however, the nurses' role remains important in creating a body of knowledge, using it to inform their practice (Parahoo 2014:12).

Nursing education has a vital role to play in emphasising and intensifying the training of professional nurses to utilise research findings in their practice; there is a need for change in the nursing education system so that utilisation of research by professional nurses is enhanced or improved (Mngomezulu 2015:91). Findings from the quantitative study by Mngomezulu (2015:3) on the utilisation of research findings by professional nurses at two public hospitals in Umgungundlovu Health District KZN showed that there was a lack of research knowledge (73.3%). Even though other participants recommended the use of research (74.3%), 8.5% were unsure. Others (9%), however, had no idea of whether or not research should be used. The study also revealed that utilisation of research by professional nurses is still rated very low and lagging.

Currently, the South African Nursing Council (SANC) is in the process of phasing out the four-year programme (R425) and introducing the new qualification: a Bachelor's Degree in Nursing and Midwifery (R174). On completion of the programme, the graduate must be able to utilise research in nursing and health-related problems to improve health-care outcomes (SANC circular 3/2009: 1-8).

SANC, as a regulator for nurses and midwives in RSA, sets and maintains standards of education, training and practice (Nursing Act 33 of 2005). NEIs must abide by these standards, to ensure that students are able to meet patients' needs by being up to date with practice. EBP is the way of ensuring that practice remains current (Emanuel et al 2011:22).

The researcher cited the following standards and their criteria as relevant to teaching and learning nursing research (www.sanc.co.za/education_and_training.htm).

Table 2.1 Standards and criteria

Standard	Criterion
1. NEIs must prepare graduates who demonstrate the following: - Sound scientific knowledge - Clinical competence and graduates who can make sound scientific, clinical judgements - Use evidence in practice - Critical, analytical, and reflective thinking	- Research and use of EBP
2. NEIs provide classroom and clinical learning based on established, competencies, and grounded in the most current reliable evidence.	- Evidence-based research used in determining the required competencies, competency level, and context. - Facilitators of programme have adequate skills and expertise. - Use of field experts incorporated into programmes

(www.sanc.co.za/education_and_training.htm)

2.3 NURSE EDUCATOR

SANC (SANC-Competencies Nurse Educator July 2014:1-6) published nurse educators' competencies, one of the functions of nurse educators being a researcher. These competencies consist of seven domains. The researcher has highlighted two of these domains and their criteria, as they relate to nursing research.

Domain 1 - Scholarship of teaching and learning

In facilitating learning, the nurse educator must:

- Utilise educational theories and principles, including EBP in facilitation of learning.
- Use information technologies skilfully to support the teaching-learning process.
- Create opportunities for students to develop their critical and reasoning thinking skills (SANC-Competencies Nurse Educator July 2014:2).

Domain 6 - Research and Knowledge Creation

To engage in scholarship, the nurse educator must:

- Competently utilise relevant and current literature in all academic activities.
- Exhibit a spirit of enquiry in all academic activities.
- Engage in scholarly activities in an established area of expertise.
- Demonstrate skill in critical thinking, writing, and development of arguments.
- Demonstrate integrity and other qualities of scholarship (SANC-Competencies Nurse Educator- July 2014:6).

The nurse educator, as one of the stakeholders in the promotion of EBP, has the following responsibilities towards the student:

- To educate student nurses to think critically and question what they and others do.
- To help the students develop the skill of asking relevant questions.
- To educate students on acquiring EBP skills (e.g. searching, appraising, implementing, and evaluating).
- To educate students to resist the pressure to conform to traditional non-EBP.
- To provide students with the skills to work as autonomous practitioners with multidisciplinary teams.
- To place less emphasis on teaching undergraduates how to do research and more on how to use research and implement change (Parahoo 2014:400).

According to Bruce et al (2013:388-391) the role of the nurse educator is about:

- Engaging students in scholarships by involving them in research projects.
- Teaching research-mindedness in nursing by including research as an integral part of every teaching/learning session. Support every topic taught with research findings and evidence.
- Teaching understanding and evaluation of research reports. This may be done by selecting the articles that are relevant to the student's study or clinical practice, and let them examine these carefully, while providing guidelines.
- Engaging in research as an ongoing part of teaching and learning.
- Keeping abreast of research developments by attending conferences and seminars on research, not only in the nursing field but also in related fields.

Nurse educators should provide the following inputs:

- Model their own thinking processes.
- Have learners work together.
- Ensure various practice opportunities.
- Collaborate with colleagues.
- Use different educational strategies.
- Demonstrate to learners how to use general principles in nursing (Meyer & Niekerk 2011:84).

An online survey was conducted by Felicilda-Reynaldo and Utley (2015:89) from diverse institutions and geographic areas in the US on the reflections of EBP in nurse educators teaching philosophy statements with the purpose of (1) examining the characteristics of academic nurse educators (ANEs) and their teaching philosophies, and (2) exploring ways in which ANEs conceptualise EBP within their teaching philosophy statements. The aim was to focus on the nature and importance of EBP as elaborated in the teaching philosophy statements of ANEs. Teaching philosophy statements are described by Ratnapradipa and Abrams (2012:37) as a road map for one's teaching career, helping educators to identify their strengths and weaknesses in the use of pedagogy. This includes the educator's values, beliefs, and actions in the educational process. Findings revealed the EBP themes that were students' success with EBP and EBP as a teaching approach. Felicilda-Reynaldo and Utley (2015:91) concluded by mentioning that the incorporation of EBP and its components was not widely acknowledged by ANEs, because only 16% of respondents specifically mentioned EBP as part of their personal teaching philosophy. EBP components in this study were identified as critical thinking, lifelong learning, and quality of care. The researcher is of the understanding that nurse educators are still lagging in using the EBP as a teaching and learning approach.

2.4 EVIDENCE-BASED PRACTICE

Firstly, it is important to note the connection or difference between research utilisation (RU) and EBP. Parahoo (2014:394) explains that research is a systematic and rigorous collection and analysis of data for describing and/or explaining phenomena. Its aim is to contribute to the advancement of knowledge, often in the form of theories. Although research can answer questions directly related to clinical practice, its scope is wider

than that of EBP. Researchers can make recommendations and formulate guidelines from research, but these may or may not be implemented by practitioners. RU involves analysis and critiques of published research. Efforts are made to apply some portion of findings to nursing practice (Polit & Beck 2012:25). EBP means the direct use of research in practice. EBP starts with questioning the practice and ends with using the evidence in practice. EBP is more rigorous, using the body of evidence as compared with individual studies for a particular clinical question (Mngomezulu 2015:16).

The term EBP is derived from the definition of evidence-based medicine (EBM). According to Masic, Miokovic & Muhamedagic (2008:219), EBM is defined as the conscientious, explicit, judicious, and reasonable use of modern, best evidence in making decisions on the care of individual patients. EBP is defined by Burns et al (2015:415) as the conscientious integration of best research evidence with clinical expertise, patient values, and needs in the delivery of quality and cost-effective health care. Parahoo (2014:392) gives a further description of EBP as all decisions and actions that are based on the best available evidence, considering clinical expertise and patient's wishes. Nurses make numerous clinical decisions each day that affect the health outcomes of patients and their families. By choosing the best research evidence available, nurses can make quality clinical decisions that will improve the health outcomes for patients, families and communities (Burns et al 2015:22).

The reasons behind EBP (Parahoo 2014:390-391) included (1) increasing cost of health care. It is believed that a more efficient use of resources can help to reduce the cost of health services' spending. (2) The glut or overabundance of research. More research has been conducted since the early 1990s which has led to more publications, raising a question of how to control and make use of this immense amount of knowledge in order to better peoples' lives. (3) The variation in health care and unnecessary interventions. Unintended variations and unnecessary practices can cause harm and cost money, therefore justifying practice on evidence and conforming to evidence-based guidelines are better ways in which these unintended variations may be reduced. In view of the above reasons, EBP is currently the framework recommended to practitioners and policymakers to achieve objectives such as:

- Increasing awareness of the effectiveness of the decisions and actions taken by practitioners, educators, and policymakers.

- Reducing waste, and eliminating unnecessary practices.
- Reducing variations in the provision of service, and in patients' outcomes.
- Reducing the reliance on expert knowledge.
- Increasing transparency of decision-making (Parahoo 2014:393-394).

Emanuel et al (2011:21) describe EBP as integral to health care, being a challenge to those providing nurse education. EBP is a means of developing and supporting patient-centred care using the most current evidence, nurses being able to identify and evaluate evidence. EBP is central to professional development. EBP is a goal for the profession of nursing and for each practising nurse. The following are identified as EBP benefits (Burns et al 2015:416):

- Improved outcomes for the patients, providers, and health-care agencies.
- Development of evidence-based guidelines for practice, leading to best treatment plans thus promoting quality health care.
- Assisting students, educators, registered nurses, and advanced-practice nurses to provide the best possible care.

EBP may also be discussed as evidence-based nursing (EBN). According to Melnyk, Fineout-Overholt, Stilwel and Williamson (2010:51-53), EBN involves the following steps:

- Asking a clinical question.
- Searching for the best evidence.
- Critically appraising the evidence.
- Integrating the evidence with one's clinical expertise, and patient preferences and values.
- Evaluating the outcomes of practice decisions or changes based on evidence.

Parahoo (2014: 393) has also identified the main steps in EBP involving the formulation of a clear question related to policy or practice, a search for relevant research studies, appraisal of related studies (based on quality), analysis and synthesis of the findings of these studies, dissemination of results, and implementation of evidence. Similar steps should be followed in nursing education during teaching and learning of EBP.

Nurse educators critically appraise research to expand their knowledge base and to develop and refine the educational process. Current nursing studies provide a basis, updating curriculum content for use in clinical and classroom settings. Educators act as role models for their students by examining new studies, evaluating the information obtained from research, and indicating the research evidence to be used in practice. Educators also collaborate in the conducting of studies, which requires a critical appraisal of previous relevant research (Burns et al 2015:363).

For students, critical appraisal of a study is often seen as the first step in learning the research process. Although it is not a basic skill, but it is acquired early in nursing education. This helps the students to expand their analysis skills, strengthen their knowledge base, and increase their use of research evidence in practice (Burns et al 2015:363). According to Emanuel et al (2011:23), support and guidance must be given to facilitate and develop student nurses so that they are able to critique literature, thereby recognising the best available evidence.

2.5 CONCEPTUAL FRAMEWORK/MODELS GUIDING IMPLEMENTATION OF EVIDENCE IN PRACTICE AND FOR DEVELOPMENT OF EBP GUIDELINES

2.5.1 Promoting Action on Research Implementation in Health Services (PARIHS) framework

McIntosh et al (2014:3-8) explain the Promoting Action on Research Implementation in Health Services (PARIHS) framework which was developed in 1998. This framework was shaped and refined in 2004 by a team of experts led by Jo Rycroft-Malone from the Royal College of Nursing in the US. The PARIHS framework was developed in an attempt to represent the complexity of the change processes involved in implementing researched-based practice, and to reflect interdependence and interplay of the many factors that appear to play a role in the successful implementation of evidence in practice. The PARIHS framework includes the following factors:

2.5.1.1 Nature of evidence

Knowledge derived from a variety of sources that has been tested and found to be credible, such as research, clinical experience, patients' and carers' experiences, and local data or information.

2.5.1.2 Quality context of implementation

Refers to the environment or setting in which the proposed change is to be implemented, including culture, leadership, and evaluation as a form of feedback.

2.5.1.3 Appropriate facilitation

This refers to the process of enabling or making the implementation of evidence in practice easier. Facilitation is achieved by individual carrying out of a specific role such as that of being a facilitator with the appropriate skills and knowledge to help individuals, teams, and organisations to use evidence in practice. Facilitators have a key role in developing contexts that are conducive to the use of evidence, working with practitioners to make sense of the evidence. The purposes, roles, skills, and attributes of facilitators are absolutely critical to implementation of EBP (McIntosh et al 2014:3-8).

2.5.2 Advanced Research and Clinical practice through close Collaboration (ARCC) model

This model is more useful in academic settings with formal linkages between nursing education and practice in which advanced practice nurses (APNs) are abundant. It is considered a mentorship model. The ARCC model focuses on establishing relationships across systems to bring experienced researchers together with clinicians, integrating research and clinical practice, for the purpose of implementing EBP. This model relies heavily on EBP mentors, ideally ANPs with in-depth knowledge of EBP, and expert clinical and group facilitation skills (Gawlinski & Rutledge 2008:298).

Gawlinski and Rutledge (2008:297) further identify the steps under the ARCC model that must be followed by the organisation:

- Assess and organise culture for EBP readiness.
- Identify strengths and major barriers to EBP implementation.
- Implement EBP strategies.
- Develop and use EBP mentors.
- Organise interactive EBP skill-building workshops.
- Make EBP rounds and form journal clubs.
- Implement EBP.
- Improve patient, nurse, and system outcome.

2.5.3 Iowa model of evidence-based practice

This provides direction for the development of EBP in a clinical agency (Burns et al 2015:450). The Iowa model starts with a trigger/problem. Such triggers may be either knowledge focused or problem focused. Should the trigger/problem be a priority for the organisation, a team is formed. The team is composed of key stakeholders, clinicians, nurses, and other champions of EBP. The next step is synthesising the evidence. A pilot of the practice occurs if there is sufficient evidence to support the change. Evaluation of outcomes and dissemination of findings would follow (LoBiondo-Wood & Haber 2014:420).

If outcomes are favourable, change will be effected on the larger scale, and monitored to see whether such change was beneficial for patients, staff, and cost outcomes (Burns et al 2015:450; LoBiondo-Wood & Haber 2014:420). If there is not enough research to guide practice, and conducting the study is not feasible, other types of evidence are used, such as case reports, expert opinions, scientific principles, and theory combined with available research, to guide practice (LoBiondo-Wood & Haber 2014:420).

The researcher related this model to nursing education, in which nurse educators will experience triggers from knowledge which may question the current teaching/learning approaches and available information. Recommendations for teaching and learning strategies may be developed based on evidence synthesis. Recommendations could then be compared with current teaching and learning; and a decision may then be made on the need for a change in nursing education.

2.6 BARRIERS AND FACILITATORS TO IMPLEMENTATION OF EVIDENCE-BASED PRACTICE

Findings thus far suggest that barriers to nursing education relate to educators' knowledge and skills, inadequate resources, students' perceptions and learning styles, and structure of the nursing curriculum/programme. A qualitative study conducted by Bhembe (2014:4) explored and described the challenges faced by nurse educators in teaching research methodology; also in supervising undergraduate student nurses at the Southern Africa Nazarene University in Swaziland. This was in order to make recommendations to support nurse educators. Challenges revealed are related to human resources (research experience, competencies, and guidelines); physical

resources; and lack of support from the institutions. Recommendations were made to address the lack of specific competencies, research guidelines, a student/educator ratio, physical resources, and technology issues (Bhembe 2014:64).

Adamu and Naidoo (2015:34) conducted a quantitative study in Nigeria to explore and describe the perceptions of registered nurses towards EBP. Firstly, this study revealed that 97.1% of the respondents perceive themselves as being knowledgeable on the usefulness of evidence to inform practice. However, there was poor correlation between their knowledge and practice of EBN in informing their nursing care. Barriers to EBP were perceived by the respondents as inability to understand statistical terms used in research articles (61.7%), difficulty in judging the quality of research papers and reports (55.6%), difficulty in determining their applicability (44.4%), and finding time to engage in reading and searching for research articles of research findings. This latter factor was rated as the highest perceived barrier.

Organisational barriers (lack of time and lack of nursing autonomy) are perceived as top barriers internationally; while learning opportunities, culture building, and availability and simplicity of resources are regarded as facilitators of EBP. Educators, in practice, need to work with managers to address organisational barriers and proactively support EBP (Brown, Wickline, Ecoff & Glaser 2009:371-381).

A cross-sectional study conducted at a specialist hospital in Norway (Stokke, Olsen, Espehaug & Nortvedt 2014:1) investigated whether there was a positive correlation between EBP beliefs and EBP implementation. Results showed that nurses were positive on EBP, only, they practised it less. This was shown by a positive correlation between beliefs on EBP and implementation of EBP ($r=0.59$, $p=0.001$). Beliefs related to knowledge appear to have greatest effect on implementation of EBP; therefore, having knowledge and taking part in EBP working groups is important.

Aitken, Hachwood, Crouch, Clayton, West, Carney and Jack (2011:246) conducted a study at a tertiary teaching hospital in Brisbane, Australia. The study dealt with creating an environment to implement and sustain EBP: a developmental process.
Implementation strategies identified from the study were:

- Use of EBP mentors.
- Development and involvement of EBP champions.

- Provision of sufficient resources (time and money).
- Creation of culture and expectations related to EBP.
- Practical EBP strategies (workshops, journal clubs & EBP rounds).
- Access to expertise (Aitken et al 2011:246).

2.7 EVIDENCE-BASED PRACTICE IN TEACHING/LEARNING

The research module has always been part of the nursing curriculum; however, the level of knowledge was limited to research process and principles for traditional NEIs. Currently, the KZNCN R425 programme requires that research be taught at the third-year level, compared with universities where it is introduced early in the programme. Research projects were never part of the programme; only as recently as 2016 the college required that third-year level students conduct a mini study. This was communicated in a letter (dated 24/06/2016) from the KZNCN principal to all campuses, instructing the campuses about the College Senate approval that all learners undergoing R425 programme have to conduct a complete research project with effect from 1 July 2016.

Nursing education output is manifested in a clinical practice or setting. Nurse practitioners are not effectively involved in research activities either as research developers or consumers. This is supported by the recent quantitative study which revealed that utilisation of research by professional nurses is still lagging (Mngomezulu 2015:78).

The majority of nurse educators from NEIs lack confidence in teaching and supervision of students in research expected of them. Nurse educators continue to use traditional teaching strategies which do not stimulate or encourage critical thinking to students. This is supported by Bhembe (2014:58) in a study conducted at the University of Swaziland on challenges faced by nurse educators in teaching research to undergraduate nursing students. The study revealed challenges related to human resources, physical resources, research skills and competencies, policies, students' perceptions of research, and university management (Bhembe 2014:58).

One of the innovative teaching strategies for nurse educators in the present nursing education and practice is the use of research-based information. EBP may be used as a teaching medium in which learners use research articles instead of text books.

Teaching EBP to student nurses does not require a different approach; however, it requires:

- That students should be lifelong learners.
- Teaching what is currently known and not known about the topic or phenomenon under investigation.
- Teaching students to be knowledgeable, competent and skilful.
- Teaching students, graduates, and practitioners' new knowledge and skills through continuing evidence-based education programmes (Bruce et al 2011:393).

Meyer and Niekerk (2011: 53) discuss facilitation of learning by nurse educators as the provision of guidelines on the required information: how and where learners should obtain and use information to attain outcomes. Meyer and Niekerk (2011:53) encourage the nurse educators to use the expertise of the registered nurse, nursing unit manager, clinical preceptor, or tutor in the clinical setting, as a useful learning resource. Nurse educators should create learning opportunities for learners; nothing should happen by chance; everything must be purposive and planned.

Rosser (2016:1) identified a problem with students having difficulty in applying research findings during clinical practice experiences that occur prior to completing the nursing research course. A pilot study was conducted with 34 senior students for 5 weeks at Baylor University Louise Herrington School of Nursing. These students were about to qualify and the aim was to close the gap before their professional practice. Students were given a chance to review relevant data, evaluate research, and consider client and nursing care outcomes, policies and procedures. Students used a clinical enquiry as the basis for incorporating EBP into nursing care. The study led to high student enthusiasm in clinical areas, suggesting that early incorporation of EBP as a research thread throughout the baccalaureate pedagogy was recommended. Findings from the study conducted by Schoonees et al (2017:2) on undergraduate allied health-care students at sub-Saharan University also indicate that students feel that EBHC learning should be integrated throughout the four-year study period to allow repetition, consolidation, and application of knowledge and skills.

Related health faculties (medicine and social work) are experiencing challenges in teaching and learning of EBP. In a study conducted by Young, Rower, Volmink, and

Clarke (2015:354) assessing perspectives of undergraduate module convenors in a South African academic institution on medical students' training in EBHC, module convenors believed that EBHC teaching and learning were not optimal. They also indicated their varying support for enhancing EBHC. Aspects for consideration in teaching were identified as contextual factors within the faculty (for example, recognition for teaching), health sector issues (for example, workload), access to research, lecturer factors (for example, competing priorities), and learner motivation. Young et al (2015:354) concluded that the perspectives of module convenors are key to informing strategies for enhancing EBHC teaching and learning. Such perspectives emphasised the key roles of lecturers as role models, planning together to identify opportunities for integrating teaching and assessments, ensuring coherence, clear, explicit outcomes, and promoting faculty development.

In an article from United States of America (USA) University of Louisville discussing challenges of implementing EBP, social work faculties seem to have similar challenges of limited resources, workload requirements, time constraints, and increased expenses in pursuit of information to implement EBP in practice and education. Some of the challenges facing social-work practitioners are owed to the lack of formal training in skills and processing of EBP. This can lead to misinterpretation or overstatement of actual meanings of research findings. The majority of licensed social work practitioners did not have formal instruction in skills and processing of EBP from basic training: this was not included in the former social-work training curriculum (Farley, Feaster, Schapmire, D'Ambroise, Bruce, Oak & Sar 2015:4). Social-work educators also experience ethically-based challenges in relation to EBP, having to promote and teach EBP methods to comply with ethical standards established by the profession. In view of published research failing to provide evidence relevant to the population, practitioners have turned to the practice wisdom of colleagues advanced in the field, and who possessed experience specific to the population and topic of interest (Farley et al 2015:4). Allocation of sufficient resources for practitioners to fully implement all phases of the EBP process is encouraged. EBP may then be fully embraced, thus minimising challenges to implementation of EBP (Farley et al 2015:11).

2.8 STRATEGIES/METHODS SUPPORTING IMPLEMENTATION OF EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING

A teaching method is a particular technique a teacher uses to help learners gain the knowledge which they need, achieving a desired outcome. Strategies used in this context should promote critical thinking to student nurses because critical thinking skills are needed in implementing EBP. Critical thinking is a process in which various information is gathered, sifted, synthesised and evaluated, in order to understand a subject or issue. It enables a nurse to function as a knowledgeable worker who selects, combines, judges, and uses information, in order to proceed in a professional manner (Price & Harrington 2010:8). The researcher discusses the following teaching/learning methods or strategies to enhance the use of EBP in nursing education:

2.8.1 Problem-based teaching and learning method

Problem solving is defined as any activity in which the representation of prior experience and the components of a current problem to be solved are recognised to achieve a designated objective (Meyer & Niekerk 2011:133).

This is a process of applying existing knowledge to a new and unfamiliar situation. It is a way in which a teacher facilitates students' understanding of a concept. Problem solving is a means of helping the student to learn new information; the student should know the basic operations of solving a problem to successfully use it as a teaching strategy (Bruce et al 2013:215-216).

Problem-based learning is also discussed by Hughes and Quinn (2013:230) as a teaching strategy within the context of enquiry, based on learning that involves confronting students with real-life problems providing stimulus for critical thinking and self-taught content. The researcher agrees with the above citation, in that problem identification is usually the first step to a research process. Therefore, this method may be effective in EBP teaching and learning.

2.8.2 Experiential learning

Experiential learning implies learning through experiencing or doing. This is a learner-centred approach. It is valuable because it enhances learners' professional development: learners are actively involved in solving real problems and finding solutions. Experiential learning begins with experience, followed by reflection on the

experience, discussion, analysis, and evaluation of the experience (Meyer & Niekerk 2011:129).

Parahoo (2014: 393) has also identified similar processes in EBP involving the formulation of a clear question related to policy or practice, search for relevant research studies, appraisal of related studies (based on quality), analysis and synthesis of the findings of these studies, dissemination of results, and implementation of evidence. Therefore, the approach is more relevant for EBP teaching and learning: learners will be involved in conducting research, becoming more experienced in the research process. Benefits of experiential learning are that:

- It enhances self-discovery, research and description of data.
- It assists in structuring of findings or the explaining of data, such as in the case study.
- It demands active participation on the part of the learner, which promotes self-study.
- It encourages critical judgement, reasoning, observation, and independent thinking all of which are important skills needed for EBP (Hughes & Quinn 2013:202).

2.8.3 Projects

A project entails the investigation of a problem or issue that leads to learning. It usually requires individual compilation and visual presentation of the findings, which may take the form of an essay, scrapbook, or a portfolio, or another form of creative work (Bruce et al 2013:219). The researcher believes that the use of such projects can enhance EBP teaching and learning.

Project work:

- Forms part of the learning process.
- Can include individual work or group activity.
- Is based on the use of related theory in specific clinical contexts to investigate and solve problems.
- Usually culminates in the presentation of a report.
- Is EBP learning.

Project work is usually based on the learners' existing frame of knowledge: it may be linear or have a branched structure. Project work necessitates the use of various forms of study material, such as a well-equipped library, compact discs, and Internet access. Project work is highly important for the discovery of information, and for learners' active involvement in their studies (Meyer & Niekerk 2011:137).

2.8.4 Student mentoring programme

This strategy may be used by nurse educators for the teaching and learning of EBP. This strategy involves pairing the first-year students (junior nurses) with the third-year students or post-basic students (senior nurses), in order to support them during their first placement in the clinical environment. Otherwise, senior student nurses with exceptionally high marks in some subjects may be required to support students who struggle with these subjects (Joubert & De Villiers 2015:1). Joubert and De Villiers (2015:2) conducted a study at the School of Nursing in the Free State Province of SA to explore and describe the learning experiences of the mentees and mentors; and to obtain recommendations for improving the programme. This School of Nursing has a student mentoring programme which addresses the social, academic, and clinical needs of undergraduate student nurses through the implementation of a range of strategies. Some of the findings from the study indicated that the mentees involved in the student mentoring programme developed critical thinking skills, were able to apply their knowledge, and improved their ability to integrate theory and practice.

The researcher believes that a similar strategy may be used in EBP teaching and learning to yield similar results. The recommendations from the study are also more relevant for EBP implementation in teaching and learning. This includes proper orientation to the task, good allocation of mentors, the use of multidisciplinary teams in the training of nurses, consideration of the learning opportunities and outcomes, and careful selection of the mentors (Joubert & De Villiers 2015:5).

2.8.5 A case study/case-based learning

A case study is an ideal method of promoting problem-solving skills. Case studies may be real-life or fictional situations. Learners can compile a holistic picture of patients' health-care needs, and may then conduct an in-depth analysis of the problems in order to make significant care decisions. Some of the benefits of the case study are that learners should examine the interrelationship of various concepts in the clinical

situation. Also, correlation of theory is enhanced, development of cognitive skills is enhanced, and case study teaches learners management skills (Meyer & Niekerk 2011:179).

According to Bruce et al (2013:204) case-based learning is an educational approach similar to problem-based learning in that its main traits come from problem-based learning. This type of learning includes the use of a problem or case to stimulate learning and to underpin the acquisition of knowledge, skills, and attitudes. It may be used in this context to direct student enquiries.

Case studies are textual descriptions of specific situations that may either be genuine or fictional; and that provide a trigger for the discussion of issues and the examination of real-life events. Case studies usually entail making decisions about particular courses of action or making judgements about decisions contained within the case study (Hughes & Quinn 2013:234).

The South African Qualifications Authority (SAQA) Act (58/1995) requires that the facilitators of education and training programmes for student nurses implement teaching strategies that facilitate critical reflective thinking and lifelong learning. The research findings from a study conducted on fourth-year student nurses by Malesela (2009:33) at a South African University suggested that the case study as a learning opportunity is effective in facilitating learning. This was indicated in the following three categories: increase in critical-thinking skills, increased theory and practice integration, and increased growth in presentation skills (Malesela 2009:33). Therefore, it may be recommended that facilitators involved in the nursing education programme make use of a case-study approach as a learning opportunity at all levels of the nursing education programme.

2.8.6 The Cookie experiments teaching strategy

Nurse educators have been struggling to find the appropriate and effective teaching strategy for nursing research. Developing effective teaching strategies to stimulate students' interest and enthusiasm is urgently needed in current research courses. In the article on preparing future nurses for nursing research: A creative teaching strategy for Registered Nurses-Bachelor of Science in Nursing (RN-BSN) students, the purpose of the study was to implement the Cookie experiments' teaching strategy in research

course. This examines the effects of the strategy on students' attitudes towards nursing research (Tsai, Cheng, Chang & Liou 2014: 25-31).

A pretest-post-test design was used with 95 students enrolled in the nursing course in School of Nursing at Chang Gung University in Taiwan. A Cookie experiment was developed by Thiel in 1987 as a creative and effective strategy. It has been continuously refined over the years.

Advantages of the Cookie teaching strategy include that:

- It is a friendly and hands-on format that may be adapted as needed to present research concepts.
- It lessens students' phobias because it is funny.
- It offers opportunities for students to experience research procedures.
- It encourages students to actively participate in learning research methods.

The use of the strategy has led to a change in students' attitudes towards research (ATR), student acceptance of research courses, increased interest in research, confidence in participating in research, bringing understanding to perceived stress from research courses, and willingness to participate in research after graduation. The appropriate choice of teaching/learning strategy in nursing research is of importance because it increases students' interest in learning research (Tsai et al 2014:29).

2.9 CONCLUSION

The review consists of the relevant existing literature on the topic under study on the experiences of nurse educators in implementing EBP in teaching and learning. There is more available information on the theoretical literature than on the empirical literature. There is a dearth of literature on EBP teaching and learning in SA. Barriers and facilitators to EBP implementation form the most part of the literature reviewed. The question still remains whether EBP is actually implemented in a clinical setting/nursing practice; and the experiences of nurse educators in the implementation of EBP in teaching and learning.

CHAPTER 3

RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

The topic for this study is the experiences of nurse educators in implementing the EBP in teaching and learning. Therefore, this chapter presents the methods used to conduct, collect and analyse data in the study. It explains what has been conducted by the researcher; how and why it was done. The challenges and limitations encountered by the researcher are discussed in detail.

3.2 RESEARCH DESIGN

3.2.1 Qualitative research design

Mouton (2009:107) defines research design as a set of guidelines and instructions to be followed in addressing the research problem. Research design is the action plan or blueprint of research which provides a logical sequence of activities allowing the readers of projects to see the connection between the research question posed in the introductory phase of the project; the approach adopted in addressing the questions, the assumptions underlying the approach, how data is collected and analysed, together with findings and conclusions (Kuada 2012:57). The main function of a research design is to enable the researcher to anticipate the appropriate research decisions, so as to maximise the validity of the eventual results (Mouton 2009:107).

This study followed a qualitative research design, focusing on understanding the social settings, facilitating the exploration of relationships and human experience within the research setting. It also enables face-to-face, personal contact in data collection (Moule & Goodman 2014:175).

The purpose of this study was to explore and describe the experiences of nurse educators in the implementation of EBP teaching and learning; and to describe the importance and benefits of EBP teaching and learning in the nursing profession, especially for nurse educators and nursing students. Experiences can only be studied in a real-life situation in which researchers ask in-depth questions (Brink, van der Walt & van Rensburg 2012:120). For this study, the semi-structured interviews, using the interview guide, were used for data collection, because detailed information was

obtained from the participants. This research study was conducted in a natural setting on the nursing campuses at which the twelve participants were working. As indicated by Harding (2013:8), a qualitative research paradigm follows a naturalist approach in that it studies the phenomenon in its natural setting, involving collecting more detailed information from a smaller number of people.

3.3 RESEARCH METHODOLOGY

3.3.1 Sampling procedures

3.3.1.1 Population

Population is the entire set of individuals or objects having the same common characteristics and it is sometimes called universe (Polit & Beck 2014:387). The population for this study was classroom nurse educators.

The target population is the entire population in which a researcher is interested, and to which the researcher would like to generalise the study results. (Polit & Beck 2014:393) and Holloway & Wheeler (2010:137) define target population as the accessible population with a particular experience or knowledge of the phenomenon which the researcher is seeking to explore. In this study, nurse educators involved in classroom teaching employed by KZNCN were identified as the target population because they possess the knowledge and the experience of the phenomenon under study.

Accessible population is the portion of the target population to which the researcher has reasonable access (Burns & Grove 2011:532). The researcher identified nurse educators who function as classroom nurse educators from the two chosen campuses as the accessible population.

The sampling frame is referred to as a comprehensive list of the sampling elements in the population from which the sample of study is drawn (Polit & Beck 2014:391). The sampling frame is the population from which the sample is chosen (Holloway &Wheeler 2010:13). In this study, the list of nurse educators employed by the two selected nursing campuses was used as the sampling frame from where the sample came.

Inclusion criteria are the criteria that specify population characteristics; while exclusion criteria specify population characteristics that people must not have (Polit & Beck

2014:177). In this study, inclusion criteria (eligibility criteria) included the sample of nurse educators in possession of nursing education qualification, registered by SANC as nurse educators, employed by the DoH KZN, involved in classroom teaching at the two chosen campuses from Umgungundlovu Health District under the KZNCN, and offering a four-year R425 programme. Exclusion criteria included nurse educators in a clinical setting, those employed by the private sector, those working outside Umgungundlovu Health District, and those who do not offer a four-year R425 programme.

3.3.1.2 Sampling technique

Sampling is a purposeful selection of an element of the whole population to gain knowledge and information (Holloway & Wheeler 2010:13). According to Polit & Beck (2014:391), sampling is the process of selecting a portion of the population to represent the entire population. Participants were chosen using the non-random method which is non-probability sampling (Brink et al 2012:215), using the purposive sampling technique. Both appear to fit this qualitative study design, which is a more flexible method of research. Non-probability sampling was more convenient for the researcher, because the population for the study was not amenable to probability sampling; the researcher was unable to locate the entire population (Brink et al 2012:139). It has assisted the researcher to select those participants who knew most about the phenomenon under study (Brink et al 2012:139).

In purposive sampling, the researcher is quite deliberately subjective, choosing those participants who will fit the purpose of the research. The sampling units are selected for a specific purpose based on group membership or experiences of the participants (Harding 2013:17; Holloway & Wheeler 2010:13). A purposive sampling technique was chosen for this study because it supported the researcher's idea to interview individuals who were more knowledgeable on the phenomenon under study. It is also commonly used by qualitative researchers because it is not easy for a qualitative researcher to know in advance how many participants are needed; and the sample size is only known once data saturation occurs (Brink et al 2012:141). Data saturation is the point at which new data no longer emerge during the data-collection process (Brink et al 2012:141).

Another advantage is that the quality of data obtained in this method tends to be high since the participants are willing to participate. The extent of sampling error cannot be

estimated, and bias may be present. The limitation is that non-probability sampling does not favour generalization of findings. This is possible for this study as it will not cover the target population under study (Brink et al 2012:139-141).

3.3.1.3 Research setting

Sampling site is the overall location at which a study is undertaken (Polit & Beck 2014:392). The study was conducted at two nursing campuses, that is, Edendale, and Grey's Nursing Campus that forms part of the KZNCN. These campuses are both situated at Umgungundlovu Health District in KZN Province, RSA. The principals of both campuses were used as gatekeepers. The principals provided easy access to the campuses and to participants. A participant is an individual who participates and provides information in a study (Polit & Beck 2014:393). In the context of this study, participants refer to nurse educators who are involved in classroom teaching as lecturers. The selection of participants was based on the inclusion criteria and the signed consent forms.

3.3.1.4 Sample

A sample is a subset of the population, selected through a sampling technique (Moule & Goodman 2014:291). The sample selected should be representative of the target population, being as similar as possible to the population to which the results will be generalised (Brink et al 2012:133). In the context of this study, the sample size was twelve participants. The sample size was based on collecting detailed data to address the research questions, objectives, and the purpose of the study.

3.3.2 Data collection

3.3.2.1 Data collection approach and method

The semi-structured interview is an open-ended interview in which the researcher is guided by a list of specific topics to cover (Polit & Beck 2014: 392). Semi-structured interviews are used when researchers have a list of topics or broad questions that must be covered in an interview. Researchers use topic guides to ensure that all question areas are addressed. The main function is to encourage the participants to talk more about the topics on the guide (Polit & Beck 2014:290).

In the context of this study, semi-structured interviews were conducted to collect data. The interview guide and digital voice recorder were used as data-collection instruments. The researcher used the interview guide with predetermined questions to guide the

interview. Voice recording was chosen as the best form to record interviews as it records the exact words of the interview, including the questions. It was never easy to forget the answers and words because they were preserved accurately in the voice recorder (Holloway & Wheeler 2010:95). The voice recorder does not use tapes to store information − a memory card is used instead. Therefore, a voice recorder was a better option for the researcher because it has more storage space. Information was kept safe, with access limited to the researcher and the supervisor.

3.3.2.2 Development and testing of the data-collection instrument

The interview guide is a list of flexible questions to be asked during the interview. These questions are meant to stimulate the discussion rather than dictate it (Tracey 2013:154). Holloway & Wheeler (2010:340) describe the interview guide as loosely formed questions which are used flexibly by the interviewer in in-depth interviews. An interview guide is necessary, as the data-collection instrument uses open-ended questions to collect data; and the interviews are conducted on a one-to-one basis. In this study, the interview-guide questions were developed by the researcher, guided by the supervisor. The questions were based on the purpose of the study, research questions, and the research objectives of the topic under study. The interview guide was a developed instrument, hence the need for it to be pre-tested or piloted was considered.

The pre-testing or pilot study was conducted two months before the commencement of the main study to allow time to deal with difficulties that might arise from the pilot study before the main study was conducted. Polit & Beck (2012:737) define a pilot study as a small-scale version, or trial run, conducted in preparation for a major study; sometimes called a feasibility study. This was conducted using three participants who possessed the same characteristics as the sample of the main study. Participants were purposively selected from one nursing campus, Edendale Nursing Campus. The main reasons for this pilot study were to:

- Test the effectiveness of the interview guide as the data-collection instrument.
- Test the phrasing of questions and participants' understanding of the questions so that they could be modified if necessary.
- Check the effectiveness of the information leaflet.
- Correct and improve on any mistakes identified during the interview.

- Time and costs that may be needed from the main study must be estimated. Also, the problems that may arise during the actual study may be pre-empted (De Vos, Strydom, Fouche and Delport 2012: 352).

The researcher was able to informally recruit three participants from colleagues at the Edendale Nursing Campus who met the inclusion criteria. Participants were recruited to participate voluntarily in the pilot study through the invitation letter. Participants were informed that they were to be excluded from the main study and were requested to respond to questions from the interview guide through the interview process. However, they were asked to comment on the interview guide, information leaflet, and consent forms. Interviews were conducted over three different days, guided by the participants' availability. Interviews were conducted in a quiet, private room, and each interview session lasted approximately 35 minutes.

The researcher followed all the steps in the interview guide, and read the information leaflet to the participants. Consent was obtained and signed by both the participant and the researcher. At that moment, no witness was involved. Participants were allocated code numbers from 1, 2 and 3 to maintain confidentiality and anonymity. Participants' occupational ranks were: head of department, senior nurse educator with more than 10 years' work experience, and the junior educator with less than 5 years' work experience.

Results or outcomes of the pilot study

The interview process proceeded well. The challenge for the researcher was the recording method by which the researcher was taking notes using pen and paper while conducting the interview. It became difficult to listen and to write everything at the same time: some of the information was omitted. The researcher decided not to write notes for the main study as planned in the research proposal. Instead, the researcher requested permission from the supervisor to change to use of a voice recorder. The voice recorder was to be operated by the research assistant while the researcher concentrated on interviewing the participants.

Some of the participants had difficulty in making sense of what was meant by implementing the EBP in teaching and learning; and suggested the change in the phrasing of questions. Another suggestion was to include a brief explanation of what

EBP teaching and learning was about on the information leaflet, so that when questions were asked it was clear what to expect. Participants also recommended that the information leaflet page be separated from the consent form; and the name was added with the signature.

One of the participants recommended the following:
That there be two central questions:

- What do you understand about EBP in teaching and learning?
- What are your experiences as a nurse educator with regard to implementing EBP in teaching and learning?

That the probing questions be changed to:

- Explain the benefits of research use in EBP teaching and learning.
- What challenges have you experienced in implementing EBP in teaching and learning?
- Which types of research resources and materials are available?
- How do you access research resources or materials?

A question could be added on the recommendations and teaching strategies:

- What are the teaching strategies that you currently use?
- What improvements and changes would you recommend for nursing education and nurse educators regarding implementing the EBP in teaching and learning?

A pilot study was also read by the supervisor; thereafter modifying/refining some interview questions was done in order to make them clear and understandable. All the changes were implemented as suggested and recommended for the main study following presentation to the supervisor. Results of the pilot study are safely kept by the researcher with all other research documents.

3.3.2.3 Characteristics of the data-collection instruments

The researcher used the self-developed interview guide as a data-collection instrument, together with a digital voice recorder to record data. Semi-structured interviews are interviews in which the researcher makes use of questions included in an interview guide, focusing on the issues to be covered. Questions about each issue are asked in an open-ended manner; and the sequence in which the questions are posed is more flexible (Holloway & Wheeler 2010:89).

The researcher used the interviews because of the following advantages, as discussed by (Liamputtong 2013:71 and Holloway & Wheeler 2010:102).

The interviews allowed the researcher to:

- Use existing skills of conversation and communication that most people possess. As a nurse, the researcher teaches communication skills to student nurses and conducts interviews with patients and their families.
- Use the interview method because it needed minimum specialist equipment. For example, only the voice recorder was required.
- Obtain insiders' perspective directly, unlike in the use of questionnaires.
- Explore the research topic when little was known about it or if the issue was more complex.
- Examine the perceptions of the participants and ways in which they gave meaning to their experiences.
- Have freedom to prompt for more information and to be able to follow up on explanations to clarify the meanings of words and phrases immediately.

For the participants, the interviews were flexible, and were carried out to suit their needs. Participants were able to explore their own thoughts. Participants had the opportunity of reacting spontaneously and honestly to questions. They could articulate ideas slowly and reflect on them without being intimidated by the presence of other participants.

The researcher agrees with the limitations or disadvantages that come with interviews. The researcher experienced that:

- Data analysis was time-consuming and labour intensive. For example, the transcription of seven minutes' recording lasted for approximately two hours.
- The interview format differed with every participant; this was problematic for novice researchers, but the researcher had to adjust to the needs of the participants.
- Interviews obtained only individuals' reconstructions of events, but not how they might actually perform. The researcher had no control over this.
- The researcher found it challenging to conduct a good-quality interview because of the first-time experience conducting interviews for a research

study. Eliciting in-depth information from participants required sound knowledge and technique.

- Social structures, such as the categories of the participants, presented certain problems. The researcher had some impact on the interview process because of being the participants' peer. Participants felt that they were being evaluated. This factor was dealt with prior to the interviews. The researcher explained and reassured the colleagues that the interview was solely for the purpose of the study; nothing personal was intended (Liamputtong 2013:71 and Holloway & Wheeler 2010:102).

3.3.2.4 Data-collection process

3.3.2.4.1 Gaining access to institutions

The researcher wrote letters requesting permission to conduct the study. Letters were sent to the principal of KZNCN, the DoH KZN research committee, and the principals of nursing campuses as research sites (see annexures B, D, F and H). Permission to conduct the study was granted (see annexures C, E, G and I) on the basis that: the research proposal had been approved, there was also a proof of ethical clearance certificate (see annexure A) from the Department of Health Studies' Higher Degrees Committee of the Unisa and the findings or results of the study will be of benefit to the institutions, including having access to the research report.

3.3.2.4.2 Research Assistant

The researcher recruited a research assistant for this study. The researcher recruited a friend's daughter involved in media studies at third-year level at a particular university in KZN province because she has been involved in small scale surveys during her studies and understands the research process. The researcher provided the research assistant with proper orientation over the data-collection process and research ethics. Informed consent and confidentiality agreement were signed by both the research assistant and the researcher. The research assistant was informed of the right to withdraw at any time without penalty, and the right to feedback and debriefing. The method of compensation was discussed and accepted by the research assistant.

3.3.2.4.3 Preparation before the interview

Nurse educators who volunteered to participate were invited for interviews through institutional gatekeepers (campus principals for this study). The researcher arranged a

meeting to meet with the volunteers prior to data collection in order to provide information about the study. In one campus the meetings were conducted in one of nurse educators' offices, for another campus it was conducted during the morning staff briefing time and they lasted for approximately 15 to 30 minutes. During the meeting, the researcher distributed information sheets and organised a list of contact details for participants, by scheduling appointment dates and times of interviews. The researcher was unable to meet all the volunteers at one campus prior to the day of interview because of work engagements. However, the information sheets were distributed to all the volunteers. The researcher met with the volunteers prior to interviews at the other campus and was able to explain briefly the research study.

Copies of interview guides with demographic data, information sheets, and consent forms for each participant, were prepared in advance, and the digital voice recorder was available and in good working order. The volunteers were informed that the interviews would be conducted at their workplaces. Permission was requested and granted.

3.3.2.4.5 Interview process

At the beginning of the interaction, each participant was warmly welcomed. The introduction was given by the researcher and the research assistant to establish a good relationship. Explanation was given about the study; the purpose was also explained.

Assurance was provided to participants on maintaining confidentiality and anonymity. The researcher requested permission to record the interviews per the digital voice recorder: permission was granted by all the participants. Participants were requested to give and sign the consent form (see annexure K) before the commencement of the interviews. Demographic data sections on the interview guides (see annexure L) were completed by the research assistant.

Most of the interviews were conducted inside the participants' offices, which were quiet, private, comfortable, and a familiar environment, with few interruptions, for good recording. There were some incidents of noisy interruptions by people entering offices unaware of the interviews. A notice should therefore have been placed on the door, indicating "Interview in progress" or "Do not disturb". The other challenge was the lawnmower at one campus. However, this did not affect the quality of recorded conversations. There was an incident of the phone ringing during one interview. Therefore, with subsequent interviews, participants were requested to disconnect their

office telephones and switch off their cell phones or put them on silence until the interview was over.

The interview began with the researcher asking the prepared questions according to the interview guide. The research assistant recorded all information relevant to the study using the digital voice recorder; while the researcher conducted interviews. Recording only commenced during the question time, ending when questioning stopped. The voice recorder was controlled by the research assistant. Participants were given enough time to answer the questions and were allowed the opportunity of asking questions during the interviews.

3.3.2.4.6 Ending interview

The participants were asked whether they had anything to add or to comment on about the study. Participants were thanked for participating in the study. Debriefing was provided by the researcher after recording had stopped. Each interview session lasted between 12 - 30 minutes. This period included the introductory and debriefing phase; however, recording times lasted between 7 and 17 minutes.

3.4 DATA ANALYSIS

Data analysis entails techniques used to reduce, organise, and give meaning to data (Burns & Grove 2011:535). Analysis of data in qualitative studies involves an examination of text rather than the numbers. Analysis is not a distinct step in the research process but is conducted concurrently with data collection.

Qualitative researchers use a series of steps for analysing data. The researcher used manual analysis which involved a thorough review of all recorded information that the researcher had obtained during the course of data collection (Brink et al 2012:194). The researcher chose to follow the content-thematic-analysis approach. Content analysis is a form of data analysis requiring the use of counting. This involves the identification of codes before searching for their occurrence in the data (Liamputtong 2013:388).

Manual analysis was conducted as follows:

- The researcher listened to recorded interviews repeatedly.
- All the recorded interviews were transcribed into a typed form of interview transcripts.

- Interview transcripts were read thoroughly and repeatedly to identify commonalities and differences in the data collected.
- Common categories of information that were identified, were grouped together and filed into electronic files created for different categories, allowing for ease of access and management of data.
- Each file was labelled with a specific name associated with the category.
- Data were then classified, coded, and filed accordingly, with the discussion, interpretation, and reporting on the findings to commence thereafter.

3.5 TRUSTWORTHINESS OF THE STUDY

This refers to a quality of the enquiry, and is used as a way of evaluating qualitative research (Liamputtong 2013:24). Standards of trustworthiness of qualitative research are parallel with standards of reliability and validity in quantitative research. Trustworthiness is the degrees of confidence qualitative researchers have in their data. The researcher assessed trustworthiness by using Lincoln and Gubas' framework that suggests four criteria for developing trustworthiness of a qualitative study (Polit & Beck 2014:322-323). In this study, the researcher used four of the criteria. These measures include the following:

3.5.1 Credibility

This examines the extent to which the researcher has followed the accepted procedures in conducting qualitative study (Kuada 2012:101). The researcher's findings are compatible with the perceptions of the people under study, meaning that participants recognise the meaning they themselves give to a situation or condition, and the truth of the findings in their own social context (Holloway & Wheeler 2010:303).

In the context of this study, data were collected directly by the researcher and the research assistant using a digital voice recorder. The research assistant was well oriented and trained by the researcher on the process of data collection and research ethics. Participant sampling was achieved using a non-probability purposive sampling technique. The researcher believed that participants were reliable sources of information with expertise on the topic, since they are qualified and experienced nurse educators. The researcher had confidence in the truth of the data because the

researcher gave the participants the opportunity to confirm data before the final report was written.

3.5.2 Transferability

Transferability means that findings in one context can be transferred to a similar situation or participants. Transferability requires the researcher to provide a detailed account of the context within which her study has been conducted. It enables future researchers to compare the study with theirs in order to determine whether the findings hold true in other contexts (Kuada 2012: 101).

A detailed account of the context within which the study was conducted was provided. The researcher provided a sufficient description and interpretation of data supported by the relevant literature, so that it may easily be transferrable and applicable to other settings. Purposive sampling was used by the researcher to select the sample of nurse educators that understood and have knowledge of EBP in teaching and learning.

3.5.3 Dependability

Findings of the study must be consistent and accurate, meaning that readers will be able to evaluate the adequacy of the analysis through following the decision-making process of the researcher, using an audit trail (Holloway & Wheeler 2010:302). An audit trail requires that the researcher keep all the detailed records of all phases of the research process to provide evidence that the study was conducted in the prescribed manner (Kuada 2012:101).

The researcher ensured that data collected were stable over a period of time: information related to data collected would remain unchanged over time. Should a similar study be conducted elsewhere, it will present similar findings. Therefore, data were collected using the digital voice recorder with a memory card that was properly stored and kept safe.

3.5.4 Conformability

This requires that researcher has demonstrated that he or she acted in good faith all along in the research process. In other words, the researcher did not have any other interest in research than to understand the reality set for investigation. Data were collected, and the findings were the proper and true reflection of the participants' experiences. Data collected must not be influenced by the researchers' bias and

interference; however, it must reflect the voice of the participants. The researcher can request feedback from the participants before publishing the findings. Readers can trace data back to their original sources using an audit trail (Holloway & Wheeler 2010:303). The voice recordings of the interview were a true reflection of information provided by the participants.

3.6 ETHICAL CONSIDERARTIONS

The researcher did not anticipate any ethical and legal risks for this study. However, the researcher considered the following principles of importance to the study.

3.6.1 Permission

Written permission to conduct the study was requested from the DoH at KZN, the KZNCN, and the institutions that were used as research sites before commencement of the study. Permission to conduct the study was granted (see annexures C, E, G and I) by the institutions' review research ethics committees on the basis that the research proposal was approved, that there was proof of ethical clearance (see annexure A) from the Department of Health Studies' Higher Degrees Committee of the Unisa, and that the findings or results of the study would be of benefit to the institutions, including having access to the research report.

3.6.2 Respect for individual autonomy

Autonomy is the right to self-determination: participants in the study have a right to decide whether or not to participate, without the risk of penalty or prejudicial treatment (Polit & Beck 2014:84). All participants had the freedom to choose whether or not to participate. The participants' signatures on the consent forms were an indication that their decisions had been made without any coercion.

3.6.3 Justice

Justice refers to the participants' rights to fair selection and treatment and a right to privacy (Polit & Beck 2014:85). Participants had an equal opportunity of being selected based on the inclusion criteria. Participants also had an equal right to fair treatment. Even those who declined to participate were not discriminated against; all had their privacy respected. Privacy is an individual's right to determine the time, extent, and general circumstances under which personal information will be shared, or withheld from others (Burns, Gray & Grove 2015:105-106). In this study, participants' privacy

was equally respected by avoiding unnecessary intrusion into their personal information without authorization. Interviews were scheduled in agreement with the participants apropos of time, date, and place of the interview.

3.6.4 Compensation

There was no compensation promised to participants; there were no financial costs incurred by the participants. The researcher had to compensate the research assistant as per agreement on the contract.

3.6.5 Informed consent

This is a process of requiring the participant to agree to participate in a research study in which she/he has full understanding before the study begins (Brink et al 2012: 213). Participants must have adequate knowledge about the research, comprehending all relevant information, and have the ability to consent to or decline participation voluntarily (Polit & Beck 2014:87). In this study, the researcher followed the process of:

- Inviting participants to volunteer participation.
- Adequate and appropriate factual information about the research activities, risks and benefits, and the freedom to refuse or to withdraw without penalties were provided verbally and in writing.
- The researcher ensured that participants have understood and comprehended the information by giving them the opportunity of asking questions.
- Assurance of anonymity and confidentiality was given.
- Documentation and formalization of consent was in writing. The researcher signed the consent forms handed in by the participants and witnesses before commencement of the interviews (Brink et al 2012:38-42; Burns et al 2015:111-116 and Polit & Beck 2014:87-88).

3.6.6 Confidentiality and anonymity

Confidentiality is the researcher's management of private information shared by a participant that must not be shared with others without the authorization of the participant (Burns et al 2015:107). Before the commencement of the interviews, the participants were assured that all information provided by them would remain confidential throughout the study. Participants were allowed to choose which and how much of that information to share. The researcher kept all private information shared

safely locked/encrypted in the researcher's computer. Participants were informed of the presence of the research assistant during the interview process.

Anonymity is about the protection from the public of the identity of research participants. Anonymity means that study participants cannot be linked to their data (Polit & Beck 2014:88). In this study, participants remained anonymous throughout the data-collection process. Demographic data on the interview guides did not have any form of information linked to the identity of the participants. Code numbers were used to hide the identity of the participants. Any identifying information encountered was destroyed immediately. Participants were assured that the signed consent forms were kept safe and would be destroyed once the study was completed, to remove any possibility of linking data to them because participants' names appeared on the consent forms.

3.6.7 Beneficence and non-maleficence

Beneficence is the right to freedom from harm and discomfort and right to protection from exploitation. Beneficence sets to maximize benefits for the participants, preventing harm (Polit & Beck 2014:83-84 & 375). Non-malificence requires that the researcher have the obligation to avoid, prevent, or minimise harm in studies involving humans (Polit & Beck 2012:152). In this study, there was no physical risk that accompanied the study. However, the researcher noticed some participants showing some degree of emotional discomfort; for example, feelings of anxiety, prior to the interviews. The researcher prevented any type of discomfort by establishing a good trusting relationship with participants, finding a comfortable environment in which to conduct the study, avoiding lying to participants, and assuring privacy and confidentiality of information provided. Debriefing was conducted after each interview; and privacy was maintained by keeping the debriefing section out of the recordings.

3.6.8 Scientific integrity of the research

Scientific integrity implies honesty on the part of the researcher in relation to protection of intellectual property, avoidance of plagiarism, and following correct Internet ethics (Brink et al 2012:43-44). The researcher ensured that:

- Scientific writing and procedures were followed, in that there was no research misconduct such as plagiarism, in which the researcher used information without giving recognition to the source.
- Fabrication was avoided; this refers to offering false data and reporting it.

- Falsification was avoided, in which there is manipulation of research material equipment or processes, including changing or omitting data, or distorting results in such a way that results are not accurately represented.
- Practices such as poor data management, conflicts of interest, inappropriate financial management, failure to comply with governmental regulations, and unauthorised use of confidential information, were also avoided (Polit & Beck 2014:92).

3.7 CONCLUSION

Chapter 3 explained the research design, methods, techniques, and all the procedures followed during the data-collection process and data analysis. Strategies for ensuring trustworthiness and ethical issues in relation to this study were also discussed within this chapter.

CHAPTER 4

DATA ANALYSIS, INTERPRETATION, AND DESCRIPTION OF RESEARCH FINDINGS

4.1 INTRODUCTION

Chapter 3 discussed the design and methodology of the study. This chapter involved an examination of text rather than the numbers. Data analysis entails techniques used to reduce, organise, and give meaning to data (Burns & Grove 2011:535). In this chapter data analysis and relevant literature are discussed in detail.

Data collection was conducted to obtain information from the nurse educators on their experiences with the implementation of EBP in teaching and learning. To address the aims and objectives of the study, the researcher used semi-structured interviews as the methods of data collection, following a set of questions from the interview guide. Face-to-face interviews were conducted with twelve nurse educators at the two selected nursing campuses in the Umgungundlovu Health District of KZN Province, RSA. The purpose of the study was to determine the experiences of nurse educators in implementing EBP in teaching and learning. The goal was also to describe the importance and benefits of EBP teaching and learning in nursing profession, especially for nurse educators and student nurses. The study was guided by the following objectives:

- To explain nurse educators' experiences in implementing EBP in teaching and learning.
- To make recommendations for nurse educators and nursing education in implementing EBP in teaching and learning.

4.2 SAMPLE CHARACTERISTICS/SAMPLE BIOGRAPHIC PROFILE

A sample of twelve nurse educators was interviewed. Participants were from three race groups; Africans, Indians, and Coloureds. All participants who volunteered were females. The nursing profession is known to be dominated by females. All interviews were conducted in the English language. The participants' years of experience ranged between 5 and 30 years; occupying position/rank of junior nurse educator, senior nurse educator and head of department (HOD). The highest qualifications were either a

Bachelor's, Honour's or Master's degree in Health and Nursing Science Studies. The following table is a summary of the demographic information of the sample.

Table 4.1 Demographic information of sample

Criterion	Frequency	Percentage
Position:		
- Junior	5	41.6%
- Senior	5	41.6%
- HOD	2	16.6%
Work experience:		
- 0-5 years	1	8.3%
- 5-10years	4	33.3%
- Above 10 years	7	58.3%
Highest Qualification:		
- Bachelor's degree	4	33%
- Honour's degree	2	17%
- Master's degree	6	50%
- Doctoral degree	0	
- Professorship	0	
Age group		
- 25 to 35	0	0
- 36 to 45	1	8%
- 46 to 55	9	75%
- 56 to 65	2	17%
Race		
- African	7	58.3%
- Indian	4	33.3%
- White	0	0
- Coloured	1	8.3%

According to the table, 58.3% of nurse educators had more than 10 years of work experience, 50% possessed the highest qualification of Master's degree and occupied the higher positions. Therefore, the interpretation is that data were collected from the participants who had more knowledge and experience with the topic under study. It was explained during sampling that the non-probability purposive sampling method assisted the researcher to select those participants who knew most about the

phenomenon under study (Brink et al 2012:139). It is important to note that a positive attitude towards EBP tends to increase with advanced educational level, academic ranking, and years of experience in teaching and research (Hussein & Hussein R.G. 2013:609).

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4.3 DATA MANAGEMENT AND ANALYSIS PROCESS

Data collected were then analysed, classified, and described using a series of steps as explained in Chapter 3. Manual analysis with a content-thematic-analysis approach was followed. The researcher continuously and repeatedly read through the transcripts looking for similarities and differences within the data. Repeated information was deleted. Participants' responses were grouped according to questions from the interview guide. The interview guide had seven questions; therefore, the responses were classified into groups of seven. Questions focused on: understanding EBP teaching and learning, nurse educators' experiences, challenges, benefits of EBP use, teaching strategies, resources, and recommendations.

Data were then reduced according to themes and categories identified. Similar responses and common categories of information were again grouped together and filed into electronic files so that data were easily accessed and managed. Each file was labelled under a specific name associated with the theme and category. All recorded information was thoroughly reviewed before interpretation and description of findings commenced.

In Chapter 2 experiences were defined as those incidents that related to the knowledge coming from being personally involved in an event, situation, or circumstance. It was further discussed that the amount of experience affects the complexity of knowledge for the individual (Burns et al 2013:10). It is common knowledge that experiences may be good or bad, and may include opportunities or challenges for the individual. In this study, experiences related to the knowledge that nurse educators have about EBP implementation in teaching and learning. These experiences revealed that nurse educators encountered both positive/pleasant and negative/unpleasant experiences. Table 4.2 illustrates the summary of these experiences.

Table 4.2 Nurse Educators' experiences of evidence-based practice implementation in teaching and learning

Positive/Pleasant	Negative/Unpleasant
Nurse educators ✓ Knowledgeable, confident in providing resources and considering students' needs ✓ Good practice ✓ Best way of teaching and learning ✓ Have a grounded base that one may refer to ✓ Consider the differing levels and character of students ✓ Use of expertise ✓ Empower and enrich students with updated knowledge and information ✓ Bridge the theory-practice gap **Student nurses** ✓ Self-directed, lifelong and continuous learning ✓ Empower and enrich students with updated knowledge and information ✓ Enable the use of critical thinking, problem-solving, and decision-making skills ✓ Readiness to conduct research ✓ Increased motivation, positivity towards research and eagerness to learn for students ✓ More exposure to practice, reality and experimentation with better results ✓ Encourages independency for students ✓ Opens doors for more understanding ✓ Promotes open mindedness, enquiring minds, its stimulating, authentic, trustworthy, concrete ✓ Allows for global changes ✓ Produce nurses of international standards **Patient** ✓ Individualised patient care	**Resources** ✓ Poor access to resources ✓ Resources not available ✓ Use of external resources ✓ Transport for students to access the library **Time** ✓ Time constraints for lecturers with regard to preparations, inadequate time for library ✓ Time constraints for students with added responsibility of research module. **Student character** ✓ Students' dependency on nurse educators ✓ Research is viewed by the students as a monster ✓ Something abstract for students ✓ Students do not like it ✓ Overloading students **Teaching approach** ✓ Teaching methods not ideal for EBP ✓ Use of traditional teaching strategies ✓ Nurses hate research **Knowledge and skills** ✓ Lack of motivation and confidence for nurse educators ✓ Poor knowledge and skills about EBP

✓ Reduction in patient stay in hospital owing to quick recovery **Employer/Institution** ✓ Cost-effective for health-care services ✓ Improvement in quality patient care	

From these experiences two themes emerged, each with categories. The first theme was challenges with implementation of EBP in teaching and learning, under categories of time constraints, lack of and poor resources, current teaching approaches, student character, and lack of knowledge and skills by nurse educators. The second theme was benefits or value of EBP in teaching and learning in relation to nurse educators, students, patients, and institutions, or employers under categories of keeping up to date with current information, preparing student nurses to engage in EBP, improving quality care for patients, and reducing health-care delivery costs. Table 4.3 is the illustration of identified themes and their categories.

Table 4.3 Themes and categories

Themes	Categories
Theme 1: Challenges with implementation of EBP teaching and learning	1.1 Time constraints 1.2 Lack of and poor access to relevant resources 1.3 Current teaching approaches 1.4 Lack of knowledge and skills by nurse educators 1.5 Student character
Theme 2: Benefits/value of EBP in teaching and learning	2.1 Keeping up to date with current information 2.2 Preparing student nurses to engage in EBP 2.3 Improving quality care for patients 2.4 Reducing health-care delivery costs

4.4 INTERPRETATION AND DESCRIPTION OF RESEARCH FINDINGS

4.4.1 Theme 1: Challenges with implementation of evidence-based practice in teaching and learning

Findings from this study revealed that nurse educators are experiencing certain challenges with EBP in teaching and learning. These challenges include time constraints, lack of or poor access to relevant resources, the use of traditional teaching approaches which are still dominant, nurse educators' lack of or poor knowledge and skills, and the quality of nursing students. Emanuel et al (2011:22) in their study on developing EBP among student nurses identified similar challenges that prevented the nurses from successfully using EBP. These findings included poor access to facilities and information, lack of experience, and little confidence in using computers.

Some of the challenges were highlighted by Schoonees et al (2017:11) in their study, to evaluate EBHC teaching and learning in the undergraduates. The study showed that the challenges experienced by lecturers were lack of time by the programme to dedicate to EBHC, lack of evidence related to a specific field, lack of student motivation, and the students' schooling background.

4.4.1.1 Category 1.1: Time constraints

This study indicated that, for the nurse educators to successfully implement EBP in teaching and learning, required more time spent in the library to search for information, for reading the literature, and for preparation and presentation of the content. This applied to both the nurse educator and to student nurses. This statement is supported in the study conducted by Emanuel et al (2011:22), which indicated that the use of EBP by the professionals requires accessing and integrating a number of different resources which could be time consuming. Lack of time was also mentioned as a major barrier when trying to access and review any of the evidence (Emanuel et al 2011:22).

Nurse educators also indicated that time is not allocated or distributed fairly between library, theory and practice. The prescribed structured time from the curriculum does not provide sufficient time for students to visit the library to search for information. The location of the library also contributed to time limits, neither campuses under study having a library on site; more time was needed to visit the library. On one campus, the

library is 8km away from the campus. At the other campus, the library is within the hospital premises and not on the campus. These are both medical libraries, which means that they are accessed by all hospital staff. The following statements were reported by the participants with regard to time allocation, prescribed time, and preparation time:

- Time allocation

"*Yes, yes, the students have library, the problem that we encounter when they are in block is that they do not have enough time to go to the library because the libraries are not situated in the facility, like colleges they must go out and find information that is our challenge for now."*

"So, you find that even the time that is allocated for library the moment they walk out to go to the library, you find that library is in use full of doctors then that is a challenge and you find that now when they come back they are somehow late for classes so that is a challenge."

"I wouldn't say the whole curriculum but I would say a revision of the curriculum, that's what I think."

"Maybe we can move from what we have already, because you know generally there is allocated time for clinical exposure, allocated time for theory. Maybe we can look at both this component and also allocate time for self-directed learning so that it comes in as part of the curriculum, like a prescribed kind of thing, like for example saying that the students must have so many assignments, must have so much library time."

The responsibility remains with the NEIs and the employer to support nursing education by distributing time allocation equally and fairly so that relevant evidence needed for EBP may be accessed. Merhdad, Joolaee, Joolaee A and Bahrani (2012:509) mentioned in their study that supporting EBP teaching sessions and educational programmes should be essential in improving the methods of using resources and databases for acquiring up-to-date knowledge.

Participants suggested the review and restructuring of the curriculum so that time allocation is evenly spread throughout for theory, practice, and EBP. The following are some of the comments from the participants on time allocation.

- Prescribed time

"So, it's very difficult as the nurse educator in a sense that we follow that kind of method and because we follow the curriculum, we have set text books, we have set prescribed books, often which do not allow for that kind of EBP teaching.

"The other constraint that we would have, especially with the R425, is the time constraints in the course as such. You know because we need so much classroom time."

"*Even the body, the nursing education body as such, we need to move with times because I mean as eh we have got such cut and dry timelines that if you want to implement something that is going to take a lot of students' time, we are going to start complaining just generally, that we do not have enough time with the students because they still have to go to the wards, so the clinical time and the theory time will clash."*

The study conducted by Gore (2015:67) on ways in which nurse educators address the differing learning styles of students agrees with what participants stated about course-prescribed timelines. The findings indicated that similar concerns arising from the study were that time limitation and curriculum requirements are factors over which neither the teachers nor students have any control, therefore there is not much that nurse educators can do to change the situation until the curriculum is reviewed.

- Preparation time

"The time constraints as well. Even if you want to try something new, you have got a lecture period that you are covering a certain content for let us say 20 minutes and 40 minutes periods, there is no other time for discussion or for something different."

"In terms of me having the challenge, I think that it would have been me, it would be poor time management. Because I would have to incorporate more time doing reading and improving my skills on surfing the net and researching this evidence-base articles, having that appropriate time to gain that new knowledge for previous research articles journals and then performing a lesson plan accordingly and then carrying out a lecture".

A study conducted by Malik et al (2015:50) on nurse educators and clinical nurse coaches and specialists regarding their perceived knowledge, skills, attitudes, and

contextual factors affecting EBP, revealed that insufficient time prevented appraisal of literature on a regular basis and the finding of research reports. There is also no time to find and read research articles. Again, in circumstances where shortages of staff exist, allowing staff adequate time to complete the requisite reading to update their clinical or EBP knowledge or to attend continuing nursing education is not always possible (Boswell & Cannon 2017:20).

4.4.1.2 Category 1.2: Lack of and poor access to relevant resources

It is clear that, for the nurse educators to implement EBP in teaching and learning, special resources must be available and accessible to both nurse educators and student nurses for successful implementation. Evidence is available in various forms, such as books, videos, journals, and articles. Access to evidence comes through the libraries, computer laboratories with Internet access, and mobile technology.

Participants responded this way when asked about their resources:

"For instance, if you look at the in-house, what you need to make your teaching learning process smarter, is sometimes not available."

"It could be available but you cannot access it easily."

"No not easily especially with the IT, we are limited for resources; I would have to go to the library to use it,"

"Eh I don't think especially with our college, I do not think that we do not, I mean we have enough resources, like for instance we need to have enough resources, the most recent textbooks you know, even the library should make sure that it is well equipped with most recent textbooks, we have the computers so that they have access to the internet which is the problem that we are experiencing that we don't have with our campus."

Hussein and Hussein R.G. (2014:870) agree with the statements above in their study conducted in Egypt. Nursing education must be committed to the principles of EBP and critical thinking. Such education must provide resources and create a supportive environment for the implementation of EBP in teaching and learning. The fundamentals of teaching student nurses must be based on the best available evidence to recognise and deliver high-quality patient care (Emanuel et al 2011:21).

- Library

Although the library was available, access to the library is a challenge but library cannot exclusively be used by nurses only. The library was either not located on campus premises, needing transport to access the library. If the library was located on site, it was a distance away and did not service student nurses only. Being a medical library, it was also used by other hospital personnel in the hospital, therefore it was congested most of the time. Participants stated the following about the library:

"One of the biggest problems is the availability of resources; you know we don't even have an onsite library in the campus."

"Yes, yes, the students have library, the problem that we encounter when they are in block is that they do not have enough time to go to the library because the libraries are not situated in the facility, like colleges they must go out and find information that is our challenge for now."

"Ehm and that also the library is far from our campus so that is the big challenge as well, sometimes you want to just get into library if you are going to class in the afternoon, you want to go to the library and get something you can't, so for me that also a big challenge."

"Not really because the other thing is our library is not here, it is not at the college. So, the student will go off at 15H45 only to find that the library is already closed, so they are not, unless they get day offs during the day, the weekdays when the library is open."

"*Yes of course, because sometimes you feel as the lecturer that as much as you are allocated periods according to the time table as the working tool, maybe let me say you are allocated four periods, you feel that one period you can do that using a lecture method, then the rest of the period you just let students go and explore, then that where the challenge is because sometimes there is transport challenge, there is accessibility challenges to the resources that I have just communicated to you "*

"Often the students have to use the resources outside and come and give you feedback."

Hospital libraries are expected to play an active role in developing and providing adequate information literacy skills among the student nurses and nurse educators (Hussein & Hussein R.G. 2013:617). Clinical librarians in the health services have to promote information literacy in the workplace. To prepare practitioners in training for their future professional roles and responsibilities, health-related degree programmes need to adopt and incorporate EBP methods in their curricula. Librarians and academics have to collaborate effectively to ensure that students receive proper instructions on information literacy and EBP skills (Spring & McCluskey 2010:249).

Boswell and Cannon (2017:21) agree that many organisations do not have a library, librarian, or personnel familiar with accessing current research findings. Without such assistance at the library, nurses may not seek EBP data.

According to Adeoye and Popoola (2011:1-20), their study conducted in Nigeria confirmed that the library is the supportive input for any academic institutions for teaching, learning and research. It has been observed that management at various institutions are not providing adequate library resources for their institution. Where these resources are available, they are not put to maximum use. Adeoye and Popoola (2011: 6) further state that availability of information does not always imply accessibility, because access may be prevented for one reason or another. For this study access to library is impeded by distance and working hours, owing to the location of the medical library and the campuses.

It is not enough that a library houses information resources: what is important is that these resources are physically and intellectually accessible to those who need them (Mojapelo & Dube 2014:8). Inadequate and non-functioning libraries are the stumbling blocks, hindering all efforts to ensure efficient and equitable access to information resources essential for students to execute assignments and research (Mojapelo & Dube 2014:14).

- Computers

Findings from this study indicated that computers available are limited in number, and are insufficient for both student nurses and nurse educators. Even when they are available there is no access to Internet. Access may be restricted, or computers non-functioning. Although there is intranet provided by the employer, such information as

may be found is limited and mostly outdated. Participants narrated the following about computers:

"Yes, they do but they are not enough, yes they do have and I am hoping for the best now since I have mentioned the fact that there is a computer lab that is now fully furnished and I am hoping that there would be a Wi-Fi so that now they can access the articles and journals and other videos."

"Now you find that students have to be motivated to use the available computers in the community setting like the municipality libraries, the books, the articles and etc. together with the medical library and even outsource with other campuses around us."

Other participants even suggested the use of cell phones by the students for accessing information, stating that:

"To also allow the students as well in the classroom to be able to access information on their phones as well as you are teaching on the spot."

"This is the way that learning can take place because students of today, they would not have computers but they have the cell phones."

Similar barriers identified in literature are lack of resources to support the search for best practice in nursing education, outdated textbooks in libraries, lack of access to current research journals, and limited access to the Internet. Computers are among the most hindering factors for nursing educators in implementing EBP (Hussein & Hussein R.G. 2013:616).

According to Mackey and Bassendowski (2016:53), the use of mobile technologies enhances the accessibility of EBP resources, allowing access to a large amount of information. The utilisation of these technologies is to be taught by the nurse educators in an effort to prepare student nurses for evidence-based thinking in the clinical area. For this study, it is not clear whether the participants had any role in promoting or teaching the use of mobile technology. International studies show that the use of mobile technology by nurses is encouraged to enhance accessibility to EBP resources. In some South African institutions, however, such as the two nursing campuses under study, the use of cell phones in the clinical area and classroom is currently restricted, which results in a limitation for accessing information for use in EBP.

A study completed in Canada evaluated the use of mobile technologies such as personal digital assistants (PDAs) and the impact on the support and utilisation of EBP by nursing staff. Findings from this study revealed that, with the necessary tools, nurses are able to access resources related to best-practice guidelines (Doran, Haynes, Kushniruk, Straus, Grimshaw, Hall, Dubrowski, Pietro, Newman, Almost, Nguyen, Carryer & Jedras 2010:4-15). Therefore, the use of cell phones could remove the barrier created by lack of computers to access information, as suggested by some of the participants.

Many schools of nursing are incorporating the use of PDAs into the curriculum, allowing students immediately to access information on medical terminology, laboratory values, and evidence-based information. The use of these devices has important implications for improving students' clinical judgement (Roux & Halstead 2009:51).

- Internet

Having a computer does not necessarily mean access to evidence. To access the evidence there must be connection to the Internet. Internet comes with a cost, which is the reason it is sometimes limited or restricted, thus creating a barrier to accessing evidence. The following quotations show how the participants relate to the challenge of poor access to evidence.

"Internet is available but it is not readily available all the time because in order to implement this kind of eh teaching strategy, you need to constantly be researching, updating yourself as well so that we keep our learners updated."

"You know I think that for us it is very difficult of what is available, obviously be your internet access and that kind of thing but that still available so limited in the library."

"Well ehm we have few computers that we can access, where we can access the internet but in terms of internet availability in the campus it is very limited. I think we have two computers in the campus that have internet."

"We only have intranet available and intranet, computers are not available to everybody just two maybe one in four people so that becomes a problem, so we tend to use our private computers and we do not have access to internet."

“I often visit the google scholar a lot, not using government service that we should be using which we should have.”

“We do have the library but ideally for one to use this evidence-based we need to have a fully functioning internet.”

“Sites are very limited on the intranet if you go to the sites that we do have the government intranet service there is very limited information. I was on the intranet a few weeks ago looking for information, the information that was there 2011 and 2012 it is still there.”

“We do have intranet, there is not much that you can get from the intranet.”

International studies show that nurses do not have barriers to accessing the Internet, having capacity and/or using computers. Nurses are familiar with the Internet, using it in their studies, and also for other purposes. However, nurses are not using the Internet to retrieve evidence-based information from the database; they use it also for systematic review (Hallila, Zubaldi, Ghamdi & Alexander 2014:108).

Jamshidi, Mehrdad and Jamshidi (2012:1371) support the above statement in their study conducted in Iran on student nurses to measure their attitudes and knowledge of computers and the Internet. Findings indicated that 86.8% of 300 students have access to computers and 63.5% to the Internet, including home access. However, 73.2% of students were not adequately informed of the procedures of professional searching; and 59.6% did not have enough information about specialised sites in their fields.

- Books

According to participants, books are the most available and accessible resources for evidence; however, they are reported to be outdated, and having limited access. Books do not provide current and relevant evidence.

“Ok the other resources that are available for students and us as lecturers, we got books that we get”

“Yes, it is not enough even though, the only things that we are sure of are the textbooks that we have.”

“Also, the books are available but also it is quite a lot of limitation.”

“To find information on their own more than relying on the prescribed book because you will find that the prescribed book is the 2013 edition and we are in 2017.”

Books are considered as one of the library resources which enables the library to carry out its functions effectively. Books are grouped as study/teaching material required by the students for study purposes, and for educators to teach in the form of prescribed or recommended textbooks. Various forms of printed books and e-books are available (Adeoye & Popoola 2011:5). It is further recommended that library information resources provided must be current and updated. Old textbooks are counted among the most hindering factors for nurse educators to implement EBP (Hussein & Hussein R.G. 2013:616).

The other option available to nurse educators in dealing with old and outdated books is to have access to e-books. Still requiring Internet, which is a challenge. The services of the librarian must come in here to assist with access. One participant mentioned that e-books could be an option, and was quoted saying:

“I do know that the librarian has given us a list of e-journals or e-books that we can access. I have not accessed any of those, I am sure we need a specific code to go in on that so that would also be an option.”

“It is difficult because it is not easily passable, simply because of the fact that if you have gone to library you have got basically pretentious library attendant.”

“And also, current textbooks, we need availability of that, sometimes we are sitting with textbooks, student have the latest edition, we do not have the latest editions, financial challenges, yah.”

According to Afghanistan Times (2015:2), old and outdated information precludes students from accessing new changes and improvements in teaching systems. A lack of current printed books is a serious problem in all public institutions. Provision of updated books depends on availability of funds. For quality teaching, the relevant government department must help teaching instructors in printing and buying updated books. These books must be in sufficient quantities to be made available to students and teachers.

In a study conducted by Leonard (2017:156), it is reported that there is high awareness of e-books and frequent use of e-books by the students and students prefer e-books to printed books. However, nursing campuses under study are still dominated by the use of printed books. Although e-books are convenient to access and use, both print material and electronic resources are equally relevant and valuable.

Mojapelo and Dube (2014:8) further state that previously, printed resources (textbooks for this study) dominated the information landscape, making the process of accessing information a relatively simple process of locating and extracting the information. Today, however, the scene has changed with the emergence of information technologies.

- Journals and articles

Participants also indicated that journals and articles are available with limitations of costs associated with printing. Also, some books have limited and restricted access codes. Access to certain sites also depends on the services of the librarian who must register with international libraries. Journals and articles are regarded as the best sources of evidence because of their currency. Participants narrated the following:

"Because the students definitely they have to have access to the journals and then now as we are saying we do not have internet where they can go online and get the journals and get the what is this, this site scholar whatever something like that."

"Certain journals are out there having access codes to get in, so you get the very basic ones and students got to pay for printing of it. They got to pay for using the actual internet as well. So, the journals that are available are the ones that would basically on the desk and those are very limited as well"

"I use my journals as well for my information and we do not have that readily available at the education or teaching institution and learning but they are available in the hospital which about like 8km away."

"Well I do use Denosa magazine and read that a lot, I look for any current updated information although it is not a lot it is very limited content but I do read and see if there is anything current there."

Journals and articles are part of library resources that provide intellectual stimulation to the reader and enable the libraries to carry out their functions effectively. They can be

used both for studying and research (Adeoye & Popoola 2011:5). A journal paper is described by Darntl (2014:116) as a paper that reports on a finished piece of research or some significant achievement or discovery in a certain field of science. Most journals appear quarterly, having limited access.

However, some journals make articles available online without the user needing to subscribe or pay for access. Unfortunately, not all journals do this, unless a journal is open access, making their articles free after a waiting period. Articles may also be supplied by a library which subscribes to the journal, otherwise there will always be a charge (www.phcris.org.au>guides>accessing). Open access allows for unrestricted access and use, therefore teachers and their students have access to the latest findings throughout the world. Most publishers own the rights to the articles in their journal, therefore anyone who wishes to read the articles must pay to access them (http://www.plos.org>open-access).

- Skills Laboratory

Participants mentioned that the available skill laboratories are not well furnished and are full of old-fashioned material. Therefore, skill laboratories need continuous maintenance and refurbishment with the latest materials. Here is what was stated by the participants:

"We do have the skills lab but again as mentioned earlier on, that with these resources, they are not enough and we some sort of having the old-fashioned type of resources. Ok eh earlier on I did mention the fact that at times, sometimes we need to have the manikins or the dolls that can actually simulate and that can resemble a real life when actually take them through."

Skills laboratories are mostly needed and used to teach clinical skills using a simulation teaching approach with the use of videos, DVDs, and simulated patients and environment. According to Abdulmohsen (2007: 59-60), a clinical skill laboratory has become an important educational environment for the acquisition, maintenance, and enhancement of clinical skills of students in the health-care profession. It has a high potential to benefit the student nurses because it provides a safe and protected environment in which the learner can practise the skills before using them on real patients. This allows students to make mistakes without affecting real patients.

Simulation is a clinical situation that allows students nurses to function in an environment that is as close as possible to a real-life situation. It is used to foster critical thinking on understanding of patients' values and needs, decision-making, and hands-on skills (Roux & Halstead 2009:52). In recent years simulation has become more sophisticated, through the use of high-fidelity human patient simulators (HPSs). HPSs are computerised mannequins that include programmed but modified patient scenarios. HPSs allow students to experience clinical scenarios that they may not be exposed to in real clinical settings (Roux & Halstead 2009:52).

Technology-enhanced learning allows the workforce to engage in continuous development, both alone and as members of teams, as they strive to become excellent. Literature informs us that clinical laboratories are necessary within nursing education. Simulation teaching would ensure that all student nurses received the opportunity to apply their knowledge and skills in a real-world setting, and to identify and address their individual learning needs before carrying out procedures on patients. Humphreys (2013: 364) describes simulation as one of the innovative teaching strategies for clinical skills. The health-care environment requires high-technology, problem-solving and decision-making skills.

- Employer-support system

Provision of resources is the responsibility of the employer or the institution, and this depends on the availability of finances and the budget. Scarcity of resources makes it difficult for nurse educators successfully to implement EBP in teaching and learning. The following quotes were narrated by the participants on the lack of a support system:

"*The other challenge is the employer. The employer does not have enough resources."*

"Like I remember the other day, we were told we were going to get some fancy presentations but we will be told now and in five years' time when I have retired you will get them."

"At the present moment, again in most cases if one would ask for such resources one will be told that now there is no budget, that is the challenge again to have limited resources."

“Not necessarily the lack of support even if now the managers would support the staff, if there is no budget they cannot do anything because for you to apply this EBP you need to have the resources, the resources need what? Need money.”

Insufficient financial resources as well as journals, reports and computers for making EBP a reality in theoretical and clinical teaching could affect negatively the nurse educators’ ability to access evidence from various sources. It has been discovered that when nurses are provided with the necessary tools such as smart phones and computers inter alia, they are much more likely to access relevant information and best practice guidelines (Mackey & Bassendowski 2016:53). Therefore, the participants recommended that relevant resources be made available on the current database in an electronic form, giving unlimited access to the Internet and the libraries.

4.4.1.3 Category 1.3: Current Teaching Approaches

In the study it appeared that, currently, traditional teaching approaches are still dominant in nursing education. The participants identified the following current teaching strategies used for teaching and learning: facilitation, group discussion, simulation, assignments, role play, case study, clinical debates, lecture, self-activities, demonstrations, peer group teaching, problem-solving, group presentations, games, case-based research, videos, reflective journals, portfolio of evidence, and learning package. Most of these approaches lead to technical skills mastery but they do not stimulate the development of critical thinking skills, as one participant stated that:

“*They promote psychomotor skills; the students get technical skills to do the procedures and more.”*

Promotion of EBP in teaching remains the responsibility of the NEIs to reduce the theory-practice gap. EBP teaching in nursing is defined as the intellectual application of best evidence for making decisions (Khalili, Khaghnizadeh, Nir, Noori & Zicker 2015:273). This method of teaching considers the curriculum, learning environment, student characteristics and teaching methods. EBP teaching is effective in improvement of critical thinking skills (Khalili et al 2015:273). Critical thinking is the purposeful, self-regulatory judgement which results in interpretation, analysis, evaluation, and inference upon which the judgement is based (Hussein & Hussein R.G. 2014:87). Therefore, it is incumbent on the nurse educator to instil competencies of EBP and critical thinking in student nurses for them to make critical patient-care decisions. Although nursing

faculties understand critical thinking, they continue to have difficulty in presenting such to students.

Problem-based, experiential learning, projects, student mentoring, case study and Cookie experiments teaching strategies were discussed in Chapter 2 as strategies that promote EBP and critical thinking. Nurse educators need to move away from traditional approaches in which didactic lectures, memorization and return to laboratory demonstrations are emphasised (Hussein & Hussein R.G. 2014:90). When comparing EBP teaching with the traditional teaching approach, evidence-based education is likely to increase the critical thinking skills of students. For successful implementation of EBP in teaching and learning, nurse educators need to use the appropriate teaching strategies that support EBP. Strategies for teaching EBP have been outlined in the literature review (Chapter 2), including skills for asking focused clinical questions, searching electronic databases for evidence, critically analysing the evidence, and determining whether the published evidence fits with their clinical situations, justifying the making of a change in practice (Hussein & Hussein R.G. 2014:86).

Although the participants acknowledge the importance of the use of EBP in teaching and learning, they mention some challenges to implementing EBP in teaching and learning, such as time constraints, students' school background and character, and the evaluation or assessment system that does not support the use of EBP. This is what the participants said about these challenges with regard to:

- Time constraints

"But those are generally the methods that we use. There are others that could be used but you know the time constraint does not allow for it."

"But as I say, time is limited because lecture periods are so short and you got strict curriculum involved in and there is certain clinical hours, theoretical hours that students have, that is very difficult."

"Group discussion is very common, but that as well; there is very limited time for that as well."

"There are others that could be used but you know the time constraint does not allow for it."

In a study by Gore (2015: 61), the time required for preparation and delivery was commonly cited by her subjects as the hindrance to implementing various teaching approaches. Gore (2015:61) further mentioned that some of the strategies took a great deal of time.

- Students' school background and character

"We so used to traditional teaching way of learning and traditional way teaching and the students coming from the school background tend to expect this kind of teaching."

"…we want to move away from the old ways as much as they are also beneficial but we are training these students to be critical thinkers…"

Traditional teaching methods should be transformed to improve learning experiences and to facilitate lifelong learning (Sharma 2017:1). Adams (2010:7) revealed in her study that students perceive the teaching and learning environment at higher education to be like that at high school; they therefore fail to take responsibility for their own learning. Student nurses are encouraged to become active learners. Active learning is one of several innovative teaching methods which involves the engagement of students and educators in the learning process through collaborative classroom activities and reflection (Sharma 2017:3). Participants further commented that:

"Sometimes even if the students have not said anything, among ourselves we just want to make things as easy as possible for the students."

"Application to the topics at hand and relevance to the learning styles and calibre of students."

"Even to consider the needs of the students because you need to know what is it that the students need"

"Make sure that you use the teaching strategy that is applicable to all the levels and which will benefit each and every student because the students are not the same."

It is important to consider the different student learning styles in planning course delivery. Such student learning styles may be addressed using various teaching techniques as opposed to addressing the learning styles of individual students. Student learning styles can impact the ability of students to absorb course material (Gore 2015:49 & 66).

Da Rosa, Kelly, Friedland, Coburn, Cox, Pollert, O'Connell and Smith (2011:2) conducted a study on medical students about barriers to effective learning; one of the barriers was students' attitudes in relation to instructional strategies. Findings revealed that students preferred the lecture instructional teaching strategy over the strategies that require active learning. Some students even expected the faculty to deliver content through methods that make for easier memorization, which some students felt it was critical for them to pass information-dense examinations.

- Prescribed and restricting curriculum and evaluation system

Participants recommended having more of EBP in teaching than that which is currently used, namely, outcome-based teaching, to change the evaluation system to one that matches EBP, and to introduce the use of reflective journals and a portfolio of evidence to students as teaching tools for EBP. The following quotes were stated in this regard:

"There are some challenges because you cannot do more topics or activities because of the method of teaching and evaluating that we are using. Most of the time we are using outcome-based so it is not easy to apply evidence-based."

"And obviously, the traditional way of doing things in nursing is quiet limiting you know, because we have been told that you teach in class, you demonstrate and all these other methods are seen as intruders in the system."

"So, it is very difficult as the nurse educator in a sense that we follow that kind of method and because we follow the curriculum, we have set text books, we have set prescribed books, often which does not allow for that kind of EBP teaching."

"Most of that strategy will apply depending on the topic that is used."

"Mostly it is either lecture methods with our administration skills."

"Evaluation methods are done following the traditional teaching methods"

Khalili et al (2015:273-277) conducted a scoping review to examine various evidence-based approaches within nursing education and the study identified five teaching strategies of the evidence-based approaches, although they differ in relation to environment, curriculum, and techniques. The following strategies were recommended by Khalili et al (2015:74) to assist with teaching and learning of EBP and these strategies are consistent with some of the participants' responses and

recommendations for teaching using EBP. The researcher discusses these strategies with recommendations and participants' narrated responses as follows:

Strategy 1: Special setting and specific curriculum

Customised curricula were described as effective for improving EBP in student nurses in developing the required professional skills (Khalili et al 2015:274).

"Because for now we are using the current curriculum textbooks, not so much on evidence-base. When you look at our curriculum we have the set curriculum but not much is said about EBP. I would not say the whole curriculum but I would say a revision of the curriculum, that is what I think."

"I think include it in the curriculum."

"We need to have a framework for teaching. Teaching and learning must be underpinned by a certain model or a framework that will guide our teaching and learning because we will be learning into that framework."

Leufer and Clearly-Holdforth (2015:5) recommended in one of the studies the integration of the principles, processes, and skills of EBP into the nursing curriculum. This had the potential to enhance research dissemination and utilisation, promote evidence-based nursing care, contribute to ongoing professional development, and to foster a culture of lifelong learning. More studies advocate for the use of EBP in the curriculum, how best to integrate, and teaching strategies to use. The ability to search for evidence must be included as part of the curriculum (Spring & McCluskey 2010:249). Teaching and assessment strategies must be structured around the process of EBP to be introduced in an attempt to make EBP meaningful to students (Leufer & Clearly-Holdforth 2015:6).

Strategy 2: Collaborative approaches with clinical nurses

This strategy may be used in teaching Master of Arts (MA) students to recognise the priorities of clinical ward problems, followed up with a poster or teaching paper (Khalili et al 2015:274).

"The other thing that I think is, very, very good networking between the educators and clinical side of actual practitioners, from the hospital side, so that they could actually

look at conditions and can take the students to the patient, giving learning life itself and that also will be a good recommendation to do as well."

The use of other health professionals such as physicians and various other specialists increases the interdisciplinary exposure, and enhances teamwork, resulting in the promotion of quality health care. Involving these individuals actually replaces the clinical faculty, thus saving time and avoiding loss of revenue (Da Rosa et al 2011:2).

Leufer and Clearly-Holdforth (2015:6) highlighted that collaboration with the librarians also proved invaluable in terms of enhancing students' skills of accessing and searching databases and other literature sources. Student nurses must be open to learning opportunities, because success in lifelong learning resides in the ability to engage in self-directed learning (van Rensburg & Botma 2015:1). Spring and McCluskey (2010:249) support the notion of collaboration as a valuable asset in preparing health-care students to become evidence-based practitioners.

Strategy 3: Virtual teaching through electronic technology

This strategy addresses the issue of geographical dispersion and access of participants. New information technology (IT) teaching strategies have led to increased performance of students, allowing worldwide use of the Internet for assessing and evaluating evidence (Khalili et al 2015:274).

"*And to also allow the students as well in the classroom to be able to access information on their phones as well as you are teaching on the spot."*

"And also, I think online studies are very important as well. I think giving students online assignment and giving the student online tests, you know putting equipment like for example Anatomy and Physiology (A&P) equipment online, so that they could identify the equipment those kinds of things as well."

"And I also think that telematics studies are also very important as well, whereby you could to see what is happening in other provinces."

"What I think are computers. Each learner must be allocated to his or her own computer so that every time the learner does something then there is a proof then we do not have time to go up and down to look for information. That will be benefiting our learners."

“Then tele-education that should be introduced to us, as educators so that if we find problem then we can phone a person somewhere else and get information on time.”

These statements are supported by Leufer and Clearly-Holdforth (2015:6), that structured tutorials and a virtual learning environment to facilitate online discussion between lecturers and students provides a rich teaching and learning experience. Felicilda-Reynaldo and Utley (2015:94) recommended a change in educational technology for nurse academics, in adding online courses and the use of technology-based teaching tools such as discussion boards, wikis, and blogs.

Strategy 4: An interactive method in small groups of students and debate in continuous teaching workshops or class

These were recognised as the successful teaching strategies. They will include explaining and solving, formulating questions, searching and evaluating evidence, a pattern base of seniors, group discussions about selected articles, and planning for implementing evidence according to the service (Khalili et al 2015:274).

“Very seldom there are times that you can use clinical debate those kind of things, we try to use but that also needs controlled environment because of the noise we need space and those kinds of things. Group discussion is very common, but that as well; there is very limited time for that as well.”

Journal clubs have been suggested as teaching or learning methods that promote understanding, attitudes, motivation, and competences essential for producing evidence-based care (Laaksonen, Paltta, von Schantz, Y’lonen & Soini 2013:286). The study was conducted to explore nurses’ and student nurses’ experiences of journal clubs implemented as learning methods for collaborative learning, and concluded that journal clubs can be recommended as a learning method for student nurses (Laaksonen et al 2013:291).

Strategy 5: Project-based educational approach

This strategy has been mentioned as the starting point of evidence-based operations. Students groups are allocated to research wards, evaluate the supporting evidence of routine and ongoing research caring practices. Discussions are based on class presentations, preparation of a poster or teaching paper (Khalili et al 2015:274).

"Yah, the recommendations from what I observed are that maybe, it will be nice to see this research projects going on and on."

Felicilda-Reynaldo and Utley (2015:94) recommended a change in educational technology for nurse academics that will include the teaching approaches that facilitate critical thinking and provide opportunities for practising evidence-based patient care. It is mentioned in a study by Leufer and Clearly-Holdforth (2015:6) that the continuous assessment element of the module comprising an EBP project and the lecturers must provide ongoing support to student nurses throughout the research module as they develop their project. Tailored teaching and assessment methods must be implemented within the academy to foster a culture of EBP at undergraduate level and beyond (Leufer & Clearly-Holdforth 2015:7). Teaching of student nurses must be based on the best available evidence to recognise and deliver high-quality patient care (Emanuel et al 2011: 21).

4.4.1.4 Category 1.4: Lack of knowledge and skills by nurse educators

Other challenges experienced by nurse educators on EBP implementation in teaching and learning, were expressed by some of the participants as lack of confidence, lack of motivation, and lack of relevant knowledge and skills about EBP teaching. The following quotes were stated in this regard:

"I think educators need to know how to use EBP research, I think that research for educators is something very important. I am not really completely involved with research, I think they got to understand research, they got to practice research and then, we can bring it to the students."

"Maybe the in-service or the education of the staff themselves, the information that they have regarding what problem-based practice or research is all about. They need to be in serviced as well."

"The first challenges will be the lack of motivation if they have not been motivated that's a challenge, because there need to be like more workshops on evidence-based and the importance of using evidence-based, which is the challenge at the present moment because it is not everybody that is well tuned with evidence-based that is the challenge."

"Research is very good, it is good and as much as this off the topic you know we hate research, nurses hate research but I think they should be encouraged so we have more EBP and you know encourage the students."

The increase in the emphasis of EBP requires that nurse educators have adequate knowledge and skills regarding the implementation of EBP in teaching and learning. Malik (2014:1) agrees that lack of knowledge and skills in appraising and utilising evidence in practice indicated a desire for nurse educators to seek educational opportunities to upskill themselves in the process of EBP.

Therefore, competency in EBP is imperative for nursing education in that it facilitates the integration of EBP content into the curriculum. This ensures that students appreciate the use of EBP and are well prepared to utilise it in clinical practice (Hussein & Hussein R. G. 2014:86). Nurse educators' attitude towards EBP tends to be more positive than their knowledge and skills of EBP.

Challenges identified in this study are consistent with earlier studies which indicated that lack of knowledge and skill, time constraints/lack of time, lack of mentorship and administrative support, limited resources and rigid organisational culture (Emanuel et al 2011:22; Hussein & Hussein R. G. 2013: 610 and Malik et al. 2015:158) can hinder EBP.

One of the questions asked during the interviews was: "*What is it that nurse educators understand about EBP in teaching and learning?"* In response to the question, most participants indicated a good understanding of EBP, when to use it, where and how to access the evidence, and ways in which EBP is beneficial. However, these responses were lacking in the systematic review of EBP using the five steps. Basically, EBP competencies refer to knowledge and skills needed to formulate clear questions, find the appropriate literature, critically appraise the literature, apply the findings of the evidence, and evaluate the process. Therefore, teaching students relevant content which is based on the latest evidence does not constitute EBP teaching (Schoonees et al 2017:14) because that would be similar to research utilisation, one participant mentioning that:

"As a lecturer you go to class with the information that has been researched, that is why it is evidence- based because it has been tested and found to be of value, so because

we are teaching this nurses to be critical thinkers, how are they going to be critical thinkers, it is when now they research they learn more, but you as a nurse educator, you should have adequate information that you have researched and it has to be something that has been tested of course."

History tells that one of the ways EBP was conceptualised was through research utilisation (Mackey & Bassendowski 2016:53). The above statement explains how the participant used the research findings in teaching instead of teaching using EBP guidelines. It was also evident that participants differed in their understanding of what EBP means in teaching and learning. The following statements show how they differed in explaining EBP:

"It is the use of any research-based or any information that is like tangible in the teaching strategies or in teaching and learning."

"It is new in South Africa. It revolves around looking at the current research available with regards to techniques, practices that people use in teaching and learning, based on the international studies and what has worked well. It is looking at new methods like going into a conventional way of teaching and learning as opposed to the textbook and chalkboard way of learning. It is looking at students of present day what their needs are because of so much that is available to us like technology, cell phones and internet."

"EBP means that people have done this thing and based on their evidence and the outcome of that, they use it in the clinical area."

"It is the use of teaching strategies that are effective, reliable and tested in order to achieve better outcomes for the students."

"It is the available evidence in the clinical area or theoretical area so that we are able to facilitate and coordinate during the teaching and learning process."

"It is what happens to day to day, in a real-life situation which can be used in your teaching situation."

“It is to do with the knowledge the lecturer or the nurse educator acquires through research, through something that has been tested and found to be of value to the patient.”

“It would be something that has been researched. In our teaching we expected, for whatever condition you are teaching to research any current information, trends or management that possibly could have been undertaken, that could maybe assist us with our nursing care and benefits the patient. It would be giving learners more updated information.”

From the quotes below, the researcher can state that these participants had a better understanding of EBP because some of the EBP steps were mentioned. For an example the searching of the information, offering proof of evidence, and the integration of clinical experience, expertise, patients’ beliefs and values. Some participants indicated a better understanding of EBP in teaching and learning. The following is how EBP was described:

“It is the use of other methods either than lecturing and demonstration to give students the ability to search information on their own and to bring evidence of where the information was found and discovered.”

“It is bringing together the integrating of the clinical experience, expertise, together with evidence that has been researched, as well as patients, their beliefs and their values, eh putting this together and trying to improve on what has been practiced and for the benefits of the patient, in terms of health care improving the service delivery in the hospital setting and well as improving practices that have been experienced in the clinical area.”

According to Leufer and Clearly-Holdforth (2015:3), many health-care practitioners believe that their practice is evidence-based, when in fact what is often meant by this is that the health-care policies adhered to are underpinned by research findings. Nurses do not always possess adequate knowledge and skills necessary to find the evidence on which to base their practice (Leufer & Clearly-Holdforth 2015:3).

The study by Schoonees et al (2017: 11) indicated that understanding of EBHC as a concept differed among lecturers. Some described EBHC in terms of the principles of EBHC, namely integrating current best evidence, clinical expertise and patient values; while others perceived it as lifelong learning that all health-care professionals should have, in order to stay up to date.

Mackey and Bassendowski (2016:53) discuss ways in which RU differs from EBP, citing that RU is simply the rigorous use of the research steps to critically appraising research evidence and implementing that evidence in practice. RU does not include some of the holistic qualities that are inherent within nursing, for example, experiential knowledge, patient safety, patient preferences and values. However, RU tends to focus on the use of reliable research studies before determining their value or merit in a clinical practice area, thus losing what is believed to be the best evidence. EBP is patient centred. EBP aims to improve patient safety, reduce health-care costs, and ultimately provide a framework that supports decision-making in patient-specific situations, and minimising the theory-to-practise gap. EBP in nursing is defined as a problem-solving approach to clinical decision-making that incorporates a search for the best and latest evidence, clinical expertise and assessment, together with patient preferences and values within the context of caring (International Council of Nurses 2012:6).

Again, conducting research is understood as the process of developing evidence relevant to the practice: this is not EBP. What emerged as the common understanding for nurse educators under study was that EBP is about teaching students how to conduct research of which it is not. This is what one participant stated about research:

"One of the functions of the registered nurse is to be researcher, therefore now by doing this it will some sort groom the neophyte or the new comer so that now she will get used to conducting research."

Melnyk et al (2012:411) argue that most of the educational programmes in the United States continue to emphasise the rigorous process of conducting research in their curricula for student nurses, instead of how to translate research and clinical data into an evidence-based approach care. This has resulted in negative attitudes towards utilising research in practice. Nurses continue to base their care on the content that was learned in academic programmes years ago, using outdated policies and procedures.

Even though the nurse educators were supportive of EBP, some may have not fully comprehended the differences between traditional research practices and an EBP approach. However, nurse educators cannot continue teaching what they do not know to begin with (Melnyk et al 2012:415). Opportunities must be provided for them with regard to keeping up to date and to improving their knowledge of EBP. The participants recommended the following:

"And also, it would be nice for the lecturers also to have updates and workshops and conferences that they should attend because if they attend conferences so what it does it will enrich their knowledge."

"Also, a recommendation is to in-service staff so that they are aware how to use the resources that are available for EBP."

"I think it is important that we have highly qualified lecturers so that they can be able to provide or give enough knowledge or information."

Although various studies indicate that nurse educators have a positive attitude towards EBP, it has been reported that a positive attitude is increased with advanced educational level, higher academic ranking, years of experience, and a teaching and research role (Hussein & Hussein R.G. 2013:609). Therefore, findings suggest that continuing education for nurse educators on the EBP process is necessary to enhance their knowledge and skills in acquiring appropriate research and analytic skills relevant to their teaching specialties (Hussein & Hussein R.G. 2013:617).

In an Australian study on integration of EBP into the curriculum, Malik et al (2015:158) mentioned that there is lack of clarity on EBP content and process. Clarity is frequently blurred with research processes and outcomes, which often results in continuance of traditional nursing research courses in the hope of preparing EBP practitioners. Leufer and Clearly-Holdforth (2015:11) stated that if optimal patient outcomes are to be maximised, practitioners' skills and knowledge base must be fostered and enhanced through ongoing education, training, and support.

4.4.1.5 Category 1.5: Student character

Students need to be ready for EBP learning. They need to have basic computer skills, and to develop the right attitude towards learning using EBP. Also, their learning styles must support the inculcation of EBP. Fostering a culture of EBP in student nurses is

essential to delivering effective health care (Clearly-Holdforth & Leufer 2008: 4) and it is also important that student nurses be equipped with EBP knowledge and skills to encourage evidence-informed decision-making after graduation (Schoonees et al 2017:1). Students should have the right attitude for functioning as independent health-care providers (Young et al 2015:354). This study highlighted that the nurse educators had a challenge with students' attitude and perceptions towards EBP, and their lack of computer skills.

- Attitude and perceptions about EBP

Findings from this study show that nurse educators play a very important role in promoting a positive attitude towards student nurses. Nurse educators are responsible for creating a conducive learning environment by being good role models, providing the necessary learning material, and appreciating students' different learning styles.

Participants have indicated that nurse educators should first show love for research and EBP, having a good grasp of its content before teaching it to students. Nurse educators should also have confidence in themselves in delivering the content. According to participants, students appear to have preconceived ideas about research in general. These perceptions are negative and overwhelming for students. Participants stated the following with regard to promotion of a positive attitude towards EBP for student nurses:

"*So, if the environment is conducive, starting with lecturer herself, she will also make sure that eh she is confident enough, his/her self-esteem is boosted, is really ready to give the knowledge to the student. So, and then even for the students if the resources are enough, oh sorry again eh concerning the lecturer, making sure that she is knowledgeable enough, so she must know the goals that she wants to achieve at the end of the teaching. So even the students they will have confidence to the teacher and they will be able to achieve whatever."*

"But what I have noticed is that you as lecturer you first have to love it, so that you able to impart it to the students."

"Make sure that you use the teaching strategy that is applicable to all the levels and which will benefit each and every student because the students are not the same."

"*I think that for me, it is something very good in the sense that EBP teaching and learning is important and I specifically think that before we even put it out to learners to teach them how to use it, educators got to be bunch with it"*

A negative attitude develops among the student nurses, because students do not understand the importance of EBP. Nurse educators in this study felt that students' lack of confidence, motivation, and commitment to perform and use research contributed to misperception and their resultant negative attitude. The nursing programme R425 is perceived as being full, overwhelming, with competing priorities of research, clinical, and theoretical workloads. Participants made these statements in this regard:

"Students feel that it is an added responsibility."

"Students that we are teaching, they look at this research as a monster."

"So, the experience that I am coming across when we teach is that these students they do not like it."

"These students, they think that no eh eh we are overloading them."

"Yah there are challenges because at times the learners are lazy, they do not want to do work."

Students' attitudes and perceptions can influence EBP learning either positively or negatively. Should students' roles have been clearly defined early during training, so that they understand the importance of EBP, a positive attitude develops within them. According to Malik, McKenna and Griffiths (2015: 158), the role that is played by EBP in the practical lives of nursing students depends on the degree to which it is promoted by academics, the extent to which it is incorporated into course objectives, content, assessments, and its application to clinical practice.

In a study by Hickman, Kelly and Phillips (2014:603) on exploring ways to optimise the uptake of EBP to undergraduate nurses, findings indicated that students were initially hesitant and reluctant towards the subject of research. However, as they advanced with the subject their perceptions and beliefs changed to understanding the relevance of the research subject and its importance in improving patient outcomes.

A study conducted in the US revealed that many educational programmes continue to emphasise the rigorous process of ways in which to conduct research in their curricula for student nurses, instead of how to translate research and clinical data into evidence-based approach supporting care. This resulted in the existence of negative attitudes towards utilising research in practice, with the perception that EBP takes too much time and cannot be realistically implemented in the real-world clinical practice settings (Melnyk et al 2012:411).

Student nurses at Chang Gung University of Science and Technology in Taiwan had a similar experience to what is described by the participants regarding student nurses. Students did not appreciate the critical nature of research, viewing it as complex and difficult to comprehend; therefore they responded negatively, or expressed difficulty in the practical application of research content. Such a response led Liou, Cheng and Tsai (2013: 25-31) to conduct a study in search of a strategy that will motivate and promote confidence and commitment towards learning research. Findings of their study showed that choosing the appropriate teaching strategy is imperative to improving students' beliefs and attitude towards research.

Another concern for nurse educators was the introduction to a research module which takes place late in the programme, at the third-year level, with limited time to finish the research projects. One participant mentioned that:

"*I would love to see this may be implemented in such a way that it is spread throughout their training. For instance, we are doing a four-year course maybe if you start introducing it from first year, for instance maybe we will have an introduction what this research is all about and all the steps you know so that by the time they reach four years, they shall have covered all those steps of research."*

This is in agreement with what is stated by Malik et al (2015:159), that there is still ambiguity that exists in relation to the appropriate time at which the EBP knowledge and skills should be initiated and further indicated that some schools implement EBP skills in the first year of the course while others introduce the concepts and application in the final year. According to Schoonees et al (2017:12), students recommended that EBHC be taught from first year, so that it may be repeated during the course of the years, becoming a habit. Nursing education has the responsibility to encourage student nurses to promote and deliver EBP from the onset of the training (Emanuel et al 2011:23). This

will develop students' confidence to inform professional practice, which will lead to the provision of individualised and safe patient care after graduation.

Some participants mentioned that if students are allowed to work independently, they could develop skills such as self-directedness, critical thinking, problem-solving, decision-making skills, and develop enquiring minds, while some responses showed that nurse educators do not trust that the students can learn independently, stating:

"The general feeling is that they are not absorbing as much as if I was in front of them. I think it's the attitude problem really that we need to sort out."

"*It is a good thing; it encourages children to work independently."*

"*You find that when you use EBP, the students are able to use the situation in the clinical situation as well when the problem arises. They are able to make judgments and able to solve problems better."*

"But what I wanted to do was to encourage the student to do self-directed learning, because I believe if you are learning about a specific condition and you discover things for yourself as student, there is so much more that you retain then if you have been told by somebody."

Therefore, student nurses need to be both motivated and competent so as to successfully incorporate EBP into everyday practice. They need to ensure that their practice is current, and that they are equipped with the necessary skills to be flexible and adaptive (Emanuel et al 2011:22). The challenge for nursing academics is to find the best means of engaging student nurses in such a way that facilitates the development of a positive attitude to research. Knowledge utilisation and translation are skills used actively by future professional nurses (Hickman et al 2014:604).

- Lack of computer skills

Students' lack of computer skills is one of the challenges that nurse educators encountered. Students are fully dependent on them for these skills, and more time is needed to orientate students on how to use the computers. Again, the use of EBP requires searching of information from the Internet. To accomplish this one must be able to use computers to surf for information. These are some of the quotes from participants with regard to students' computer skills:

“When you ask students for instance, initially we had challenges with them not knowing, because you find that at school they never did anything that has to do with computers, like any classes and now when they come here now they have to sit in front of the computer, they do not even know what the mouse is, you know.”

“*So, I would love to see in the initial stage of training, this newly employed student nurses to have a basic course in computer literacy so that when we send them to fish information or explore they have the skills on how to like do internet surfing, go through the specific web, SANC web and etc., so that we are offload with them relying on us with computer skills.”*

Increasing competency in information literacy is the foundation for the EBP; this provides nurses with the skills to be literate consumers of information in an electronic environment (Emanuel et al 2011:22). According to Emanuel et al (2011:23), advances in IT have had a radical impact on health-care delivery and nurse education. The use of sophisticated equipment and electronic assessment care packages requires nurses to be competent in IT skills.

Jamshid et al (2012:1373) reported that both graduate and undergraduate nursing students continue to possess low levels of computer literacy skills. The study further mentions that many students come into nursing programmes without the capability of using IT in practice. It is therefore recommended that schools continue providing a way for students to obtain computer literacy skills. Results from their study showed that computer possession and utilisation among student nurses was low. Only 32% of the 300 respondents owned a computer, while 18.9% had good knowledge and utilisation habits (Jamshidi et al 2012:1373).

Other studies revealed that nursing students had completed a Computer Science course or had a computer and access to an Internet connection at home prior to commencement of nursing training. However, such students still needed further training in using Blackboard, Word Processor, Excel, and Reference Manager (Hallila et al 2014:1).

NEIs have a responsibility to provide support to student nurses in the development of relevant IT skills. This calls for the services of the librarian to provide skills to student nurses in searching electronic databases for evidence. Clinical librarians in health

services have had to promote information literacy in the workplace. Health-related degree programmes need to adopt and incorporate EBP methods into their curricula to prepare practitioners in training for their future professional roles and responsibilities (Spring & McCuskey 2010: 249).

The recommendations that were made by the participants concerning student nurses were about creating good networking between the clinical practitioners and nurse educators to support the student nurses, providing students with basic computer skills so that they can work independently, and introducing a reward system as motivation for student nurses who are doing well.

Theme 2: Benefits/value of evidence-based practice in teaching and learning

Although some studies indicate that the main barrier to EBP is lack of value for EBP (Melnyk et al 2012:415), this study revealed that participants also believed that integration of EBP in teaching and learning as the best way to follow. This study showed ways in which EBP teaching and learning could benefit the nurse educator, the nursing education discipline, student nurses, patients, and the employer/institution. EBP is associated with critical-thinking skills which must be developed among the student nurses, and lifelong learning for nurses, to expand their knowledge and quality of care related to patient and health-care facilities (Felicilda-Ronaldo & Utley 2015:91-92). The following categories of information offer the benefits that come with implementation of EBP in teaching and learning.

4.4.2.1 Category 2.1: Keeping up to date with current information

Participants in this study believed that EBP empowers and enriches the nurse educator and student nurses with up-to-date information, thus keeping their knowledge current. They also believe that EBP is based on researched international studies, and grounded on expert knowledge. These remarks were made by participants in this regard:

“I think it is the best way to do your teaching and learning because you have evidence to base your information on.”

“The other thing, you will find that you do not have to waste more time trying to give information to the students because everything is there.”

“Again, that are not going to be having people that would be having something that is outdated, again when we actually engage in that we also update ourselves as lecturers.”

Teaching students research skills empowers and enriches them with updated knowledge and information that prepares them to conduct research. Participants also mentioned that EBP teaching and learning is stimulating. It promotes open-mindedness, because what is taught is more authentic, trustworthy, and concrete. The participants mentioned the following:

“Because it is current and it focuses on giving your learners current staff and not using outdated information which we do.”

“So, if they explore they will get the most current and updated information and that helps a lot.”

“Evidence-based will encourage those taught to change or learners will work on their own following explained guidelines by the facilitator and it will encourage using new updated information.”

Participants also attested to nursing being dynamic, and continuously evolving. They stated that, when EBP is implemented in teaching and learning, nursing education will be able to produce nurses of a high calibre that meet international standards and are therefore able to practise and compete globally. This is what was said in this regard:

“So now it will bring about the changes so that will be in line with the changes that are taking place globally, and again the caliber of a nurse that one is going to produce will reach an international standard,”

“As you know that with our nursing, nursing is dynamic it is not static, it is evolving there are so many changes that take place as we go along,….we need to change so that is why as a lecturer you go to class with the information that has been researched …..That is why it is evidence-based because it has been tested and found to be of value so because we are teaching these nurses to be critical thinkers, how are they going to be critical thinkers? It is when now they research, they learn more, much as we give them knowledge but you as a nurse educator, you as a lecturer you should have

adequate information that you have researched and it has to be something that has been tested of course."

EBP also ensures that there is continuous, lifelong and self-directed learning for nurses. For EBP to be effective and current, nurses need to continuously review, search, appraise and evaluate new evidence used in their practice. It was stated by the participants that:

"It enriches the knowledge that you give to the students, critical thinking ability and for them to be like you know self-directed you know that, that self-directed learning, it also promotes lifelong learning not only to students but also to educators because they open up to new information and they learn continually and again thus making educator be a resourceful somebody."

"*With the new information coming in then you sort of bridging what you call, the gap. And also, with this evidence base it could also bridge theory practice gap"*

Nurse educators displayed a positive attitude and appeared to be very supportive of EBP teaching and learning. Reinforcing this statement, Merhdad et al (2012:507) reported that nurses' knowledge and attitude towards EBP contribute to its implementation in health-care. Therefore, nurse educators and student nurses need to keep up to date with current evidence for use in practice. Findings revealed that current practices relied on heavily by senior nurses and nurse educators are frequently based on personal experience, tradition, intuition, and organizational policies or protocols, rather than on evidence (Malik et al 2015: 47).

There is a belief that the use of up-to-date scientific findings will improve the quality of care for patients and fill the gap between research, theory, and practice (Merhdad et al. 2012:509). It is important that nurses use evidence to ensure their practice is up to date and based upon the best available research (Hickman et al 2014:604). Malik et al (2015: 159) emphasise that the health professionals are required to be using up-to-date knowledge and evidence to guide their decisions, hence improving patient care. In order for nursing education to keep up with the changes in nursing and health care, such professionals should be immersed in EBP (Felicilda-Raynoldo & Utley 2015:92).

4.4.2.2 Category 2.2: Preparing student nurses to engage in evidence-based practice

According to the nurse educators under study, student nurses lack interest in research. However, once they become involved with research activities, the tendency is for students gradually to develop more interest and a concomitantly positive attitude towards research. Equally, increased motivation and eagerness to learn is noticed. The following statement was reported by the participants:

"But when they come back from the library with those articles you could see that they are now developing interest you know, they are developing interest, they seem to understand it is like now there is that curtain that has fallen away so they can see now the light in this research."

It also appeared that, when student nurses are given the opportunity of finding information on their own and not simply accepting what they are told, such students tend to yield positive results. They will have a better understanding of their work, becoming self-directed learners who are independent, with enquiring minds. The participants reported the following:

"It is a good thing it encourages students to work independently."

"*So, I was trying to encourage that self-directed learning from the students."*

"If you are going to use just a textbook and a few recommended books, you find that eh you do not have an exhaustive amount of knowledge but if you give the students a chance to look up information on their own, you will find that they have a much richer source of information as well."

"But what I wanted to do was to encourage the student to do self-directed learning, because I believe if you are learning about a specific condition and you discover things for yourself as student, there is so much more that you retain than if you have been told by somebody."

These research activities come with improvement and development of creative skills that enable the students to use critical thinking, problem-solving and decision-making skills effectively in their practice. Participants stated that:

"Students will be able to critically think in making decisions."

“You find that when you use EBP, the students are able to use the situation in the clinical situation as well when the problem arises. They are able to make judgments and able to solve problems better.”

“Benefits in teaching and learning, for our students I feel they could use problem solving and it encourages them to use critical thinking, and also it enables them to use good decision-making skills, updating their knowledge, yes, and using the best practices that are evidence based, improving it, so ultimately they give their best.”

One of the goals in teaching EBP to student nurses is to develop and prepare a qualified professional that meets the international standards. The nurse who understands the principles and guidelines of EBP has the ability to implement EBP after graduation. EBP implies that the practitioner should demonstrate skills in appraisal of evidence, self-evaluation, and reflection, together with reflective practise as well as personal growth, accountability, and lifelong learning (Emanuel et al 2011: 22).

Critical thinking is defined by Roux and Halstead (2009:52) as the ability of student nurses to make sound clinical judgements and to provide safe patient care. Critical thinking enables nurses to function as knowledgeable workers who select, combine, judge, and use information in order to proceed in a professional manner (Price & Harrington 2010:8). Teaching of EBP and critical thinking skills should be integrated into the undergraduate curriculum (Hussein & Hussein R.G. 2014:91).

Hickman et al (2014:603) agree that developing the EBP capabilities of the emerging nursing workforce is essential in improving patient outcomes, promoting organizational efficiencies, and creating a satisfying work environment. Engaging students in applying evidence into professional practice is a critical role of nursing faculties. This results in student nurses gaining confidence in the use of research and EBP to inform decision-making. Hickman et al (2014:603-604) further reveal that students demonstrated the ability to identify, criticise, and translate research to practice owing to the increased understanding. Students also understood the difference between research and EBP and how one informs the other.

Therefore, teaching concepts of EBP to student nurses to enable them to recognise and deliver high-quality care that is evidence-based is a key outcome of all nurse education programmes (Leufer & Clearly-Holdforth 2015: 4).

4.4.2.3 Category 2.3: Improvement to quality care for patients

The participants highlighted that EBP allows for individualised care, improvement in quality care leading to quick recovery of patients and shortened period of hospitalization which saves money for patients. Participants stated the following in this regard:

"Research helps in the improvement in the quality of care and in how quick the patient recovers or how long he stays ill in the ward."

"I think the benefits, the benefits are, because EBP is more patient centered I think and therefore it is beneficial and also sometimes it becomes meaningful, you can even individualize the care to the patient based on that EBP and the outcome of that so I think it is beneficial in that way but eh those are the benefits I think and also improvement, improvement in patient care.

According to Mackey & Bassendowski (2016:52), EBP positively influences and enhances patient health outcomes. The researchers further state that EBP requires a higher level of critical thinking. EBP in nursing is a problem-solving approach to clinical decision-making that incorporates a search for the best and latest evidence, clinical expertise and assessment, and patient preferences values within the context of caring (International Council of Nurses 2012:6).

When patient care is informed by sound evidence, it results in better, and more affordable care towards a healthy people and community. Nursing has evolved from a series of dictated tasks to a holistic care approach which requires evidence that is then developed into guidelines. These guidelines support nurses to promote individualised care (Emanuel et al 2011:22).

EBP is a patient-centred approach as it influences patient care and minimises the theory-practice gap with nursing (Mackey & Bassendowski 2016:53). The main aim of EBP is to optimise outcomes for patients and clients by selecting interventions that have the greatest chance of success (Leufer & Clearly-Holdforth 2015:4).

4.4.2.4 Category 2.4: Reducing health-care delivery cost

Participants indicated that the use of EBP leads to improvement in the quality of care, thus reducing the patient stay in hospital. Although quality is sometimes expensive, it comes with positive implications for health-care facilities, for example, when patients receive quality care, their recovery is quicker, and the number of days spent in hospital

are reduced, resulting in reduction of patient-care costs. Therefore, the employer and institutions benefit positively from the use of EBP because of the end result, which is improvement in the patient outcomes. One participant reported that:

"You know I feel like with EBP teaching and learning, it will be more important to use more in the clinical area."

For the health institutions to provide effective services, their functioning, planning, policies, and guidelines are informed by researched evidence. The following statements were reported by the participants:

"I think EBP will be an excellent way to have proficient and efficient nurses in the ward."

"It is a good practice."

"You get in improvement, quality improvement in nursing care and you find that with research, research helps in the improvement in the quality of care and in how quick the patient recovers or how long he stays ill in the ward."

EBP is the way to ensure that practice remains current: there is a strong belief that EBP improves patient care. Findings from many research reports indicated that implementation of EBP leads to a higher quality of care, improved patient-care outcomes and decreased health costs. Again, EBP reduces morbidity, mortality, and medical errors, which can lead to litigation that affects the reputation of the health-care facilities in a negative way (Melnyk et al 2012:410).

Improving the quality of health care requires a commitment to deliver care based on sound scientific evidence and constant innovative health-care practices and preventive approaches, therefore EBP is recognised by the health-care institutions as the gold standard for provision of safe and effective health care (Malik et al 2015:47).The EBP removes the inefficient practices, implementing effective approaches which eventually result in an appropriate and efficient care with improved outcome for patients (Mehrdad et al 2012:506).

Reducing health-care costs requires that nursing and health-care services are based on best current available evidence. Improved cost-effectiveness of the health institutions allows the administrators the ability to negotiate for better sponsorship and incentives from health-care funders and insurers (Levin et al 2011:22).

4.4 CONCLUSION

This chapter presented the analysis of all data collected, including the sample characteristics, data management, and analysis process, interpretation and description of research findings. Relevant literature was also discussed in support of the research findings.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter includes the summary of the study, conclusions on the findings of the study, discussion of limitations, and recommendations regarding the experiences of nurse educators with implementation of EBP in teaching and learning. The chapter also confirms the way in which the research questions have been answered, and ways in which research objectives were met.

5.2 SUMMARY OF THE STUDY

The study followed a qualitative research design in determining the experiences of nurse educators in implementing EBP in teaching and learning. The importance and benefits of EBP in teaching and learning for the nursing profession were outlined. Information gathered was guided by the research questions and objectives. A non-probability purposive sampling technique was used to obtain a sample of twelve nurse educators from the two nursing campuses in Umgungundlovu Health District of KZN Province, RSA.

Semi-structured interviews were conducted using pre-selected questions from the interview guide and recorded using a digital voice recorder. Data were analysed manually following the content thematic data analysis approach. All the relevant ethical principles were observed. Trustworthiness (validity) of data was checked and ensured by using Lincoln and Gubas' framework criteria of credibility, transferability, dependability, and confirmability.

Chapter 1 discussed the overview, background, research question and objectives, the proposed research methods, and relevant ethical issues. Related literature was reviewed in Chapter 2. In Chapter 3, research methodology used for this study was explained. Data analysis, interpretation, and discussion were dealt with in Chapter 4. Chapter 5 included the summary of the study, conclusions, and limitations, Chapter 5 also suggested recommendations for successful implementation of EBP in teaching and learning for the nursing profession.

5.3 CONCLUSIONS

Following data analysis of verbatim transcriptions of individual interviews, two themes with specific categories were identified from nurse educators' experiences of implementation of EBP in teaching and learning, and summarised as follows:

5.3.1 Theme 1: Challenges with implementation of evidence-based practice teaching and learning

These challenges were identified by the participating nurse educators as problems that are encountered during teaching and learning using the EBP strategy, and were grouped into five categories.

Categories:

- Time constraints
- Lack of and poor access to relevant resources
- Current teaching approaches
- Lack of knowledge and skills by nurse educators
- Student character

5.3.2 Theme 2: Benefits/value of evidence-based practice in teaching and learning

The participants could also acknowledge the benefits or values that come with the use of EBP in teaching and learning. These were discussed and grouped into four categories.

Categories:

- Keeping up to date with current information
- Preparing student nurses to engage in EBP
- Improving quality care for patients
- Reducing health care delivery costs

5.4 RECOMMENDATIONS

Based on the study findings, the following recommendations were made for both campuses under study, KZNCN and DoH KZN. These recommendations relate to the curriculum review, resources, teaching strategies, and EBP competencies.

5.4.1 Recommendations for nursing education

5.4.1.1 The Curriculum Review

From the study findings, it appeared that EBP teaching and learning is not explicitly implemented. The curriculum does not have any specific guidelines for EBP teaching and learning; it only requires that research processes and steps to conducting research projects be taught to student nurses. For KZNCN, the research module is taught at third-year level, and it is covered under the Community Nursing Science component. The learner study guide only requires the nursing students to conduct and present a mini research project. There is no mention of EBP skills or competencies that must be acquired or achieved. Therefore, it is recommended that:

- NEIs should adopt or develop a framework or model for EBP teaching and learning. This framework or model will guide the teaching and learning of EBP competencies.
- The current curriculum be reviewed to include EBP teaching and learning competencies.
- Time allocated to theory and practical content be restructured to allow for use of EBP and self-directed learning.
- The research module be taught throughout the four-year training period with the inclusion of EBP skills and competencies. This is also suggested by Rosser (2016:1) that EBP be incorporated early as a research thread throughout the baccalaureate pedagogy after identifying a problem with students who were having difficulty in applying research findings during clinical practice experiences that occurred prior to completing the nursing research course. Again, findings from the study conducted by Schoonees et al (2017:2) on undergraduate allied health-care students at a sub-Saharan university also indicated the student belief that EBHC learning should be integrated throughout the four-year study period to allow for repetition, consolidation, and application of knowledge and skills.

5.4.1.2 Resources

Lack of resources was one of the challenges mentioned by most of the nurse educators, mainly the physical resources like lack of or poor access to computers and libraries. Non-availability of Internet access, current books, journals, and articles also

contributed to poor access to relevant evidence needed for successful implementation of EBP teaching and learning. Therefore, it is recommended that:

- NEIs' annual budget planning should make provision for relevant resources so that nurse educators and student nurses do not struggle to access evidence.
- NEIs make Wi-Fi available within the campuses to increase access to Internet at a cheaper price. One of the campuses under study already had a well-equipped computer laboratory with Wi-Fi for free Internet access, which was sponsored by a cellphone company. Access to Internet will be more possible with Wi-Fi, even with the use of mobile technologies such as cellphones and personal computers.
- NEIs apply for sponsorship from private companies to assist with donations towards provision of resources. This can reduce the spending of limited public funds.
- NEIs use the services of the librarian to empower nurse educators and student nurses on ways of searching for literature, ways to facilitate inter-library loans, and to acquire access to online libraries, e-books and e-journals.
- NEIs motivate for extension of library hours by at least two to four hours. Currently, the library hours are between 07H00-16H00. This limits access to the library because it is not located on the campus. Participants have mentioned that more time and transport are required for visiting libraries. In one campus, the library is eight kilometres away; therefore, extension of library hours will be of great benefit.
- NEIs provide and motivate for the use of mobile technologies by nurse educators and student nurses. The provision of mobile technologies and permission to use cellphones in class to access information might eliminate or reduce the problem of non-availability of resources.

5.4.1.3 Teaching strategies

From the list of teaching strategies identified by nurse educators during interviews, it was clear that traditional teaching strategies are still dominant in nursing education. Such strategies do not promote or stimulate critical thinking skills and EBP competencies to student nurses. It remains the responsibility of the NEIs to encourage student nurses to promote and deliver EBP from the onset of training. The principles of

EBP should be introduced to students as part of pre-registration education (Emanuel et al 2011:21).

A teaching method is a particular technique a teacher uses to help learners gain the knowledge which they need and to achieve a desired outcome. A desired outcome in this context is the development of critical thinking, problem-solving and good decision-making skills for student nurses which can be achieved by the use of EBP in teaching and learning as one of the innovative teaching strategies. EBP uses research-based information. The recommendations are that during development, review, or restructuring of the curriculum, the following be considered:

- Teaching and learning strategies that support the development of EBP skills should be prescribed within the curriculum;
- Introduction of the use of reflective journals and portfolio of evidence for the student nurses to provide proof of ways in which learning has taken place in their clinical experiences; also, whether they did actually search for whatever they were supposed to, and what was troubling student nurses.
- Simulation laboratories should be available to student nurses and must be continuously refurbished so that students can work on them independently for better experimentation and practise before actual exposure to patients. This could be beneficial to student nurses: they can then practise the various ways of identifying problems, to search for solutions on their own, to evaluate and draw conclusions before they are exposed to a real situation and these skills are relevant for EBP competencies.
- Online studies, telematics studies, and the use of mobile technologies should be included within the curriculum. These strategies will encourage the student nurses to be familiar with electronic information, and to improve their searching skills through the Internet.
- Evaluation methods should be changed to match and include EBP competencies.

5.4.2 Recommendations for nursing practice

5.4.2.1 Evidence-based practice competencies

The researcher came to the conclusion that the information generated as experiences of nurse educators is not directly linked to EBP in teaching and learning: it was more

about teaching and learning of research in general. Nevertheless, EBP depends for its success on researched information. Research is conducted to develop evidence that may be used for EBP. The utilisation of researched evidence in practice is known as EBP. It is never easy to separate research from EBP because one complements the other.

Malik et al (2015:46), in a tertiary health-care facility in Victoria, Australia, investigated the perceptions of nurse educators on factors promoting EBP and perceived barriers to facilitating EBP in a clinical setting before developing an educational programme. The study revealed that nurse educators had positive attitudes towards EBP implementation. However, they demonstrated lack of knowledge and skills in appraising and incorporating evidence into practice. In addition, nurse educators cannot be expected to teach what is not known to them, therefore, they must be equipped with knowledge and skills so that they can teach EBP to produce professional nurses who are competent in evidence-based care (Melnyk et al 2012:416).

It is therefore recommended that:

- The DoH and NEIs employ highly qualified nurse educators in possession of master's or doctoral qualifications. They then have a better understanding of EBP, and are experienced in teaching how to conduct research, utilisation of researched evidence, and implementation of EBP. These nurse educators are better equipped to become good role models to student nurses.
- DoH and NEIs should provide formal training to nurse educators on EBP competencies. NEIs must also provide frequent in-service training for nurse educators on the EBP competencies, to keep them updated. These competencies include the following steps; formulation or asking of a clear clinical question related to policy or practice; search for best relevant research studies or evidence; critical appraisal of related studies or evidence (based on quality); analysis and synthesis of the findings of these studies; dissemination of results and implementation of evidence; and evaluating the outcomes of practice decisions or changes based on evidence.
- Nurse educators must be encouraged to attend workshops and conferences to keep up to date with the current issues, to join and subscribe to journal clubs so

that they can easily access relevant journals and to form research discussion committees or groups for information sharing on current research studies.

- DoH and NEIs provide nurse educators and student nurses with opportunities to develop and empower themselves with computer skills. These skills are needed to access evidence through Internet searches. Although it was mentioned by the participants that staff is sent for computer classes, it was also noted that budget constraints might impede the process.
- A supportive environment be created through the use of EBP mentors, developing EBP strategies and involving expertise. EBP mentors and experts should be invited by the NEIs to come and workshop nurse educators.

5.4.3 Recommendations for future research

There were many questions that arose from the research findings on the level of EBP knowledge and skills and understanding of the use of EBP in teaching and learning. To answer these questions, further research studies should be conducted. Although from this study it transpired that most of the nurse educators were supportive of the implementation of EBP in teaching and learning and had a positive attitude towards it, the level of knowledge and skills was questionable, and lack of motivation and commitment towards research was evident.

Therefore, the researcher recommends further research studies be conducted on:

- Nurse educators' readiness to implement EBP in teaching and learning.
- Perceptions and attitudes of student nurses towards the use of EBP in teaching and learning.
- Evaluation of EBP competencies among the professional nurses in clinical practice.
- Investigation and/or description of factors influencing accessibility to resources.
- Development of guidelines for EBP in teaching and learning.
- Evaluation of the effects or influences of EBP on policy formulation in the health sector in SA.
- A similar study should be conducted at other campuses, districts, provinces, and the private nursing education institutions with other types of nursing programmes because nurse educators' experiences might differ in another context.

5.5 CONTRIBUTIONS OF THE STUDY

Nurse educators prepare student nurses to become efficient and competent professional nurses in practice. EBP is one of the competencies that nurses must possess because of its positive influence on the patient outcomes and health-care costs. The purpose of this study was to determine the experiences of nurse educators in implementing EBP in teaching and learning and to describe the importance and benefits of EBP in teaching and learning in the nursing profession.

This study highlighted both the challenges and benefits that come with teaching and learning through EBP skills. Therefore, the findings of the study are going to increase awareness for nursing education discipline on the benefits or value of EBP and the challenges encountered. Again, the suggested recommendations will assist in overcoming these challenges for successful implementation of EBP in teaching and learning. These findings will also influence a review or restructuring of the nursing curriculum to add a component of EBP competencies.

5.6 LIMITATIONS OF THE STUDY

It will be difficult to generalise the findings of this study to all nurse educators because the study was limited to nurse educators who work in the public institutions under Umgungundlovu Health District, and who only provide R425 comprehensive four-year programmes at two campuses. Therefore, findings cannot be generalised to private institutions like universities, to other districts, provinces or even nationally, and for other nursing programmes.

5.7 CONCLUDING REMARKS

“Nurses have a professional obligation to society to provide care that is constantly reviewed, researched and validated” (International Council of Nurses 2012:47). The implementation of EBP should form the basis of meeting the above obligation for the nursing education discipline. The study aim was achieved, research questions answered and the set objectives were successfully met by explaining the nurse educators’ experiences and making relevant recommendations regarding implementation of EBP in teaching and learning.

BIBLIOGRAPHY

Abdulmohsen, H.A. 2007. *Medical and Clinical Skills Laboratories*. Journal of Family and Community Medicine. Vol. 14, Issue 2: pp. 59-63.

Adams, J. 2010. *Experiences of Traditional and Non-traditional College Students*. Alexia Corbett Methods of Social Research.

Adamu, A. & Naidoo, JR. 2015. *Exploring the perspectives of registered nurses towards evidence-based practice in a selected general hospital in Nigeria.* Africa Journal of Nursing and Midwifery. Volume 17. No. 1, pp 33-46.

Adeoye, M. O & Popoola, SO. 2011. *Teaching Effectiveness, Availability, accessibility and Use of Library and Information Resources among Teaching Staff of Schools of Nursing in Osun and Oyo State, Nigeria.* Library Philosophy Practice (e-journal), 525.

Afghanistan Times. 2015.30 March: 3

Aitken, LM, Hackwood, B, Crouch, S, Clayton, S, West, N, Carney D & Jack, l. 2011. *Creating an environment to implement and sustain evidence-based practice: A developmental process.* Australian Critical Care 24,244-254.

Bhembe TM. 2014. *Challenges faced by nurse educators in teaching research to undergraduate nursing students.* Dissertation, Unisa Repository.

Boswell, C & Cannon, S. 2017. *Introduction to Nursing Research*. 4th edition. Jones & Bartlett Learning. United States.

Brink, H, van der Walt, C & van Rensburg, G. 2012. *Fundamentals of Research Methodology for Healthcare Professionals.* 3rd edition. Juta & Company Ltd: Cape Town.

Brown, CE, Wickline, M, Ecoff, L & Glaser, D. 2009. *Nursing Practice, knowledge, attitudes and perceived Barriers to Evidence-Based Practice at an Academic Medical Center*. Journal of Advanced Nursing, 65(2), 371-381.

Bruce, JC, Klopper, HC & Mellish, JM. 2013. *Teaching and Learning the Practice of Nursing.* 5th edition. Heinemann. Cape Town: South Africa.

Burns, N & Grove, SK. 2011. *Understanding Nursing Research: Building evidence-*

based practice. 5th edition. Elsvier Saunders. Texas.

Burns, N, Gray, JR & Grove, SK. 2013. *The Practice of Nursing Research: Appraisal, Synthesis and Generation of evidence.* 7th edition. Elsivier/Saunders. St Louis.

Burns, N, Gray, JR & Grove, SK. 2015. *Understanding Nursing Research: Building an Evidence-Based Practice.* 6th edition. Elsivier/Saunders. St Louis.

Clearly-Holdforth, J & Leufer, T. 2008. Essential elements in developing evidence-based practice.. Nursing Standards. Vol. 23(2):42-46.

Da Rosa, DA, Kelly, S, Friedland, JA, Coburn, M, Cox, S, Pollert, S, O'Connell, M & Smith, S. 2011. *Barrier to effective learning*. Academic Medicine. Vol. 86 Issue 4: pp.1-7.

Darntl, M. 2014. *Basics of researcher paper writing and publishing.* International Journal of Technology Enhanced Learning Vol. 6, Issue 2: pp.116-117.

De Vos AS, Strydom H, Fouche CB & Delport CSL. 2012. *Research at Grassroots: For social sciences and human service professions*. 4th edition. Van Schaik Publishers. Pretoria.

Doran, DM, Haynes, RB, Kushniruk, A, Straus, S, Grimshaw, J, Hall LM, Dubrowski, A, Pietro, T, Newman, K, Almost, J, Nguyen, H, Carryer, J & Jedras, D. 2010. *Supporting Evidence-Based Practice for Nurses through Information Technologies*. Worldviews on Evidence-Based Nursing. Vol. 7, Issue 1: pp. 4 -15.

Emanuel, V, Day, K, Diegnan, L & Pryce-Miller, M. 2011. *Developing evidence-based practice among students.* Nursing Times: Vol. 107, Issue 49/50: pp. 21-23.

Farley, AJ, Feaster, D, Schapmire, TJ, D'Ambrosio, JD, Bruce, LE, Oak, SC & Sar, BK. 2015. *The Challenges of Implementing Evidence-Based Practice: Ethical Considerations in Practice, Education, Policy and Research*. University of Louisville. USA.

Felicilda-Reynaldo, RD & Utley, R. 2015. *Reflections of evidence-based Practice in Nurse Educators Teaching Philosophy Statements*. Nursing education Perspectives, Vol. 36, No.2, 89-94.

Gawlinski, A. & Rutldge, D. 2008. *Selecting a Model for Evidence-Based Practice Changes: A Practical Approach.* AACN Advanced Critical Care. Vol. 19, No.3, pp.291-300.

Gore KS. 2015. *How Nursing Educators Address the Differing Learning Styles of Students.* Walden Dissertation and Doctoral Studies. Walden University

Hallila, LE, Zubaldi, RA, Ghamdi, NA & Alexandra, G. 2014. *Nursing students' use of Internet and Computers for their Education in the College of Nursing*. International Journal Nursing Clinical Practice. Vol. 1, Issue 108: pp 1-5.

Harding, J. 2013. *Qualitative Data Analysis from Start to Finish.* 1st edition. SAGE. United Kingdom.

Heikkila, J, Hopia, H, Hasselberg, J, Tiittanen, H & Biaghorzina, Z. 2017. *A Cross Sectional Study of Nurses' and Nurse Educators' Perceptions of Evidence-Based Practice in Kazakhstan.* Ann Nurs Res Pract – Volume 2 Issue 1: 1016

Hickman, DL, Kelly, H & Phillips, Jl. 2014. *EVITEACH: A study exploring ways to optimize the uptake of EBP to undergraduate nurses.* Nurse Education in Practice. Vol. 14: pp. 598-604.

Holloway, I & Wheeler, S. 2010. *Qualitative Research in Nursing and Healthcare*. 3rd edition. A john Wiley and Sons Publications. United Kingdom.

http://www.plos.org>open-access accessed on 16 October 2017.

Hughes, SJ & Quinn, FM. 2013. *Quinn's Principles and Practice of Nurse Education.* 6th edition. Cengage Learning. United Kingdom.

Humphreys, M. 2013. *Developing an educational framework for the teaching of simulation within nurse education.* Open Journal of Nursing. Vol. 3: pp.363-371.

Hussein, AHM & Hussein, RG. 2013. *The Attitudes and Barriers towards Evidence-Based Practice among Nurse Educators*. Journal of American Science. Vol. 9, Issue 12: pp. 609-618.

Hussein, AHM & Hussein, RG. 2014. *Nursing Educators' Knowledge, Skills in Evidence-Based Practice and their Critical Thing Skills: Self Report Study*. Journal of Education and Practice. Vol. 5, Issue 27, pp. 86-94.

International Council of Nurses. 2012. *Closing the gap: From evidence to action*. http://www.icn.ch/publications/2012-closing-the-gap-from-evidence-to-action/.

Jamshidi, l, Mehrdad, AG & Jamshidi, S. 2012. *Assessing nursing students' knowledge and attitudes about computers and Internet*. Procedia – Social and Behavioural Science. Vol 46: pp 1371-1374.

Joubert, A & de Villiers, J. 2015. *The learning experiences of mentees and mentors in a nursing school's mentoring programme*. Curationis 38(1), Art. #1145, 7 pages.

Khalili, R, Khaghnizadeh, M, Nir, MS, Noori, JM & Zicker F. 2015. *Evidence-Based Education: A Scoping Review.* International Journal of Medical Reviews, Vol. 2, Issue 3, pp.273-277.

Kuada, J. 2012. *Research Methodology: A Project for university Students*. 1st edition. Narayana Press. Gyling.

Laaksonen, C, Paltta, H, Von Schantz, M, Y'lonen, M & Soini, T. 2013. *Journal club as a method for nurses and nursing students collaborative learning: a descriptive study.* Health Science Journal. Vol. 7, Issue 3: pp. 285-291.

Lehane, E, Leahy Warren, L, O'Riodan, C, Savage, E, Drennan, J, O'Tauthaigh, C, O'Connor, M, Corrigan, M, Burke, F, Hayes, M, Lynch, H, Sahm, L, Heffernan, E, O'Keefe, E, Blake, C, Horgan, F & Hegarty, J. 2017. *Research on Teaching of Evidence-based Practice in Ireland to Healthcare Professionals and Healthcare Students*. Report prepared for the Department of health, Clinical Effectiveness Unit.

Leonard, A. 2017. *The views, adoption and use of e-books by undergraduate students at the university of Namibia*. Unisa, Pretoria.

Leufer, T & Clearly-Holdforth, J. 2015. *Advancing Evidence-Based Practice through Nursing Education*. http//www.researchgate.net/publication/266370377.

Levin, RF, Fineout-Overholt, E, Menlyk, BM, Barnes, M & Vetter, MJ. 2011. *Fostering Evidence-Based Practice to Improve Nurse and Cost Outcomes in a Community Health*

Setting: A Pilot Test of the Advancing Research and Clinical Practice through Close Collaboration Model. Nursing Administration Quarterly, Vol. 35, No.1, pp.21-33.

Liamputtong, P. 2013. *Qualitative research methods*. 4th edition. Oxford university Press. United Kingdom.

Liou, S, Cheng, C & Tsai, H. 2013. *The Cookie Experiment: A Creative/Innovative Strategy for Teaching Nursing Research in Taiwan*.

LoBiondo-Wood, G & Haber, J. 2014. *Nursing Research: Methods and Critical Appraisal for Evidence-Based Practice*.8th edition. Mosby. St Louis, Missouri.

Mackey, A & Bassendowski, S. 2016. *The History of Evidence-Based Practice in Nursing Education and Practice.* Journal of Professional Nursing. Vol. 33, Issue1: pp. 51-55.

Malesela, JML. 2009. *Case study as a learning opportunity amongst nursing students in a University*. Health SA.Vol.14 No.1, pp1-6.

Malik, G, McKenna, L & Griffiths, D. 2015. *An analysis of Evidence-Based Practice Curriculum Integration in Australian Undergraduate Nursing Programs*. GSTF Journal of Nursing and Health Care. Vol. 3, Issue 1: pp158-164.

Malik, G, McKenna, L & Plummer, V. 2015. *Perceived knowledge, skills, attitudes and contextual factors affecting Evidence-based Practice among nurse educators, clinical coaches and nurse specialists*. International Journal of Nursing, Vol. 21(Suppl.2): pp. 46-57.

Masic, I, Miokovic, M & Muhamedagic, B. 2008. Evidence-Based Medicine: New *Approaches and Challenges.* Acta Informatica Medica, Journal of Academy of Medical Sciences of Bosnia and Herzegovina. Vol. 16(4), 219-225.

McIntosh-Scott, A, Coyle, D, Mason, T, Mason-Whitehead, E & McIntosh-Scott, A. 2014. *Key Concepts in Nursing and HealthCare Research*. SAGE Publications.

Mehrdad, N, Joolaee, S, Joolaee, A, Bahrani N. 2012. *Nursing faculties' knowledge and attitude on evidence-based practice*. Iranian Journal of nursing Midwifery Research. Vol. 17, Issue 7: pp.506-511.

Melnyk BM, Fineout-Overholt E, Stilwel, SB & Williamson KM. 2010. *Evidence-Based Practice: Step by Step: The Seven Steps of Evidence-Based Practice.* American Journal of Nursing. Volume 110, Issue 1: pp 51-53.

Melnyk BM, Gallergher-Ford L, Kaplan, L & Fineout-Overholt E. 2012. *The State of Evidence- Based Practice in US Nurses: Clinical implications for Nurse Leaders and Educators.* JONA. Volume 2, Issue no. 9: pp 410-417.

Meyer, S & van Niekerk, S. 2011. *Nurse educator in Practice*. Juta & Co Ltd. Claremont.

Mngomezulu, HP. 2015. *Utilisation of research findings in practice: professional nurses' perspectives.* University of South Africa. Pretoria.

Mojapelo, MS & Dube, L. 2014. *Information Access in High School Libraries in Limpopo Province, SA.* South African Journal Library and Information Science. Vol. 80, Issue 2: pp. 9-16.

Moule, P & Goodman, M. 2014.*Nursing Research: An Introduction*. 2nd edition. SAGE Publications. United Kingdom.

Mouton, J. 2009. *Understanding Social Research*. 1st edition. Van Schack Publishers. Pretoria.

Mthembu, S. 2016. *Letter of Correspondence: Research Project Information*. KZNCN. 24 June, Pietermaritzburg.

Nurses struggle to implement evidence-based practice. 2012. Journal of Administration. From:http//news.nurse.com/apps/pbcs.dll/article?AID=/20120903/NATIONAL01/309030 (accessed 29 March 2016)

Nursing Strategy for South Africa 2008. Department of Health. Government Printer. Pretoria. South Africa.

Oxford English Dictionary. 2012. Oxford University. United Kingdom

Parahoo, K. 2014. *Nursing Research: Principles, Process and Issues*. 2nd edition. New York: Palgrave.

Polit, DF & Beck, CT. 2012. *Nursing research: Generating and assessing evidence for nursing practice*. 9th edition. Philadelphia: Wolters Kluwer: Lippincott Williams & Wilkins.

Polit, DF & Beck, CT. 2014. *Essentials of Nursing Research: Appraising Evidence Nursing Practice*. 8th edition. Wolters Kluwer Health/Lippincott Williams & Wilkins. United States of America.

Price, B & Harrington, A. 2010. *Critical Thinking and Writing for Nursing Students*. Transforming Nursing Practice. Exeter: Learning Matters Ltd. Great Britain.

Ratnapradipa, D & Abrams, T. 2012. *Framing the Teaching Philosophy Statement for Health Educators: What It Includes and How It Can Inform Professional Development.* The Health Educator – Spring 2012, Volume 44, No 1

Rosser, C. 2016. *Teaching Evidence-Based Practice*. Baylor University Louise Herrington School of Nursing.

Roux, G, Halstead, JA. 2009. *Issues and Trends in Nursing: Essential Knowledge for Today and Tomorrow*. Jones & Bartlett Publishers. USA.

Schoonees, A, Rohwer, A & Young T. 2017. *Evaluating evidence-based health care teaching and learning in the undergraduate human nutrition; occupational therapy; physiotherapy; and speech, language and hearing therapy programs at a sub-Saharan African academic institution.* Plos ONE 12(2): journal. pone.0172199.

Sharma, RK. 2017. *Emerging Innovative Teaching Strategies in Nursing*. JoJ Nurse Health Care. Volume 1 Issue 2; pp. 1-3.

South Africa. 2005. Nursing Act 33, 2005. Pretoria: Government Printer.

South African Nursing Council. 2009. *Implementation of new qualifications registered on the National Qualification Framework (NQF).* Circular 3/2009. Pretoria.

South African Nursing Council. 2014. *Competencies for Nurse Educator*. (Under the provisions of the nursing Act, 2005). Pretoria.

South African Nursing Council. *Nursing Education and Training Standards*. From: http//www.sanc.co.za/education_and_training.htm (accessed 25 March 2017).

South African Oxford School Dictionary. 2008. 2nd edition. Oxford University Press Southern Africa. Cape Town

South African Qualifications Authority. 2007. National Qualifications Framework: Bachelor of Nursing. Pretoria.

Spring, H & McCluskey, C. 2010. *Learning and Teaching in Action*. Health Libraries Group Health Information and Libraries Journal, 27, pp. 249-252.

Stokke, K, Olsen, NR, Espehaug, B & Nortvedt, MW. 2014. *Evidence-Based Practice Beliefs and implementation among Nurse: a cross-sectional study*. BMC Nursing 13:8

Subhan, MS. 2014. Current pedagogic strategies being used by educators at KwaZulu-Natal College of Nursing campuses across varied subjects and their views regarding innovation methodology. From:ir.dut.ac.za/bitstream/handle/10321/1262/Subhan_2014.pdf?Sequence=1(accessed on 26 May 2016).

Tracy, SJ. 2013. *Qualitative research Methods: Collecting evidence, Crafting analysis, Communicating impact*. John Wiley and Sons Publications. United Kingdom.

Tsai, H-M, Cheng, C-Y, Chang, C-H & Liou, S-R. 2014. *Preparing future nurses for nursing research: A creative teaching strategy for RN-BSN students*. International Journal of Nursing Practiceno.20:25-31.

University of South Africa. Department of Health Studies. 2016. General tutorial letter for proposal, dissertation and thesis writing: Tutorial Letter MNUALLL 301/0/2016. Pretoria.

van Rensburg, GH & Botma, Y. 2015. *Bridging the gap between self-directed learning of nurse educators and effective student support*. Curationis 38(2)

www.phcris.org.au>guides>accessing_...accessed 17 October 2017.

Young, T, Rohwer, A, Volmink, J & Clarke, M. 2015. *Perspectives of undergraduate module convenors at South African academic institution on medical student training in evidence-based health care: a qualitative study.* South African Family Practice. Vol. 57, Issue 6: pp. 354-360.

ANNEXURES

ANNEXURE A: ETHICAL APPROVAL CERTIFICATE

UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES

REC-012714-039 (NHERC)

7 September 2016

HSHDC/537/2016

Mrs GN Mthiyane

Student: 3350-463-6

Supervisor: Dr DSK Habedi
Qualification: D Litt et Phil
Joint Supervisor: -

Dear Mrs GN Mthiyane

Decision: Ethics Approval

Name: Mrs GN Mthiyane

Proposal: The experiences of nurse educators in implementing the evidenced-based practice in teaching and learning.

Qualification: MPCHS94

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted for the duration of the research period as indicated in your application.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 7 September 2016.

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

University of South Africa
Preller Street, Muckleneuk, Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

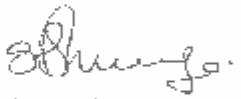
3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *[Stipulate any reporting requirements if applicable].*

Note:
The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof L Roets
CHAIRPERSON
roetsl@unisa.ac.za



Prof MM Moleki
ACADEMIC CHAIRPERSON
molekmm@unisa.ac.za

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
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www.unisa.ac.za

ANNEXURE B: REQUEST FOR PERMISSION LETTER – KZNCN

3 Powell Road

Bisley Heights

Pietermaritzburg

3201

20 February 2017

To: The Head of Department

KwaZulu-Natal College of Nursing

Private Bag X 9089

Pietermaritzburg

3201

RE: PERMISSION TO CONDUCT A RESEARCH STUDY

Dear Sir/madam

Topic: The experiences of nurse educators in implementing evidence-based practice (EBP) in teaching and learning.

I hereby apply for the permission to conduct a research study at your institution. I am a lecturer at Edendale Nursing Campus in KwaZulu-Natal College of Nursing (KZNCN) currently registered for Master's degree in Health Studies with the University of South Africa.

The purpose of this study is to determine the experiences of nurse educators in implementing EBP in teaching and learning and to describe the importance and benefits of research of EBP teaching and learning in the nursing profession especially for nurse educators and nursing students.

The study involves conducting semi-structured interviews with the participants. Participants will be asked to answer questions as indicated on the interview guide concerning their experiences in implementing EBP in teaching and learning in the presence of the researcher.

The participant's names will not appear or coded on the interview guide and will not be disclosed to anyone or linked to any data collected. All records will be considered highly confidential and be kept under lock and key in the safe place to avoid access to an unauthorised person. There are no risks involved with this

study. The interview is expected to last for at least 45 to 60 minutes for each participant.

Although participants will not benefit directly from the study but it will contribute to the body of knowledge in Nursing Education. The findings will be made available to the KwaZulu-Natal College of Nursing, Department of Health and to participants on completion of the study.

Participants may refuse to participate or stop at any time during the interview and that will not affect them in anyway. Approval of the study has been granted by University of South Africa's Department of Health Studies Higher Degree Committee and a copy of ethical clearance certificate is attached.

Participation is voluntary and no compensation or any form of remuneration will be given to participants.

Please find the attached consent to participate in the study, which the researcher intends to use in the study,

Yours faithfully

Mrs G. N. Mthiyane

Signature.....

ANNEXURE C: APPROVAL LETTER – KZNCN

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:
KwaZulu-Natal College of Nursing

Physical Address : 211 Pietermaritz Street , Pietermaritzburg 3200
Postal Address: Private Bag X 9089 Pietermaritzburg 3200
Tel: 033 264 7800 Fax: 033 394 7238 Email: sindizama.mthembu@kznhealth.gov.za
www.kznhealth.gov.za

Reference: Dr. S.Z. Mthembu
Date: 14 March 2017

Principal Investigator: Mrs. G.N. Mthiyane
Student No: 3350-463-6
University of South Africa

RE: **Gate Keeper Permission to conduct research at the KZN College of Nursing.**

TITLE: **The experiences of nurse educators in implementing the evidenced-based practice in teaching and learning**

Dear Sir/Madam

I have the pleasure in informing you that permission has been granted to you as per the above request by the Principal of the KZN College of Nursing.

Data Collection site(s): **Edendale and Greys Campus**

Please note the following:

1. Please ensure that you adhere to all policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
2. This research can only commence once you have received approval from the Provincial Health Research Committee in the KZN Department of Health.
3. Permission is therefore granted for you to conduct this research at the above identified campuses after consultation with the Campus Principal.
4. The KwaZulu-Natal College and its NEI's will not be providing you with any resources for this research.
5. You will be expected to provide feedback on your findings to the Principal of the KwaZulu-Natal College of Nursing.

Thank You

.....
Dr. S.Z Mthembu
Principal: KZN College of Nursing

ANNEXURE D: REQUEST FOR PERMISSION LETTER – DOH

3 Powell Road

Bisley Heights

Pietermaritzburg

3201

17 March 2017

To: The Head of Department

Health Research & Knowledge Management

KwaZulu-Natal Department of Health

Private Bag X 90951

Pietermaritzburg

3201

RE: PERMISSION TO CONDUCT A RESEARCH STUDY

Dear Sir/madam

Topic: The experiences of nurse educators in implementing evidence-based practice (EBP) in teaching and learning.

I hereby apply for the permission to conduct a research study at your department. I am a lecturer at Edendale Nursing Campus in KwaZulu-Natal College of Nursing (KZNCN) currently registered for Master's degree in Health Studies with the University of South Africa.

The purpose of this study is to determine the experiences of nurse educators in implementing EBP in teaching and learning and to describe the importance and benefits of research of EBP teaching and learning in the nursing profession especially for nurse educators and nursing students.

The study involves conducting semi-structured interviews with the participants. Participants will be asked to answer questions as indicated on the interview guide concerning their experiences in implementing EBP in teaching and learning in the presence of the researcher.

The participant's names will not appear or coded on the interview guide and will not be disclosed to anyone or linked to any data collected. All records will be considered highly confidential and be kept under lock and key in the safe place to avoid access to an unauthorised person. There are no risks involved with this

study. The interview is expected to last for at least 45 to 60 minutes for each participant.

Although participants will not benefit directly from the study but it will contribute to the body of knowledge in Nursing Education. The findings will be made available to the KwaZulu-Natal College of Nursing, Department of Health and to participants on completion of the study.

Participants may refuse to participate or stop at any time during the interview and that will not affect them in anyway. Approval of the study has been granted by University of South Africa's Department of Health Studies Higher Degree Committee and a copy of ethical clearance certificate is attached.

Participation is voluntary and no compensation or any form of remuneration will be given to participants.

Please find the attached consent to participate in the study, copy of the research proposal and the interview guide as data collection tool.

Yours faithfully

Mrs G. N. Mthiyane

Signature.....
17/05/2017

ANNEXURE E: APPROVAL LETTER – DOH

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:
Health Research & Knowledge Management

Physical Address: 330 Langalibalele Street, Pietermaritburg
Postal Address: Private Bag X9051
Tel: 033 395 2805/ 3189/ 3123 Fax: 033 394 3782
Email: hrkm@kznhealth.gov.za
www.kznhealth.gov.za

HRKM Ref: 123/17
NHRD Ref: KZ_2016RP28_219

Date: 7 April 2017
Dear Mrs GN Mthiyane
UNISA/DoH

Approval of research

1. The research proposal titled **'The experiences of nurse educators in implementing evidence-based practice (EBP) in teaching and learning'** was reviewed by the KwaZulu-Natal Department of Health.

   The proposal is hereby **approved** for research to be undertaken at Edendale and Grey's campus of the KZNCN.

2. You are requested to take note of the following:
   a. Make the necessary arrangement with the identified facility before commencing with your research project.
   b. Provide an interim progress report and final report (electronic and hard copies) when your research is complete.

3. Your final report must be posted to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to hrkm@kznhealth.gov.za

For any additional information please contact Mr X. Xaba on 033-395 2805.

Yours Sincerely

Dr E Lutge
Chairperson, Health Research Committee
Date: 11/04/17

ANNEXURE F: REQUEST FOR PERMISSION LETTER – GREYS CAMPUS

3 Powell Road

Bisley Heights

Pietermaritzburg

3201

21 April 2017

To: The Principal

Mrs B Shezi

Grey's Nursing Campus

Private Bag X 9001

Pietermaritzburg

3200

RE: PERMISSION TO CONDUCT A RESEARCH STUDY

Dear Madam

Topic: The experiences of nurse educators in implementing the evidence-based practice (EBP) in teaching and learning.

I hereby apply for the permission to conduct a research study at your institution. I am a lecturer at Edendale Nursing Campus in KwaZulu-Natal College of Nursing (KZNCN) currently registered for Master's degree in Health Studies with the University of South Africa.

The purpose of this study is to determine the experiences of nurse educators in implementing evidence-based practice (EBP) in teaching and learning and to describe the importance and benefits of research on EBP teaching and learning in the nursing profession especially for nurse educators and nursing students.

The study involves conducting semi-structured interviews with the participants. Participants will be asked to answer question as indicated on the interview guide concerning their experiences in implementing EBP in teaching and learning in the presence of the researcher.

The participant's names will not appear on the interview guide and will not be disclosed to anyone or linked to any data collected. All records will be considered highly confidential and be kept under lock and key in the safe place to avoid access to an unauthorised person. There are no risks involved with this study. The interview is expected to last for at least 45 to 60 minutes for each participant.

Although participants will not benefit directly from the study but it will contribute to the body of knowledge in Nursing Education. The findings will be made available to the KwaZulu-Natal College of Nursing, Department of Health and to participants on completion of the study.

Ethical clearance certificate has been issued and approval of the study has been granted by University of South Africa's Department of Health Studies Higher Degree Committee. Permission to conduct the study has also been granted by KwaZulu-Natal College of Nursing and KwaZulu-Natal Department of Health and the copies of approval letters are attached.

Participation is voluntary and no compensation or any form of remuneration will be given to participants. Participants may refuse to participate or stop at any time during the interview and that will not affect them in anyway.

Kindly note that the researcher is willing to provide you with any other additional information if requested to.

Yours faithfully

Mrs G. N. Mthiyane

Signature.....

ANNEXURE G: APPROVAL LETTER – GREYS CAMPUS

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:
KwaZulu - Natal College of Nursing:
Grey's Campus

Postal Address: Private Bag X 9001, Pietermaritzburg, 3200
Physical Address: 201 Townbush Road, Northern Park, Pietermaritzburg, 3200
Tel: 033 897 3503 Fax:033 897 3500 Email: busi.shezi@kznhealth.gov.za
www.kznhealth.gov.za

Reference: Mrs B.E. Shezi
Date: 11 May 2017

Principal Investigator: Mrs G.N. Mthiyane
Student number: 3350-463-6
University of South Africa

RE: Greys Campus permission to conduct research study.

TITLE: The experiences of nurse educators in implementing the evidence based practice l teaching and learning.

Dear Madam

I have a pleasure to inform you that permission has been granted to conduct your research study: Data collection.

We request to give us a feedback of your research study findings once you have completed.

Thank you

MRS BE SHEZI
CAMPUS PRINCIPAL

11. 05. 2017
DATE

Fighting Disease, Fighting Poverty, Giving Hope

ANNEXURE H: REQUEST FOR PERMISSION LETTER – EDENDALE CAMPUS

3 Powell Road

Bisley Heights

Pietermaritzburg

3201

21 April 2017

To: The Principal

Mrs N. C. Majola

Edendale Nursing Campus

Private Bag X 9099

Pietermaritzburg

3200

RE: PERMISSION TO CONDUCT A RESEARCH STUDY

Dear Madam

Topic: The experiences of nurse educators in implementing the evidence-based practice (EBP) in teaching and learning.

I hereby apply for the permission to conduct a research study at your institution. I am a lecturer at Edendale Nursing Campus in KwaZulu-Natal College of Nursing (KZNCN) currently registered for Master's degree in Health Studies with the University of South Africa.

The purpose of this study is to determine the experiences of nurse educators in implementing evidence-based practice (EBP) in teaching and learning and to describe the importance and benefits of research on EBP teaching and learning in the nursing profession especially for nurse educators and nursing students.

The study involves conducting semi-structured interviews with the participants. Participants will be asked to answer question as indicated on the interview guide concerning their experiences in implementing EBP in teaching and learning in the presence of the researcher.

The participant's names will not appear on the interview guide and will not be disclosed to anyone or linked to any data collected. All records will be considered highly confidential and be kept under lock and key in the safe place to avoid access to an unauthorised person. There are no risks involved with this study. The interview is expected to last for at least 45 to 60 minutes for each participant.

Although participants will not benefit directly from the study but it will contribute to the body of knowledge in Nursing Education. The findings will be made available to the KwaZulu-Natal College of Nursing, Department of Health and to participants on completion of the study.

Ethical clearance certificate has been issued and approval of the study has been granted by University of South Africa's Department of Health Studies Higher Degree Committee. Permission to conduct the study has also been granted by KwaZulu-Natal College of Nursing and KwaZulu-Natal Department of Health and the copies of approval letters are attached.

Participation is voluntary and no compensation or any form of remuneration will be given to participants. Participants may refuse to participate or stop at any time during the interview and that will not affect them in anyway.

Kindly note that the researcher is willing to provide you with any other additional information if requested to.

Yours faithfully

Mrs G. N. Mthiyane

Signature.....

ANNEXURE I: APPROVAL LETTER – EDENDALE

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:

Physical Address:29 A Havelock Road Pietermaritzburg 3201
Postal Address: Private Bag X9099 Pietermaritzburg, 3200
Tel: 0333954691/0333459477 Fax: 033 3424863/0333954692

KWAZULUNATAL COLLEGE OF NURSING
EDENDALE NURSING CAMPUS S2013

Email: dereck.smith@kznhealth.gov.za
Email: denise.carolus@kznhealth.gov.za
www.kznhealth.gov.za

DATE: 04 MAY 2017

ATTENTION: MRS G.N. MTHIYANE

SOCIAL SCIENCES-PSYCHIATRY DEPARTMENT
EDENDALE NURSING CAMPUS

RE: PERMISSION TO CONDUCT A RESEARCH STUDY-EDENDALE NURSING CAMPUS

The campus hereby wishes to acknowledge receipt of the correspondence.

It is a great pleasure to inform you that your request is supported.

The campus truly believes that you will conduct your research activities within limits of ethical boundaries.

May the campus take this opportunity and congratulate you on the achievement of this significant milestone in your academic journey. You are wished all of the best.

Please do not hesitate to contact the office of the campus principal anytime should issues of clarity arise.

Regards

M Majola **DATE:** 4/5/2017

MRS N.C. MAJOLA
EDENDALE NURSING CAMPUS PRINCIPAL

DEPARTMENT OF HEALTH KWA ZULU-NATAL
EDENDALE NURSING CAMPUS S2013
PRINCIPAL
PRIVATE BAG 9099 PIETERMARITZBURG 3200
29 HAVELOCK ROAD PIETERMARITZBURG

Fighting Disease, Fighting Poverty, Giving Hope

ANNEXURE J: PARTICIPANTS' INFORMATION LETTER

Dear Sir/Madam Date:

Title of the study:

The experiences of nurse educators in implementing evidence-based practice (EBP) in teaching and learning

I, Mrs G.N. Mthiyane, lecturer at Edendale Nursing Campus in KwaZulu-Natal College of Nursing (KZNCN) currently registered for Masters' degree in Health Studies at the University of South Africa. As part of my studies, I am required to conduct a research project in any area of interest.

You are invited to volunteer to participate in a research study. The information leaflet provided will assist you to decide if you are comfortable to participate. You should fully understand what is involved in the study before you take part. If you have any questions, do not hesitate to ask the researcher.

The purpose of the study is to determine the experiences of nurse educators in implementing EBP in teaching and learning and to describe the importance and benefits of EBP teaching and learning in the nursing profession especially for nurse educators and nursing students.

EBP is defined as the clinical problem-solving strategy that emphasizes the integration of best available evidence from disciplined research with clinical expertise and patient preference (Polit & Beck 2012:727). In the context of this study, it refers to the integration or the use of best available evidence of research into teaching and learning.

This study involves answering of the questions as indicated on the interview guide concerning your experiences as a nurse educator with regards implementation of evidence-based practice in teaching and learning. The interview will be conducted at your place of work. There are no risks and discomfort that will come with the interview.

Although you will not benefit directly from the study, the findings of the study will contribute to the body of knowledge for the nurse educators and for the nursing profession. You may refuse to participate or withdraw at any time during the interview. There is no compensation or financial gain for the participants from the study.

All information provided by the participants will remain confidential and anonymity ensured throughout the study. If you agree and volunteer to participate you must sign the following consent form.

The researcher has received written permission/approval from University of South Africa's Department of Health Studies Higher Degrees Committee, KwaZulu-Natal College of Nursing, KwaZulu-Natal Provincial Health Department and your campus where you are allocated.

Contact people:

Researcher: Mrs G. N. Mthiyane,

Cell no: 0721015660

Email: gn-mthiyane@hotmail.com

Supervisor: Dr D. Habedi,

Tel. no: 012 429 6180

Email: habeddsk@unisa.ac.za

ANNEXURE K: CONSENT FORM

CONSENT FORM

Consent to participate in the study

I have read and understood the information before signing the consent form. The researcher has given me the opportunity to ask questions and answers were provided to my satisfaction.

I hereby volunteer to participate in the study

Participants' name: ……...

Participant's signature: Date:

……

Researchers' name: ……

Researcher's signature Date:

…….

Witnesses' name: ……...

Signature: …… Date:

ANNEXURE L: INTERVIEW GUIDE

INTERVIEW GUIDE

Interview Topic: The experiences of nurse educators in implementing the evidence-based practice (EBP) in teaching and learning.

Time of interview:

Date:

Place:

Interviewer:

Interviewee/participant code:

Position/rank of interviewee:

Interview process: (Briefly describe the study)

1. Introduction and welcome
2. Inform participants about the use of the of the interview guide.
3. Participants are informed about the confidentiality and anonymity.
4. Consent form discussed and signed by participants
5. Interview commences by asking the following questions.

Central question

1. What do you understand about EBP in teaching and learning?
2. What are your experiences as a nurse educator with regards to implementing the EBP in teaching and learning?

Probing questions

1. Explain the benefits of research use in EBP in teaching and learning?
2. What challenges have you experienced in implementing EBP in teaching and learning?
3. Which types of research resources and materials are available?
4. How do you access research resources or materials?
5. What are the teaching strategies that you currently use?

6. What improvements or changes would you recommend for nursing education and nurse educators regarding implementing the EBP in teaching and learning?

Closing the session

Thank you for your participation in this study.

ANNEXURE M: LETTER FROM EDITOR

pinpoint
Proofreading Services

Lydia Weight
NTSD English Specialist
SACE No: 11135129

E-mail: lydiaweight@gmail.com

Pinpoint Proofreading Services

40 Ridge Rd
Kloof
Durban
3610

11 January 2018

To whom it may concern

This is to certify that I, Lydia Weight, have proofread the document titled: The experiences of nurse educators in implementing the evidence-based practice in teaching and learning by Gloria Nozipho Mthiyane. I have made all the necessary corrections. The document is therefore ready for presentation to the destined authority.

Yours faithfully

L. Weight