INTEGRATION OF EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING: A STRATEGY FOR NURSE EDUCATORS, KWAZULU-NATAL COLLEGE OF NURSING, SOUTH AFRICA

by

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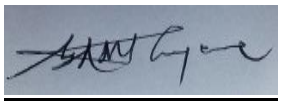

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16 October 2024

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DEDICATION

To my mother, your courage and perseverance while raising six children as a single parent and for your reliance on God throughout your life.

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INTEGRATION OF EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING: A STRATEGY FOR NURSE EDUCATORS, KWAZULU-NATAL COLLEGE OF NURSING, SOUTH AFRICA

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ABSTRACT

Background: Evidence-based practice is a highly recommended strategy for healthcare professionals to apply. As healthcare professionals, nurses are responsible for providing current and scientifically proven care, which is why nursing education institutions must ensure that nurse training programmes incorporate evidence-based practice skills into the curriculum. To ensure the effective implementation of evidence-based practice training programmes, nurse educators must be adequately equipped with evidence-based practice knowledge and skills; hence, the purpose of this study was to explore and describe the experiences of nurse educators with the integration of evidence-based practice into teaching and learning at KwaZulu-Natal College of Nursing to develop a strategic intervention to support nurse educators and to put forward recommendations for the inclusion of teaching and learning of evidence-based practice skills in the nurse training curriculum.

Methodology: A qualitative method was adopted, and Husserl's descriptive phenomenological research design research was followed to understand the experiences of nurse educators with evidence-based practice integration. Non-probability purposive and snowballing sampling techniques were applied to identify and select nurse educators who worked as classroom and clinical lecturers at KwaZulu-Natal College of Nursing to participate in the study. Unstructured in-depth interviews were conducted to collect data using a grand tour question. A digital recording device was

used to record all the interviews. Data analysis was guided by Colaizzi's phenomenological data analytic method using Atlas. Ti 24 software for coding and development of categories and themes.

Study findings: Findings revealed four themes, which emerged as nurse educators' experiences with evidence-based practice integration and understanding of the evidence-based practice concept, facilitating evidence-based practice integration, the significance of integrating evidence-based practice in teaching and learning and suggested strategies to enhance evidence-based practice integration in teaching and learning. Based on these four themes and subthemes, an EBP strategy was developed with seven action plans to enhance nurse educators EBP knowledge and skills towards integration into the curriculum. The action plans included (i) developing a curricular strategic plan, (ii) developing and providing evidence-based practice training programmes for the college, (iii) establishing a reliable system to access information resources, (iv) strengthening collaboration with clinical practice, (v) strengthen research and evidence-based practice engagement for nurse educators to stay current, (vi) seek organisational support and (vii) encourage student engagement with research and evidence-based practice principles. Furthermore, recommendations were made to KwaZulu-Natal College of Nursing and future research to integrate evidence-based practice successfully.

Conclusion: The significance for integrating evidence-based practice in nursing education curriculum is to prepare future professional nurses. The suggested strategy and recommendations are believed to facilitate and create a culture of evidence-based practice within nursing education.

Key concepts*: Curriculum, evidence-based practice, integration, learning, nurse educator, phenomenology, qualitative research, strategic intervention, strategy, teaching*

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LIST OF ABBREVIATIONS

ANP	Advanced Nurse Practitioner
CEBHA	Collaboration for Evidence-Based Health Care in Africa
CHE	Council of Higher Education
CPD	Continuous Professional Development
CPG	Clinical Practice Guidelines
CRAAP	Current, Relevancy, Accuracy, Authority and Purpose
DOH	Department of Health
EBHC	Evidence-Based Healthcare
EBM	Evidence-Based Medicine
EBN	Evidence-Based Nursing
EBP	Evidence-Based Practice
EU	European Union
HEI	Higher Education Institution
HOD	Head of Department
ICA	Inductive Content Analysis
IT	Information Technology
KZN	KwaZulu-Natal
KZNCN	KwaZulu-Natal College of Nursing
NEI	Nursing Education Institution
RN	Registered Nurse

RSA Republic of South Africa

RU Research Utilisation

SA South Africa

SANC South African Nursing Council

SAQA South African Qualifications Authority

STTI Sigma Theta Tau International

UK United Kingdom

UNISA University of South Africa

USA United States of America

EBHC Evidence-Based Health Care

WHO World Health Organization

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

This explorative qualitative study described nurse educators' experiences regarding integrating evidence-based practice (EBP) into the teaching and learning of nursing students at KwaZulu-Natal College of Nursing (KZNCN). This study aimed to develop a strategy to support nurse educators in enhancing the integration of EBP into the basic training, teaching, and learning of nurses. Hence, the title of the thesis is “Integration of Evidence-based Practice in Teaching and Learning: A Strategy for Nurse Educators, KwaZulu-Natal College of Nursing, South Africa.” This chapter lays out the background of the study, describes the problem under study, explains the purpose and aim of the study, and outlines the objectives of the study as well as the research questions. It briefly discusses the theoretical framework, followed by defining the key concepts and describing the naturalistic paradigm used to guide the study. The context of the study is explained, and data collection and analysis procedures are presented together with the study’s trustworthiness procedures and ethical considerations underpinning the study. Finally, the study's significance, scope and limitations are also presented.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

Current practice standards require professional nurses to conduct research studies, apply the best scientific evidence to provide quality healthcare and ensure that new knowledge is disseminated through research-based publications (WHO 2016:27). The best clinical practice guidelines (CPGs) are developed through the application of EBP principles and skills (Pereira, Silva, Carvalho, Zanghelini & Barreto 2022:2) towards making of a health care decision or judgement and are intended to offer instructions on how to provide healthcare services. In addition, CPGs form part of evidence-based practice (EBP) tool-kit which transforms into recommendations and have the potential to improve both the process of care and patient outcomes. Application of EBP through the use of CPGs allows for efficient and effective use of resources which are very scarce in the low-income and middle-income countries like in the South African context

(Dizon, Grimmer, Louw, Machingaidze, Parker & Pillen 2017:1). Against this background, healthcare professionals have a responsibility to provide care that is current and scientifically proven.

For a long period of time, many health professions have embraced EBP as the best way in healthcare practice, meaning that effective quality health care should be based on current best available evidence appropriate to the context (Larsen et al 2019:1). EBP is described by Maskey, Ghimire, Soni and Singh (2019:46-47) as a strategy used by healthcare professionals to achieve high-quality, safe and cost-effective patient care for healthcare institutions. According to Galiano, Larrain & Quiroga (2020:2); Papadopoulou, Kamba, Stavropoulou & Kelesi (2019:30), specific skills, resources, and proven methods of enquiry are required to guide healthcare professionals in their implementation of EBP.

Nevertheless, international studies suggest that implementation of EBP in nursing practice has become a global concern, as nurses are less familiar with EBP, regardless of the reality that it is considered the best strategy (Amit-Aharon, Melnikov & Warshaski 2020:497; Papadopoulou et al 2019:30). Implementation of EBP in African countries has been very low (Naidoo & Mulenga 2017:2; Chiwaula & Jere 2022:2; Dagne & Beshah 2021:3; Edmealem, Fentaw, Bekele, Tegegne, Mohammed, & Liknaw 2024:2; Patricia, Kabwe, Wamunyima, Margaret & Dianna 2022:67) and EBP is considered a challenge in some parts of the developing world like South Africa. In a recent study conducted in one institution in South Africa evaluating registered nurse (RN) understanding of EBP, revealed that RN have heard about EBP and understand the concept but do not use it in their daily practice leading to a recommendation of a training programme on EBP principles and its application to support cultivation of EBP culture within health facilities (Galeboe2024:40). Application of EBP has gained momentum in the clinical space and public health decision-making around Europe, Australia, USA and other developed countries, but somehow African countries are lagging behind with EBP integration into health-care. Most of the health practices in Sub-Saharan countries are still based on tradition peoples' opinions, intuition, common sense, experience, use of experts' knowledge and untested hypothesis (Forland, Rohwer, Klatser, Boer & Mayanja-Kizza 2013:204).

Most studies have identified factors such as lack of skills, poor knowledge, time constraints, organisational limitations, research quality, research accessibility and individual characteristics towards research utilisation as barriers to the implementation of EBP by nurses (Brooke 2017:1; Mahmoud & Abdelrasol, 2019:123). In relation to a study conducted with nursing students about their knowledge, attitudes towards application of EBP, the findings ranked lack of knowledge, inadequate time, shortage of role models and negative attitudes as the leading barriers to EBP application (Iradukunda & Mayers 2020:7) concurring with Pereira, Pellaux, and Verloo (2018:6) that lack of knowledge and skills as the most common occurrences among qualified nurses. A study undertaken by Horntveldt (2018:2) indicated that nurses are not appropriately trained to utilize and apply EBP in their practice; hence nurses are not utilizing evidence from research as they should to provide quality and cost-effective health care. Pereira et al (2018:6) reinforced the need for more resources and increased organisational support, while Papadopoulou et al (2019:3) found that there are various levels in the implementation of EBP among health professionals with significant differences, suggesting that enhancing the implementation of EBP should differ for each profession, hence, teaching and learning of EBP skills should be made part of the primary nurse training programme.

Lack of IT material, personnel and poor access to data in health establishments poses other challenges in the implementation of EBHC in Africa, resulting in poorly coordinated translation of research findings into policies and practice (Musa, Haruna, Manirambona, Eshun, Ahmad, Dada, Gololo, Musa, S, Abdulkadir, & Lucero-Prisno 2023:4). South Africa as the member country of collaboration for evidence-based health care and public health in Africa (CEBHA) has strived to create awareness about evidence-based health care (EBHC) through Stellenbosch University. CEBHA has membership from eight African countries, established in 2011 to facilitate the provision of patient care based on evidence-informed decisions using contact specific current best evidence, and to build long-term capacity and infrastructure for EBHC and public health in Sub-Saharan Africa (Forland et al 2013:203). It is also understood that Stellenbosch University has provided EBHC training programmes to different health professionals to empower health professionals with the relevant knowledge and skills to apply EBHC. One of CEBHA priorities was to develop and integrate courses of EBHC

into the curriculum of the universities and schools of health education in Africa to secure future knowledge uptake and transfer to the healthcare services (Forland 2013:204). Currently there is paucity of EBHC training that was evident in the year in Sub-Saharan Africa. EBHC embraces all healthcare professions and is sometimes used interchangeable with EBP (Puljak 2022:312), therefore in the context of this study will refer to EBP.

Introducing teaching of research and EBP skills at the undergraduate level during nurses' basic training ensures that, nurses reach competency to implement research projects and apply evidence in practice post-graduation, hence, Larsen, Terkelsen, Carlsen & Kristensen (2019: 1) reiterate inclusion of research outcomes and EBP skills within the nurse training curriculum and programmes. For nursing education, including EBP in the nursing curriculum as a learning experience and as an outcome for students is essential so that nurses are adequately skilled and able to evaluate research studies and implement changes accordingly in the clinical setting soon after graduating. In agreement, Iradukunda & Mayers (2020:7) in Rwanda, suggest that EBP skills should be integrated into both theoretical and practical parts of the nursing curriculum to promote effective implementation by nursing students (Iradukunda & Mayers 2020:7). According to the study conducted in European countries on teaching of EBP in nursing curricula, its findings support and agree that teaching of EBP has not been adequately integrated in the nursing curriculum; and therefore, further suggest that guidelines and strategies are developed to guide the teaching and learning of EBP in nursing education (Skela-Savic et al 2020:2). In respect of South Africa, information about EBP integration into teaching and learning is lacking, there is dearth of related literature. In the context of this study, the use of current literature from 2017 posed further limitation to access of older studies that might have been available in the Southern Africa.

The KZNCN is a public nursing college that is offering undergraduate and postgraduate nursing programmes accredited by the SANC and Council on Higher Education (CHE) and registered with the South African Qualifications Authority (SAQA). The College is administered under the Department of Health in KwaZulu-Natal province, South Africa. It is a single nursing college constituted by eleven campuses vastly located across the various districts within the province (Kznhealth.gov.za/kzncn.htm. accessed on 23

October 2021). KZNCN has a research strategy (2019/2020 to 2021/2022) that gets reviewed yearly and its purpose is to strengthen research activities of the college and to ultimately increase research productivity and interest amongst academic staff and nursing students (KZNCN 2020:3). The strategy does not include teaching of EBP skills activities which prompted the researcher to undertake this study to proffer recommendations for adoption and integration of EBP in teaching and learning programmes.

Therefore, for nursing education, inclusion of EBP into nursing curriculum is important so that nurses are adequately skilled and able to evaluate research to implement changes in the clinical setting accordingly soon after graduating. EBP should be integrated into the theoretical and practical part of the nursing curriculum to promote effective implementation by the nursing students (Iradukunda & Mayers 2020:7). Integration of EBP knowledge and skills into nursing education should form part of learning experiences and outcomes for students.

Empowering nurse educators with appropriate support to facilitate research utilisation and EBP skills is vital. To achieve international standards set out by WHO (2016), nurse training curriculum should include teaching of EBP skills during basic training (Larsen et al 2019:2). The researcher undertook this study to explore and describe nurse educators' experiences with integration of EBP in teaching and learning, review relevant literature, explore current practices at the college and describe recommendations towards integration of EBP in teaching and learning. Finally, based on the findings of this study and reviewed literature, a strategy to support nurse educators in enhancing EBP integration into teaching and learning was developed.

Although some studies support the involvement of students in the application of EBP, some academic programmes have not integrated the teaching of EBP skills into the curriculum, and this remains a crucial challenge for nursing education (Hung, Wang, Feng, Wang, Lin & Chin 2019:1; Skela-Savic, Gotlib, Panczyk, Patelarou, Bole, RamosMorcillo, Finotto, Mecugni, Jarasova, Patelarou, Dolezel & Rufaza-Martinez 2020:1). In addition, Melnyk, Gallagher-Ford, Zellefrow, Tucker, Thomas, Sinnott and Tan (2018:16) conducted a study on EBP competencies which revealed that registered

nurses (RNs) and advanced nurse practitioners (ANPs) were not competent in any of the identified competencies; hence, the recommendation was to improve academic programmes to ensure that nursing students are skilled enough with EBP competencies upon graduation.

The domains identified in the study by Albarqouin, Hoffmann, Straus, Olsen, Young, Illic, Shaneyfelt, Haynes, Guyatt and Glasziou (2018:7- 8) following assessment of healthcare professionals core competencies in EBP were listed as (1) introductory, (2) asking the clinical question, (3) acquiring evidence to answer the question, (4) appraising and interpreting the available evidence, (5) applying the evidence to guide practice, and evaluating. These domains are aligned to the five steps suggested by the Sicily Statement Model. This model is widely used to guide teaching EBP skills (Larsen et al 2019:2). The statement outlines the curriculum requirements for training of healthcare professionals in EBP. It describes skills required to practise in an evidence-based manner as guided by the following steps:

1. Asking a clinical question.
2. Collecting the most relevant evidence.
3. Critically appraising the evidence.
4. Integrating the evidence with clinical expertise, patient preferences and values to make a practice decision.
5. Evaluating the change and outcome of EBP (Larsen et al 2019:2; Maskey et al 2019:46; Pandya 2019:53).

Larsen et al. (2019:2) further mention that the first three steps of the statement are mostly facilitated and applied for students, while the last two need to catch up with the application. Hence, healthcare professionals need more of these competencies to implement EBP post-training effectively.

EBP competencies can be successfully acquired or taught through the use of appropriate methods and strategies. A scoping review on the methods of teaching EBP (Larsen et al 2019:5) provided an overview of EBP teaching methods and identified the following educational strategies as the essential methods frequently used by health academics and included research courses and workshops, collaboration with clinical

practice, information technology (IT); journal clubs; embedded librarians; and implications for practice. These strategies can be used in nursing education to foster integration of EBP in teaching and learning programmes (Fiset, Graham & Davis 2017:540); hence, nurse educators have to master the skill of teaching EBP so that its adoption in the nursing curriculum becomes successful (Skela-Savic et al 2020:6). Pandya (2019:53) agrees with the above statement in stating that the curriculum enriched by adapting EBP in nursing education, teaching and learning as well as practice, should equip nursing students with appropriate skills to focus on EBP. To improve the teaching and learning of EBP, curriculum developers are continuously encouraged to integrate EBP competencies into nursing education programmes (Albarqouin et al 2018:9; Horntvedt, Nordsteien, Fermann & Severisson 2018:10).

A systematic review study conducted by Nalweyiso, Mbabazi, Saltikov, Kabanda, Breckon, Nnyanzi, Kawooya, Mubuuke, Kinengyere & Sanderson (2025) in the sub-Saharan Africa recently, on the educational interventions for teaching and learning EBP knowledge and skills, indicated absence and scarcity of EBP focused teaching strategies to undergraduate healthcare students in developing countries. Based on these findings, more research targeting educational interventions is needed in the context of this countries including South Africa and also suggested the need for integrating EBP into undergraduates' healthcare curricula as a vital gesture in preparation of the future healthcare professionals (Nalweyiso et al 2025:1). EBP integration into the curriculum must be contextualized and consider the use of sustainable methods because of the challenge with the limited resources.

1.3 STATEMENT OF THE RESEARCH PROBLEM

Pereira et al (2017:1) have stated that adopting EBP for improving quality health care and safety has raised concerns. In nursing practice, EBP needs to be improved or better practised. A study undertaken by Horntveldt (2018:2) to identify teaching approaches for EBP indicated that nurses need to be appropriately trained to utilise and apply EBP in their practice; hence, nurses need to be more effectively utilising research evidence to provide quality and cost-effective healthcare. Methods for teaching EBP have been studied extensively, but the application of these methods

needs to be improved and be more effective. Further investigation into the existing literature on the subject is recommended (Larsen et al 2019:2).

At KZNCN, research process skills were taught in the legacy R.425 programme and formed part of the Community Nursing Science (CNS) module, whose specific outcome only mentioned the research process as quoted “to utilise the research process in nursing to improve the quality of health”, but the teaching of EBP skills was not mentioned (KZNCN 2020:20). The R.425 programme has been phased out. The new R.171 programme (Diploma in Nursing) has been introduced, but clearly there is no mention of EBP skills. The R.174 programme (Bachelor’s Degree in Nursing) curriculum is being developed, and according to the SANC programme qualification framework exit level outcome five, students are required to conduct research for the provision of care based on scientific evidence. In a postgraduate diploma programme framework, exit level outcome six for all specialisations, students are expected to engage in scholarly activities to inform EBP education and management (Nursing Act 33 of 2005). Therefore, nurse educators are expected to facilitate the learning of EBP skills; hence, there is a need for an educational strategy to increase EBP knowledge and skills for nurse educators at KZNCN due to their vital role in nursing education.

Research has been defined by Gray, Grove and Sutherland (2018:690) as a diligent, systematic enquiry or an investigation meant to validate and refine existing knowledge and, therefore, generate new knowledge; thus, the research process covers only the steps that are followed when conducting a study and are not similar to the five EBP steps used in the application of research evidence. However, there needs to be more consistency in curriculum content (Albarqouni et al 2018:2), meaning that the current nursing education syllabus at KZNCN does not allow for the teaching of EBP skills but covers the teaching and learning of the research process and steps. The integration of EBP into the teaching and learning framework remains a necessity for nurse educators, and successful integration requires that a strategic change be developed for KZNCN so that there is a move from teaching and learning how to conduct research only to include how to apply the current best available evidence to improve practice (SkelaSavic et al 2020:6).

Although some studies conducted in European countries show that EBP has been increasingly integrated into the undergraduate curriculum and in continuing education health programmes, the national accreditation councils around the world, including South African Nursing Council (SANC), are placing more emphasis on the need for nurse educators to strive for competency in applying EBP skills (Albarqouni et al 2018:2). The absence of frameworks and guidelines in EBP teaching and learning for nurse educators at KZNCN prompted the researcher's interest in exploring better ways of enhancing the integration of EBP in teaching and learning for basic nurse training and making recommendations thereof. Based on the findings by Mthiyane and Habedi (2018:5) on the experiences of nurse educators with implementation of EBP in teaching and learning at KZNCN, where nurse educators displayed less knowledge about EBP skills and principles. Findings of this current study will guide the researcher towards development of a strategy for nurse educators to enhance integration of EBP in teaching and learning at KZNCN.

Nurse educators, like all other healthcare professionals, have a responsibility to keep updated through reading and frequently refer to literature, so that their practice exhibits a spirit of enquiry in all academic activities (WHO 2016:27) and to remain current and consistent with the best current available evidence (Brooke 2017:1). The researcher believes it vital to provide nurse educators with appropriate support to facilitate research utilisation and EBP skills. Nurse training curricula should include teaching EBP skills during basic training (Larsen et al 2019:2). The researcher undertook this study to explore and describe the experiences of nurse educators regarding the integration of EBP in teaching and learning programmes at KZNCN, searching for the relevant literature, and researching current practices at the college and proffering recommendations towards the integration of EBP in teaching and learning activities.

1.4 THEORETICAL FRAMEWORK

Conceptual underpinnings that guided this study were based on the inquiry formulated towards integration of EBP into nursing education. For this study, a theoretical framework as the logical structure of meaning that guided and enabled the researcher to link findings to the existing body of knowledge included discussion of the Husserl's

(1962) philosophy, which formed the study's philosophical grounding; Bandura's Social Cognitive Theory (Self-Efficacy Theory) gave insights into the description and exploration of the phenomenon under study (Devi, Khandelwal & Das 2017:723), the nursing education theoretical concepts that helped in understanding the behaviours and knowledge displayed by the participants and Rogers' Diffusion of Innovation Theory provided a theoretical perspective (Mohammadi, Poursaberi & Salahshoor 2018:26) while developing the strategy for nurse educators to enhance the integration of EBP in teaching and learning in Chapter 5. These theories provided the orientation and lens that shaped research questions, participant sampling, data collection and analysis, including interpretations and presentation of findings drawn from the study (Creswell & Creswell 2018:251).

1.4.1 Philosophical grounding of this study

This study was grounded on Husserl's (1962) philosophy and developed a descriptive phenomenology, an approach that was used in this qualitative research to explore and describe nurse educators' lived experiences and enable the researcher to understand nurse educators' experiences about the integration of EBP skills into the teaching and learning programmes (Qutoshi 2018:1- 6). Phenomenology is a way of knowing and responding to the question: "How do we know what we know?" What is the phenomenon's essence as experienced by people, and what is its meaning to them? (Polit & Beck 2022:165). Husserl's philosophy believes that the nature of reality is subjective, characterised by multiple realities and an idea mentally constructed by an individual (Polit & Beck 2022: 162-163). From this approach, research findings result from an interactive process involving the researcher and study participants and focusing more on the description of what is detected than an interpretation of the participants. Phenomena are studied in a rigorous, critical, and systematic manner. It also allows the researcher to put aside preconceived ideas about the phenomenon and give meaning to participants' experiences, thus enabling the discovery of new insights that were previously unknown (Qutoshi 2018:2). Interviews, discussions, and observations are commonly used data collection methods under an inductive and flexible methodology with a small information-rich sample selected to gain an in-depth understanding of the phenomenon being studied (Polit & Beck 2022:180-183).

1.4.2 The Social Cognitive Theory of Self-Efficacy Theory

This study explored and described nurse educators' experiences to determine the reason behind their understanding of integrating EBP into nursing education. Nurse educators were used as tools to answer the research questions centred on beliefs and capabilities about adopting and integrating EBP into teaching and learning, the environment under which the teaching and learning process takes place and the effectiveness of the methods or approaches used in the teaching of EBP skills since one of the objectives was to describe the existing strategies used by nurse educators. Figure 1.1, adapted from Bandura's conceptual framework of the Social Cognitive Theory, represents the nurse educators' reciprocal interactions (Devi et al 2017:723). Here, the individual gains knowledge from interacting with their environment**.**

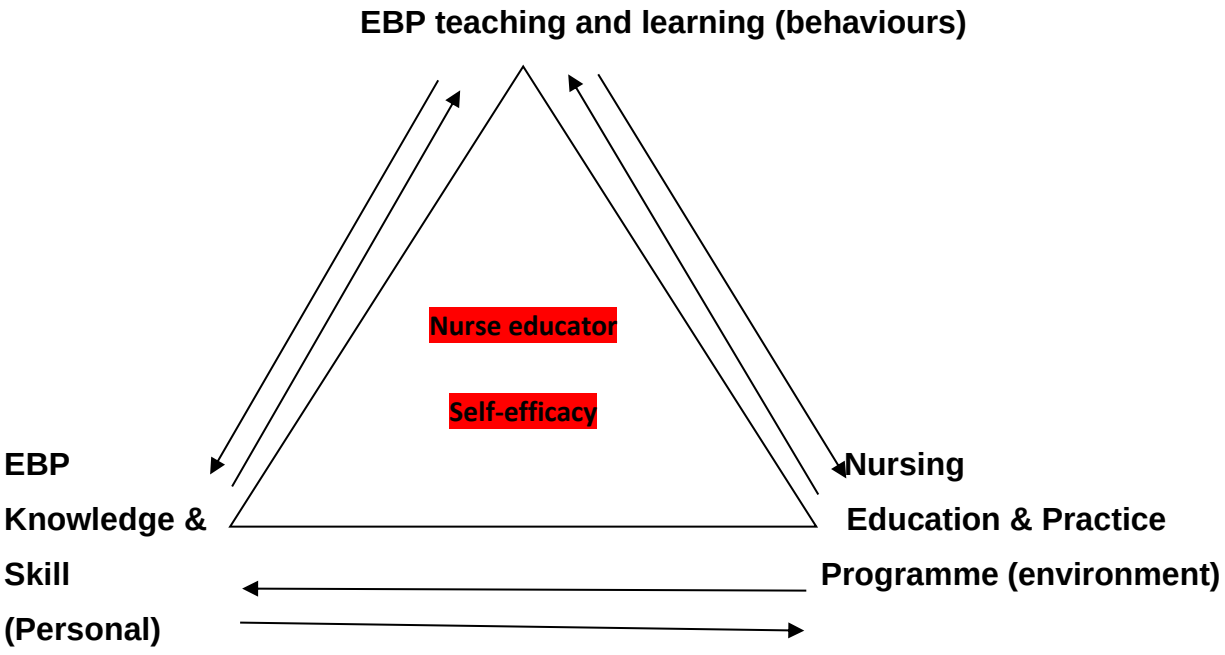

Figure 1.1: Reciprocal interaction of nurse educators (Bandura's Social Cognitive Theory) adapted conceptual framework (Devi et al 2017:723)

1.4.3 Rogers Diffusion of Innovation Theory

Developed by E.M. Rogers in 1962, the Diffusion of Innovation Theory explains how an idea or product gains momentum and spreads through a specific population over time,

resulting in people adopting a new concept, behaviour, or product. This adoption occurs when people do something differently from how they used to, and diffusion only occurs if a person perceives the idea or behaviour as new or innovative, which is central to adoption. Under this theory, five adopter categories are identified, each category is described, and strategies to deal with each category are explained. Here are the five different types of adopters:

1. ***Innovators:*** These are the first people to try an innovation, willing to take risks, and need less to appeal to them.
2. ***Early adopters*****:** These are primarily leaders with information about the proposed idea and are comfortable with adopting changes.
3. ***Early Majority:*** These are rarely leaders but adopt new ideas and need to see evidence of success first.
4. ***Late Majority:*** These are sceptical of change and only adopt innovation after the majority has tried it.
5. ***Laggards:*** These are bound by tradition and very consecutive. They are highly sceptical of change and hard to convince, and they need to see tangible evidence before initiating change.

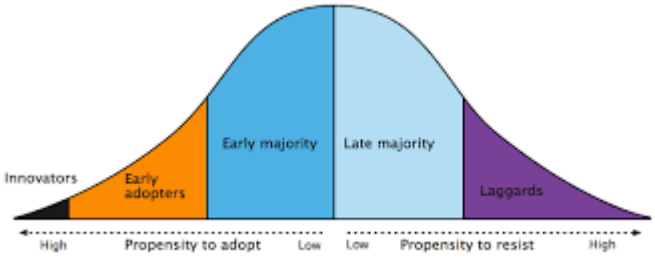

Figure 1.2: Adapted from Rogers' theory of diffusion (2003) illustration for understanding diffusion of innovation

For this study, the researcher looked at the EBP as an idea that should be spread throughout nursing discipline. This theory determined how the concept of EBP will be diffused through nurse training over time and to understand the type of adopters are nurse educators, so that objective three is achieved. Diffusion of EBP knowledge and skill will take place through the process of teaching and learning. Firstly nurse educators must adopt EBP concepts and principles through their own learning and then

the acquired knowledge must be passed on or taught to nursing students. Accordingly, Roger's theory and the context of this study, the first three of the five phases to process of adoption were used, that is knowledge, persuasion and decision (Mohammadi et al 2018:26). To complete the adoption process in this study, implementation and confirmation phases will only be applied once the proposed EBP integration strategy is accepted by KZNCN. Further application of the diffusion process was discussed in chapter 5.

1.5 DEFINITION OF KEY CONCEPTS

For this study, the key identified concepts were curriculum, evidence-based practice, integration, learning, nurse educator, phenomenology, qualitative research, strategy and teaching. These were used throughout the study, guiding the research question.

1.5.1 Curriculum

Curriculum refers to all the selected specific lessons and academic content taught to learners in a specific course or program with purposeful and structured set of learning experiences school authority in order to achieve agreed exit level outcomes and qualifications (Mulenga 2018:20). In this context, the curriculum relates to the EBP knowledge and skills that must be achieved by the nursing students provided by the nursing education institution through the process of teaching and learning

1.5.2 Evidence-based practice (EBP)

EBP is the integration of the current best available evidence with the healthcare educators' expertise and the clients' needs which considering the practice environment (Roe-Prior 2022:177), while Gray et al (2017:105) define EBP as a conscientious integration of best research evidence with clinical expertise and patient values and needs to deliver high-quality, safe, and cost-effective health care. This process involves making clinical decisions based on the current best evidence from disciplined research (Terre-Blanche, Durrheim & Painter 2018: 728). In this study, EBP is a skill being integrated into nursing education to maintain quality health care and improve patient outcomes.

1.5.3 Integration

This act combines one or more things into an integral or cohesive whole (Paperback Oxford English Dictionary 2012:378). In this study, the concept refers to combining EBP skills with teaching and learning outcomes for nurse educators to achieve basic nurse training.

1.5.4 Learning

This refers to a process whereby knowledge is created through experience transformation into a permanent change in behaviour (Kolb 1984:38) as cited by Hughes and Quinn (2017:202). In this context, learning is a process that the nursing student use to gain knowledge about EBP skills.

1.5.5 Nurse educator

According to SANC (Competencies-Nurse Educators 2014:1), the term nurse educator refers to a professional nurse with an additional qualification in nursing education and is registered as such with SANC. A nurse educator is a lecturer, clinical educator, education manager, researcher, and specialist. In this context, a nurse educator is assigned academic and clinical expertise and selected as a study participant to assist in answering the research question.

1.5.6 Phenomenology

Polit & Beck (2021: 797) defines phenomenology as the research discipline that is rooted in philosophy and psychology and its main focus is on the humans' lived experiences. The focus of this study was to establish the lived experiences of nurse educators as participants regarding integration of EBP into teaching and learning.

1.5.7 Qualitative Research

This refers to the in-depth investigation of phenomenon, through the collection where rich narrative data is gathered using a flexible research design (Polit & Beck 2021:800). The approach was used for this study to ensure that rich and thick data is collected from participating nurse educators.

1.5.8 Strategy

A strategy is a general plan or set of plans intended to achieve a goal, especially over a long time (http: collinsdictionary.com accessed 10 September 2021) or a well defines road map of an organization to bridge the gap of where the organization is and where it wants to go https://www.managementstudyguide.com/strategy-definition.htm).

1.5.9 Strategic intervention

Akeke (2019:3) describes a strategic intervention as a set of sequenced planned actions or events intended to help an organisation achieve organisational goals and thus reach a different and more effective state. For this study, a strategy has to be developed with planned actions to support nurse educators in enhancing the integration of EBP into teaching and learning programmes.

1.5.10 Teaching

This is a deliberate and purposeful activity directed towards the promotion of learning and typically comprises two essential elements: the teacher, who promotes learning, and the student, who is the one whose learning is being promoted (Hughes & Quinn 2017:116). For this study, the teacher is the nurse educator who performs the function of teaching EBP skills to nursing students who are undergoing training for them to become qualified nurses.

1.6 PURPOSE OF THE STUDY

The purpose of this study is to explore and describe the integration of EBP into teaching and learning programmes for nurse educators at KZNCN to develop a strategy to support nurse educators and to put forward recommendations for the inclusion of the teaching and learning of EBP skills in the nurse training curriculum. Integrating EBP into teaching and learning will ensure that nursing students qualify with adequate knowledge and skills to practice EBP after a training programme.

1.7 OBJECTIVES

The objectives of this study were:

1.7.1 To explore and review the available literature on the integration of EBP into teaching and learning

1.7.2 To explore and describe the experiences of nurse educators regarding the integration of EBP into teaching and learning at KZNCN

1.7.3 To develop a strategy for nurse educators to support and facilitate the integration of EBP into teaching and learning at KZNCN.

1.7.4 To make recommendations or suggestions to enhance the integration of EBP into teaching and learning at KZNCN.

1.8 RESEARCH QUESTIONS

The questions raised in this research were:

1.8.1 What experiences do nurse educators have regarding integrating EBP into teaching and learning at KZNCN?

1.8.2 What strategic actions can be used to develop an EBP strategy for nurse educators?

1.8.3 What recommendations or suggestions can be made to enhance integration of EBP into teaching and learning at KZNCN?

1.9 RESEARCH PARADIGM

The researcher adopted constructivism, a paradigm which is sometimes called the naturalistic paradigm (Polit & Beck 2022:380). This paradigm is widely used by qualitative researchers who support the notion that knowledge is socially constructed through interaction with people who have shared and experienced the same phenomenon (Creswell & Creswell 2018:7). The constructivism paradigm was the approach chosen for this study due to its consideration of multiple perspectives and points of view held by different individuals. It works from the perspective of phenomenology, a philosophical analysis of experience and consciousness (Leavy

2017:129). Participants' patterns of interaction are investigated and interpreted, with meanings assigned to the relevant experiences and situations.

For this study, the researcher prioritised the participants' subjective understanding and meanings of the research problem under investigation. Nurse educators' experiences regarding integrating EBP into teaching and learning programmes were discussed with the researcher through individual in-depth interviews. Nurse educators explained their subjective understanding and meaning of their experiences, and the researchers' intention was to describe meanings made by the nurse educators, which were crucial for this study. Conversations between the researcher and nurse educators, lead to the findings of this constructivist study (Polit & Beck 2022:8). These findings were inductively used to build on the strategy for nurse educators to enhance the integration of EBP into the nurse training curriculum. This paradigm assisted the researcher in gaining a deeper understanding and meaning of the research problem and answering the research questions as set out in the purpose and objectives of the study.

1.10 RESEARCH METHODOLOGY

A qualitative research approach, design and methods were followed in conducting this study. Further details on the methodology are provided and discussed in Chapter 3.

1.10.1 Research approach

The research approach adopted for this study was qualitative, based on a systematic collection and thematic analysis of narrative data (Terre-Blanche et al 2018:47). This approach is based on the philosophical perspective of naturalism. This approach greatly benefited the study as it ensured that vital information was gathered from nurse educators and that the research questions were answered in the participants' natural work environment.

1.10.2 Research design

A research design is a guide and blueprint the researcher chooses to answer the research questions (Polit & Beck 2022:398). It provides a specific direction the research

study procedures should take (Creswell & Creswell 2018:11). In the context of this study, Husserl's descriptive phenomenological design was followed in describing and understanding the meaning of nurse educators' experiences and thus developing a strategic intervention that enhances the integration of EBP into teaching and learning programmes.

1.10.3 Research methods

1.10.3.1 Population

Population is the entire set of individuals with common characteristics in which the researcher is interested (Polit & Beck 2022: 394). The population for this study included all nurse educators employed by KZNCN and involved in the classroom and clinical teaching of undergraduate and postgraduate nursing students.

1.10.3.2 Sample selection

For this study, nurse educators invited to volunteer participation in the study, were recruited through the principals of KZNCN and campus principals as gatekeepers. Based on the inclusion criteria, purposive and snowballing sampling methods were followed.

Inclusion criteria

Eligibility criteria are a list of characteristics essential for membership in the target population. In contrast, the inclusion criteria specify the population characteristics the population must possess to be part of the study (Polit & Beck 2022:383). Nurse educators who functioned as classroom and clinical lecturers from the KZNCN population, who have nursing education qualifications, registered with SANC as nurse educators and who were the most to benefit were eligible for the study.

Exclusion criteria

Exclusion criteria specify characteristics a target population does not have as stipulated to determine eligibility for a study sample (Polit & Beck 2022:384). Thus, study's exclusion criteria included all nurse educators not working for KZNCN and those working in private nurse education institutions (NEIs) and universities.

1.10.3.3 Setting

Polit and Beck (2022:400) define the setting as the physical location and conditions under which data collection takes place. For this study, there were four accessible sites: one campus from the Amajuba District, two campuses from the Ethekwini District, and one campus from the Ugu District. All these campuses are under KZNCN within the KwaZulu-Natal Province.

1.10.3.4 Sample size

A total sample of 21 participants was determined through data saturation which happened when the researcher had explored all the data to satisfaction, when data no longer revealed any new information and the new information became redundant (Creswell & Creswell 2018:186; Polit & Beck 2021:55). Data redundancy happens when data collected is more than needed with increased repetition and no longer useful. For an example, when the researcher keeps on getting the same responses to the research questions, then repeated information becomes redundant.

1.10.4 Data collection

In Husserl's phenomenological study, the primary data-gathering method primarily involves holding in-depth interviews with participants to describe the meaning of a phenomenon that is shared by several individuals (Rafique 2020:1). Individual interviews, with a grand-tour question plus probing questions, were conducted for this study. All the discussions were captured using a voice recorder and were later transcribed verbatim. Field notes were collected in the form of observational and analytical memos and theoretical notes. These notes linked what was said and what was observed during the data collection, interpretation and analysis processes (Phillippi & Lauderdale2018:383).

1.10.5 Data analysis

For this phenomenological qualitative study, the researcher used Colaizzi's data analysis method (Colazzi, 1978) which commenced from the beginning of the data

collection process. All the recorded data were transcribed into a written format. Figure 1.3 below describes the steps followed during the data analysis process.

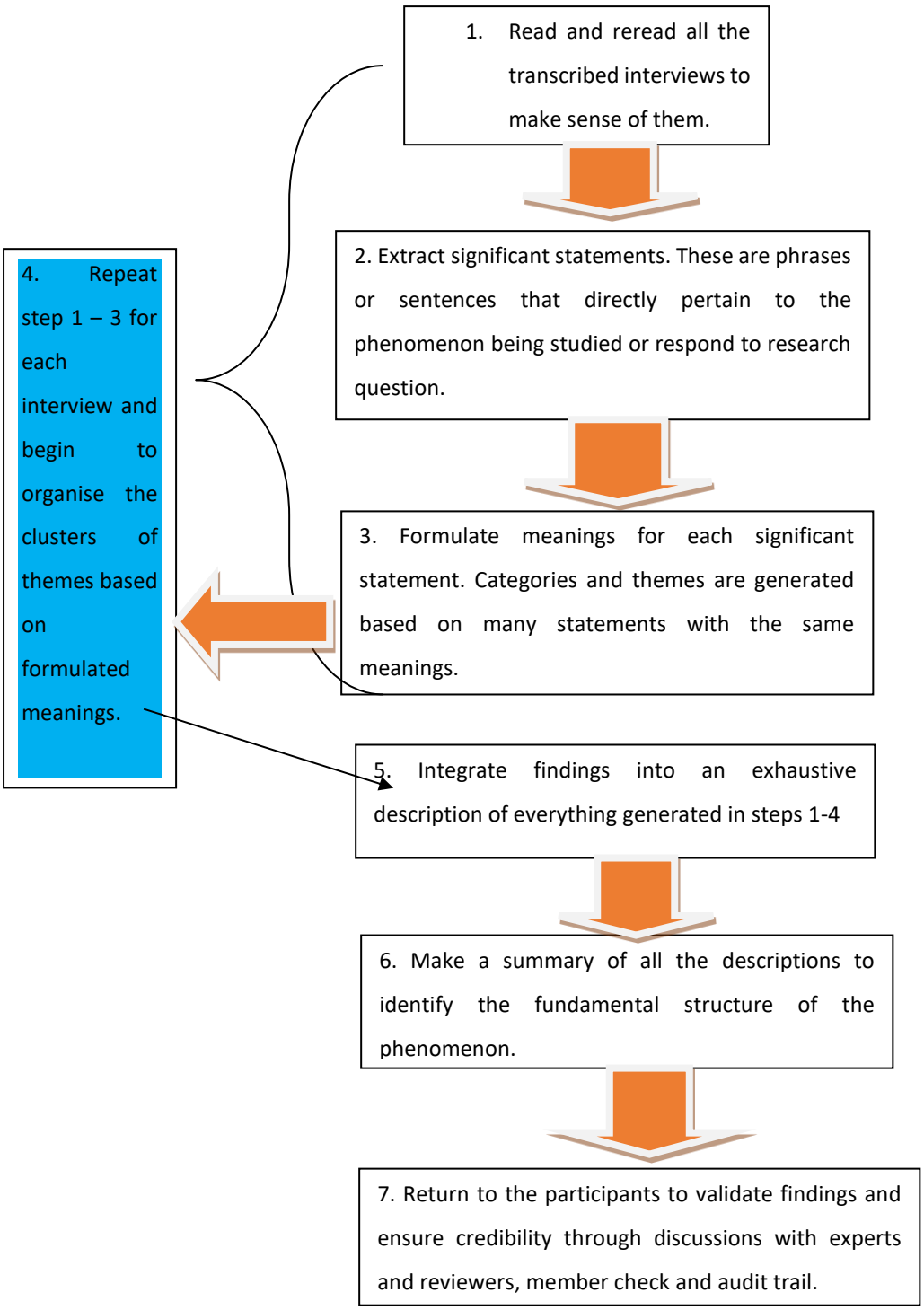

Figure 1.3: Steps of Cola*i*zzi's data analysis adapted as in Polit and Beck (2022:263)

Step 8 can be added, if necessary, where new relevant data are worked into the final products of the research. In this study, a strategic intervention for nurse educators was developed to enhance the integration of EBP into teaching and learning programmes.

1.11 TRUSTWORTHINESS

Trustworthiness is the degree of confidence a qualitative researcher has in their data. The researcher followed Lincoln and Guba's (1995) framework to ensure the trustworthiness of this study. This framework suggests four criteria for developing the trustworthiness of a qualitative study (Polit & Beck 2022:52), which are credibility, transferability, dependability, confirmability and authenticity.

1.12 ETHICAL CONSIDERATIONS

The researcher obtained ethical approval from the Research Ethics Review Committee of the College of Human Sciences Research Ethics Committee, UNISA. Permission was received from the gatekeepers of KZNCN, KwaZulu-Natal Department of Health and the relevant campuses that were part of the research sites. The participants were requested to sign the informed consent forms after having been fully informed about the study. The principles of autonomy, justice, beneficence, privacy, confidentiality, and anonymity were adhered to, and the scientific integrity of the research was maintained throughout the study.

1.13 SIGNIFICANCE OF THE STUDY

This study will play a vital role in extending the body of knowledge for the nursing profession in general. The study is designed to develop strategy to support nurse educators in enhancing integration of EBP skills in teaching and learning. Findings of this study should guide the curriculum developers at NEIs in strengthening and effecting reviews during nursing curriculum development. Through this strategy, nurse educators would be empowered and motivated to utilise research findings and to implement EBP effectively with confidence leading to improved health outcomes.

1.14 SCOPE AND LIMITATIONS OF THE STUDY

The scope of the study was open and only limited to nurse educators in the campuses under KZNCN. The findings of the study have limited generalisability outside of similar colleges within similar settings in South Africa in general and KwaZulu-Natal in

particular. The study could be repeated in other settings and could serve only as a guiding model for other researchers in the same field.

1.15 CONCLUSION

This chapter provided an orientation and a summary of the study by discussing the background to and nature of the problem under study. The significance and purpose of the study were explained. Key concepts were defined and research designs and methodology were explained. The next chapter presents a detailed discussion of literature and methodologies associated with EBP, the integration of EBP into nursing education, teaching and learning EBP skills, nurse educators' competencies, challenges associated with the integration process and existing strategies used to enhance the integration of EBP will be discussed in detail.

CHAPTER 2

A LITERATURE REVIEW

2.1 INTRODUCTION

The title of this study is: *"Integration of evidence-based practice (EBP) into teaching and learning: A strategy for nurse educators, KwaZulu-Natal College of Nursing."* A literature review for this study explores and focuses on qualitative studies that relate to available knowledge and evidence about the processes involved in integrating EBP skills into nursing education for undergraduate and postgraduate nursing programmes. The chapter further provides a description of the curriculum, programmes and learning styles, including teaching methods used by nurse educators to incorporate EBP into the nurse training framework. Literature search was guided by the research questions and the purpose of this study. Furthermore, an overview of studies conducted on established EBP nursing education programmes and worldwide curricula that have introduced, and those in the process of integrating EBP, was done. It also explores and describes nurse educators' competencies and challenges inhibiting the integration of EBP into teaching and learning programmes.

2.2 DESCRIPTION OF A LITERATURE REVIEW

A literature review is defined as the selection and evaluation of the available knowledge on the topic being explored from published and unpublished documents or it is a systematic way of collecting and synthesising previous research (Snyder 2019:333). Fouche, Strydom and Roestenburg (2021:94) describe a literature review as a mechanism for ensuring that a study is rooted in an existing body of knowledge and the discipline within which the study is conducted, whereas Polit and Beck (2022:389) describe it as a critical summary of research previously done on a topic of interest and that is usually used to put a research problem into its context. According to Fouche et al (2021:94), the following are the functions of a literature review.

Literature review:

1. Focuses on the topic and conceptual links, thus removing the thought that a topic or concept is unique and new.
2. Locates the study in the current discourse.
3. Encourages exploration of and learning from different methods and techniques used by others.
4. Provides a pathway for the development of a topic, from the known to the unknown, thus enabling expansion of expertise in the topic.
5. Expands the context and justification for the study.
6. Places a clear perspective in understanding all the elements affecting the field of study.
7. Compares the findings of current or existing literature with those of other studies.
8. Supports knowledge development.

Brouard (2020:7) summarises the purpose of a literature review as an understanding of the historical context on a topic, a review of the state of knowledge, and an identification of conceptual or theoretical dimensions. Literature review is essential to all the steps of a research process, as it helps the researcher to choose the appropriate design and methods, to accurately interpret and discuss the results and to help in the development of the researcher's expertise in the creation of the reference list.

For a qualitative study, literature review focuses on the existing body of knowledge; it is done to assist researchers understand how other scholars have investigated the research problem of interest, determine the theories and concepts that were used; it helps to identify the scientific findings and the methods used to influence the study outcomes (Fouche et al 2021:95). The researcher gets to know about contemporary issues that pertain to the topic under study, leading to the identification of knowledge gaps. Precisely, a literature review is all about locating and summarising the studies that focus on a topic (Creswell & Creswell 2018: 29).

2.2.1 Purpose of the literature review for this study

For this phenomenological study, the search for the relevant material started at the beginning of the study, and this was done to find experiential descriptions of the phenomenon under study for the purpose of understanding the underlying dynamics of the experience from different perspectives (Polit & Beck 2022:90). For this study, the purpose of this review was to:

- Explore and review qualitative research methods and procedures used to conduct previous studies on a similar topic or phenomenon so that the researcher can be able to select an appropriate methodology.
- Explore available scientific knowledge and understand the historic context on the integration of EBP skills into nursing education; the existing EBP teaching or learning strategies; nurse educators' competencies and common challenges encountered.
- Understand existing written views regarding integration of the teaching and learning of EBP into the nursing curriculum. It was important to know the extent of the work that has been written and what remains to be done about the topic under investigation.
- Critically summarise the current knowledge in the area under investigation by relating ideas and theory associated with EBP.
- Discover other strategies that are available in previous research and that support the integration of EBP into the nursing education curriculum and identify approaches that can be adopted for the proposed research.
- Gain new perspectives with regard to integrating EBP and supporting nurse educators to gain an up-to-date understanding of the subject and its significance.
- Finally, enable the researcher to provide comparison for current research findings to previous studies. This includes understanding the agreements and disagreements in the literature as well as identifying the strengths and weaknesses of the study topic in previous studies and help to eliminate potential weaknesses, whilst noting the study's possible and potential strengths.

2.2.2 Conducting literature search for this study

- The researcher browsed the UNISA library and other library resources to familiarise with the scholarly journals and books. For an example:
  https://ph.cochrane.org/cochrane-library
  https://southafrica.cochrane.org
  https://libguides.unisa.ac.za
  https://libguides.uwi.edu/litreviewsoe
  libguides.unisa.ac.za/Health-Studies
  https://library.famu.edu/literaturereview
  https://libguides.princeton.edu/litmapping
- Research inquiry question was formulated as: “How can nurse educators integrate EBP into teaching and learning to enhance nursing students’ EBP knowledge and skills?”
- A list of keywords and phrases that describe the topic under study and a list of synonyms were developed, such as integration of EBP, nursing education/curriculum/programme/syllabus, strategies for teaching EBP, students EBP learning styles, nurse educators’ EBP competencies, challenges with EBP integration and enhancing EBP teaching and learning.
- Appropriate databases were selected for searching and a priority list was made using library search guides of a specific discipline’s database. The computer search engines that were used included Google Scholar and Google Search and the following databases were accessed to locate journals and articles with pre-appraised evidence relevant to the research title; ScienceDirect, ResearchGate, CINAHL, Curationis, EBSCOHOST, Cochrane, ProQuest and PubMed. These computerised databases could allow for open access to articles, which was cost-effective for the researcher. These are licensed with indexed journals, which allowed the researcher to understand what was being searched, and this was the most efficient way of identifying articles that were relevant to the topic under study.

  Other sources that were accessed included the Unisa library repository, where records of relevant dissertations and theses were searched. Internet search was

done for grey literature from organisations such as SANC, WHO, KZNCN; editorials and conference papers were found and accessed during the search. Library books and journals with related articles were searched and all articles of interest were saved on an electronic folder.

- The Boolean operators search technique was followed to narrow the search and thus avoid accessing irrelevant literature.
- Bibliographies and references of the research studies were used to locate additional information from other studies that covered the current topic.
- The scope of the review search was established by the number of studies chosen for consideration, how comprehensive the review should be, and the years to be covered. The search process commenced in September 2022, covering studies mostly from international, African and South African journals. The search was limited to English as the publication language, the years of publication ranged from 2017 to 2023 and included different types of publications, such as editorials, original articles and conference papers. Below is a sketch of the pathway of the search strategy.

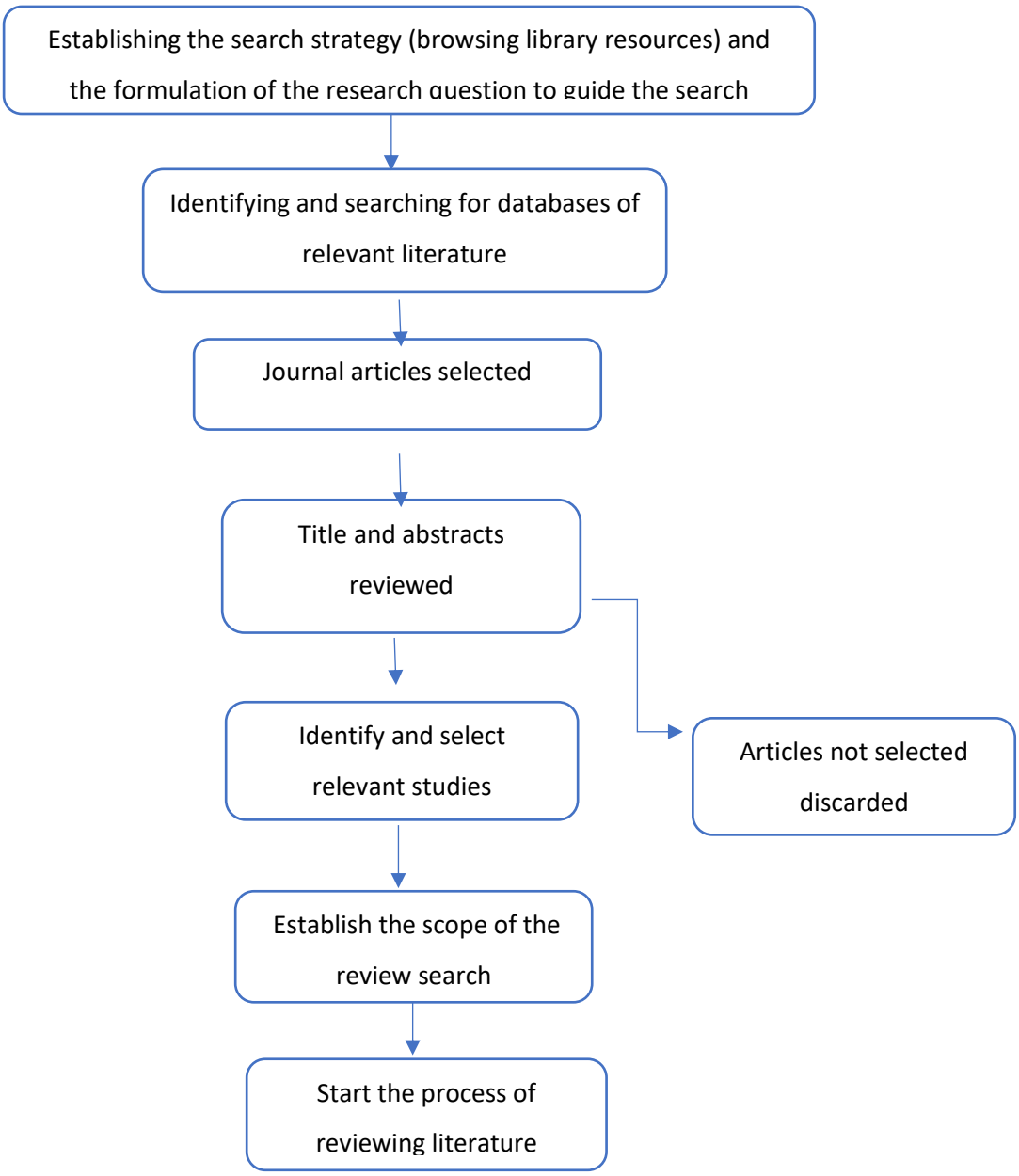

Figure 2.1: Outline of the search strategy

2.2.3 Steps followed to review literature

For this study, the steps that were followed in conducting the literature review included the following:

Step 1: Locating the relevant studies

Articles with content that was relevant to the topic of this study were located and explored. Accessible sources included books, published academic articles and grey literature matching similar key words from the search.

Step 2: Selecting studies for inclusion

The titles and abstracts of located articles were scanned and read to determine whether the articles would make useful contributions to the topic or not. These articles were filed and saved for further full-text reading. Those abstracts without any connection to the study were removed and kept on a different folder for use at a later stage if needed. The grouping of selected papers was done according to dates, sources, type of literature and methodology. A priority list of the most relevant articles and reports was drafted for further reading.

Step 3: Thorough reading and analysis of the selected articles and papers commenced

Repetitive critical reading of all the selected articles commenced to identify major cross-cutting themes and gaps. This reading was done to gain a deeper understanding of the articles and to identify important statements written for each article.

Step 4: Assessing the quality of studies or Critical appraisal

While reading articles, critical appraisal was carried through all the selected articles to identify any potential bias or threats to the accuracy of the information, authority possessed by the author, if the objectivity of the study was explained and whether the currency of the study and the coverage were provided.

Step 5: Data extraction

Relevant data were extracted and summarised. Similar statements were grouped to develop themes. For each article that was read, the following points were extracted: the problem being addressed, the central purpose or focus of the study, the sample characteristics, and key results were checked for the relationship to the proposed study and the research approach or design. For the compiled summaries, see Table 2.3.

Step 6: Identification and organisation of themes

Six common themes with subthemes were identified from the summaries. This literature was assembled in order of relevance, then structured thematically and organised by important concepts as shown in the literature map. See Figure 2.2.

Step 7: Identification of knowledge gap

Further research opportunities were identified as existing gaps which the current research intends to fill. A gap arises when there is missing information in the literature or weaknesses that must be addressed.

Step 8: Reporting and writing on the review

The findings from the literature review were presented, interpreted, and reported. Figure 2.3 represents a summary of the themes identified from existing literature and the process of establishing certainty in the body of knowledge commenced.

2.2.4 Type of literature review followed in this study

The researcher followed two types of literature review, that is, narrative and thematic reviews.

2.2.4.1 Narrative literature review

Narrative literature review, which is sometimes known as traditional literature review, provides a comprehensive, critical, objective and analytical overview of what is already known. Although the aim of the review is to summarise or synthesise what has been written on a particular topic, this does not seek generalisation or cumulative knowledge for what is reviewed. The patterns, trends, and gaps available in literature are identified. This review focuses on the research question and clear objectives. The selected content should support the current study's views and reviewed literature is summarised, with conclusions being drawn about the topic under study (Polit & Beck 2021:82-83).

2.2.4.2 Thematic literature review

This review is organised into paragraphs that present themes and identified trends that are relevant to the study topic. The connection between sources is created through clearly discussing the different themes. Themes result from the literature that is

selected using convergence validity which focuses on similarities (Polit & Beck 2021:105).

2.2.5 Organising literature review

Thematic

Once all the sources were located and accessed for the literature review, the organisation of information commenced. Common themes and subthemes were discovered from the list of identified and relevant studies. These themes and subthemes fostered an understanding of the background of what has been studied and the central issues to be addressed. This led to the creation of headings and subheadings that were used to further discuss information. The most important information on the identified themes was logically linked, noting the knowledge gaps, discrepancies or weaknesses (https://libguides.uwi.edu/litreviewsoe). For this study, the title, research question, research aim, objectives and methodology guided the study's focus in terms of literature review.

2.3 LOCATING LITERATURE RELEVANT TO THE STUDY

2.3.1 Literature mapping

A literature map is a visual picture or figure of the research literature on a topic and that illustrates how particular studies have contributed to the entire body of literature (Creswell & Creswell 2018:248). It is a visual summary of the research studies that have been conducted by other researchers. Literature mapping is discovering existing scholarly articles by exploring connections between publications. Similar articles are often linked by citations, authors, funders, or keywords (https://libguides.princeton.edu/litmapping). The link in the literature map for this study was through the authors.

This literature map was created following a literature search, and Figure 2.2 represents the literature mapping done for this study. The title of the study has been placed inside the centre circle. Located studies are organised according to authors who discussed similar issues or ideas. Each circle represents a list of authors discussing one common

theme, with arrows pointing towards the centre circle, thus illustrating the contribution made towards the current study. For studies with more than two authors, the first author has been entered into the circle. The number of authors inside the circle indicates the number of articles presenting similar themes.

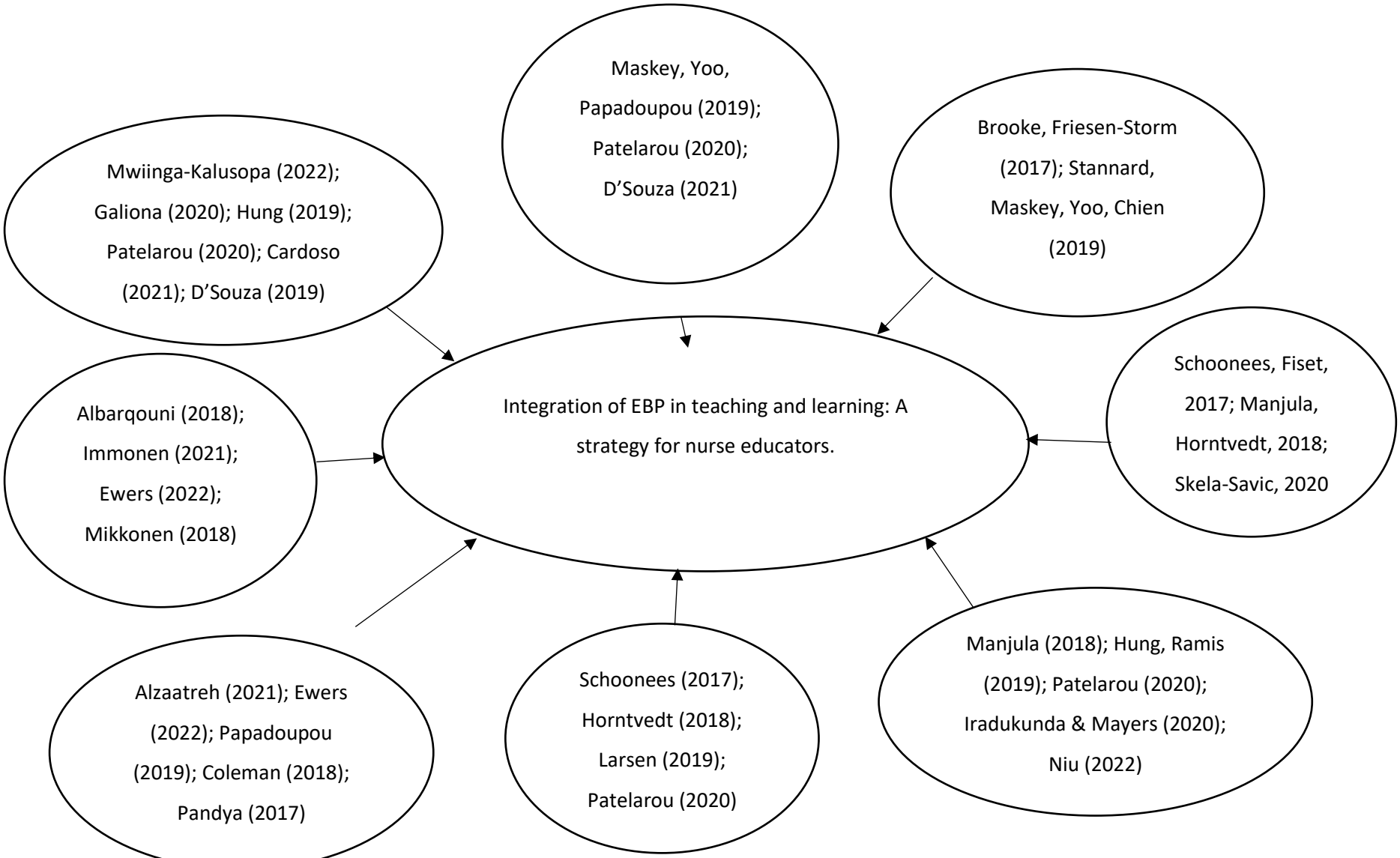

Figure 2.2: Literature mapping

2.3.2 Content and methodology literature search

As mentioned in the beginning of this chapter, literature search is the process of seeking out and identifying the existing literature related to a topic or question of interest; hence, it is the first step towards literature review. The researcher conducted literature search for existing studies that reported on the content related to the topic under study and the research methodology of the current study. The following search techniques assisted the researcher to find the relevant articles.

2.3.2.1 Searching techniques

2.3.2.1.1 Boolean operators

Boolean operators are words and symbols that are used to search computerised catalogues to broaden the search through databases and search. This technique uses operators such as AND, OR, NOT, quotation marks ("..."), parenthesis ((...)) and asterisks (*) (Terre Blanche et al 2018:25). In this study AND, OR and NOT were used as search operators.

The search operator 'AND' was used to retrieve only records containing both terms, for example, Evidence-based practice AND integration.

The search operator 'OR' was used to retrieve records containing either one or more terms, such as nursing curriculum or program.

Lastly, the search operator 'NOT' was used to exclude records containing the second term, for example, nurse educators and NOT medical doctors.

The following search terms were used; "evidence-based practice AND nursing education OR training"; "EBP teaching AND/OR learning strategies", "nurse educator AND EBP competencies OR nurse educator 'competencies"; "EBP integration/incorporation", "nursing curriculum" "EBP educational programme"; "EBP curriculum AND nursing students/undergraduates/postgraduates" and use of synonyms such as "nurse educators/academics/ faculty/ healthcare teachers".

2.3.2.1.2 Using biographies and references of research studies

Bibliographic access was used through the reference list of the books and articles for more material that was strongly related to the research topic (Polit & Beck 2022:92). The search was done using the author and or title of the study.

2.3.2.1.3 The use of PICO

The researcher also used PICO, which is a framework for asking a well-worded question and for searching for evidence where P = population, I intervention or influence, C = comparison or context, and O = outcome (Polit & Beck 2022:81). For an example, in this study, the researcher formulated the question: “How should nurse educators (P) integrate EBP (I) in teaching and learning (C) to enhance nursing students’ EBP knowledge and skills (O)?” This question was a technique used in searching.

2.3.2.2 Inclusion of sources of data

The researcher established inclusion and exclusion criteria during the literature search to zero in on studies that reported on:

- The congruency of the phenomenon of interest to the research objectives, aims, and questions determined the inclusion of studies.
- The study population of nurse educators, academics, lecturers, faculty or other healthcare teachers and nursing students, and undergraduate and postgraduate students of other health disciplines were considered for inclusion.
- All research designs were considered for inclusion, but qualitative studies were prioritised since this study design is qualitative, and other designs were considered if the reported information had a bearing on the phenomenon of interest.
- Studies considered were published between 2017 and 2023 in English Language.
- In addition, grey literature with relevance to the study phenomenon was considered for inclusion.
- Out of 181 articles, 108 were included and reviewed for their relevance to the research question. A total of 49 articles were rejected due to their irrelevance and being outdated, while 13 were duplicates. A total of 46 articles were considered for the final inclusion.

2.3.2.3 Exclusion of sources of data

From a list of 181 journal articles accessed, 73 were discarded due to their irrelevance to the topic; 49 were outdated while 13 were duplicates. For this study, an article was regarded as irrelevant if it:

- Was not answering the research question or discussing any of the key concepts of the research question.
- Was not scientifically presented.
- Did not clearly communicate the results of the study.
- Did not have any indication that it was peer-reviewed.
- The research methodology was not clear.
- Was published before 2017 and had outdated information.
- Was not written in English.
- Not relevant to current research.

2.3.3 Reading and analysis of the selected articles

Abstracts were read first to determine the relevance of the articles, and once that was confirmed, the full-text article was read. Articles, papers and reports articulating similar information were grouped. By reading many different studies, the researcher was able to determine the most important aspects of the topic and familiarise with the writing styles applied by other researchers and the search was extended to consider ideas that were identified as related to the subject under study. A total of 46 articles were considered for inclusion and these comprised nine original studies, two conference reports, six reviews, four editorial reports, two consensus statements, one debate report, one experience exchange report, and two organisational documents; and 19 unclassified articles which were coming from reputable international peer-reviewed journals were also considered for inclusion.

2.3.4 Arranging literature in order of relevance, authority, sources and currency

2.3.4.1 Relevance

Here, the researcher determined the relevance of the articles by asking the following five questions:

1. *What was the article about?*
   The question sought to determine whether the information from the article was needed for the current study and whether the study related to the research question and objectives.

2. *Who wrote the article?*
   The authors' credentials were checked to determine whether the author was a scholarly writer or knowledgeable on the topic so that the article could be trusted. The question sought to determine whether the author had first-hand or second-hand information and whether they were qualified to research about the topic to rule out bias. It also sought to determine whether the author had been cited and the number of times the citation occurred.

3. *Where did the information come from?*
   It sought to find out whether the information came from the government, an academic researcher, the general population, the journal of publication, scholarly peer-reviewed or not, and to determine its country of origin.

4. *Why was the study done?*
   The question interrogates the purpose or goals of the original study. The researcher checked on the purpose of each study to ascertain whether the paper related to the current topic. The purpose should be to educate the reader and not to try and convince the reader to buy or impose certain beliefs. Suitable data must be linked to the project's research goals and questions.

5. Is the article current?

The researcher ascertained the currency of the article. Though integrating EBP into nursing education is not a new concept; current studies are few (Unisa MNUALLL301/0/2024:52).

2.3.4.2 Authority

Information may be accepted as accurate when said by a person in an authoritative position and published by an authoritative publication. It seems natural to place trust in the judgement of people with specialised training, experience, or specialised expertise. Relying on the wisdom of authorities is a quick and straightforward way of learning new things and doing well by trusting the judgement of persons with special training, expertise and credentials on a given topic. Authority is not always reliable as a source of evidence. It sometimes has some shortcomings, although not infallible; however, such knowledge often goes unchallenged. It is vital that credible evidence is extracted from sources with reliable authority, such as indexed journals, refereed articles and authors who are expertise in the subject or discipline. Once you can find the key authors and publications of the subject on a specific discipline, further search can be done following on such publications (https://researchguides.ben.edu/source-evaluation).

2.3.4.2.1 Key journals

Academic journals are often a great place to find trustworthy and credible content and are considered one of the most reliable sources that can be used in academic writing. The mostly read journals are probably those with high quality editorial boards consisting of individuals from around the globe. The most recent issues were checked for studies done on the topic and the references found at the end of the articles were used to access more sources (Polit & Beck 2021:741-743).

The key journals that were used covered nursing education, nursing practice, health research and subject content on EBP. A total of 52 different journals were accessed with articles that reported on the key concepts of the topic. These were evaluated to determine whether they were indexed, peer-reviewed, checked for publication history and the impact factor. Peer-reviewed journal articles provide the most recent research

and developments in a specific discipline and they are written by experts and evaluated by peers before publication. They are current and reporting on important information on the topic in an article format. From the 46 relevant journal articles, 16 were extracted from journals with open access. The publishing institutions included Alliance of Small Island States (AOSIS), ResearchGate, Routledge, Sciendo, ScienceDirect and Multidisciplinary Digital Publishing Institute (MDPI) (Unisa MNUALLL301/0/2024:52).

2.3.4.2.2 Key authors

One of the key factors used in determining whether a source is good or not is checking the author's authority. The following questions were asked to ascertain the level of authority authors had.

- Who is the author and is he or she a subject expert on the topic?
- What are the author's credentials, qualifications, or organisational affiliation?
- Does the author have expertise and trust on the topic they are writing about?
- How is the author viewed in the field?
- Has the author been cited by other authors? If so, how many have cited him or her?
- Was the study funded by a source that could influence the findings? The author should not be influenced by funders who can bring in a form of bias. Five studies were declared as being funded, but the authors reported no conflict of interest.
- What was the authors' purpose for writing the paper? The purpose should be to educate and not impose beliefs or convince the reader to buy certain beliefs (https://www.scribbr.com/working-with-sources/craap-test/ Retrieved July 3, 2023).

Once the researcher knows the author, they can refer to their work and follow them to see what they have written.

2.3.4.2.3 Key search engines

As a popular search engine, Google Scholar (GS) was used to access the relevant and appropriate studies. GS covers journal articles from scholarly publishers from all disciplines and provides information from different sources. Databases such as

CINAHL, PubMed, EBSCOhost and Cochrane were searched through the Unisa library but did not yield any positive results for the topic under study. ProQuest database provided only abstracts and it was difficult to access full-text articles as it required individual subscription and login credentials from the University, which was frequently denied; hence, GS and Google internet were used to access freely available articles on open access.

Other articles from ResearchGate were requested directly from the lead authors. The researcher subscribed to ScienceDirect and ResearchGate and received emailed articles from indexed journals such as Nurse Educator and Nursing Education in Practice and Academia. These computerised databases are licensed with indexed journals, allowing the researcher to understand what was being searched and provide the most efficient way of identifying articles relevant to the topic under study. The following table displays identified databases that were accessed during literature search, providing subjects covered, and the advantages and disadvantages of each.

Table 2.1: Databases

Database	Subject coverage	Advantages	Disadvantages
CINAHL (Cumulative Index of Nursing and Allied Health Literature)	Authoritative resource covering nursing, medical and allied health information	Fast and easy access to top nursing journals	Has limited scope
Cochrane	Database for a collection of systematic reviews that synthesised RCTs from multiple peer-reviewed sources	Pre-appraised evidence	It may contain individual research articles that are not yet appraised by the user first.
EBSCOhost	Provides access to a variety of databases, e-journals and e-books	Reliable, peer-reviewed content. Very helpful in identifying articles and other publications on a particular topic within the subject areas by streamlining access to evidence-based information for clinical decision-making	It has restricted access; Overwhelming information and intimidating.
Google Scholar	Searches only academic journal articles produced by scholarly societies.	Access to a higher number of citations and articles, easy and quick way of finding academic articles about any subject. It is accessible free of charge over the Internet.	It requires a connection to the internet, which may be costly for the researcher.
PubMed	Contains journals of biomedical sciences, nursing, dentistry and pharmacy	Free and committed to providing free online access to all evidence	Exclusively for medical literature
ResearchGate	An academic social networking site designed to facilitate access to academic research and collaboration between researchers	Free and user-friendly with larger popularity offering very good opportunities for scientific communication	Does not require peer-review.
ScienceDirect	Platform of peer-reviewed literature from Elsevier journals and books	Provides authoritative, full-text scientific, technical and health publications with smart, intuitive functionality so that users can stay informed in their fields and work effectively and efficiently	It does not have direct free access and requires some form of subscription and registration process.
Open access journals	Scholarly journal publishing research output online with the author paying publishing fees	Free access with increased readership	Lacking quality control

2.3.4.3 Literature sources

Literature sources vary in line with primary, secondary, and tertiary sources.

Primary sources are authentic publications of experts' new evidence, conclusions, and proposals, which are usually published in peer-reviewed journals. They provide first-hand evidence about an event, object, person, or work of art and are usually written by the researcher who conducted the study (Polit & Beck 2022:395). Examples include reports, theses, conference proceedings, government publications and unpublished manuscript sources. They contain a high level of detail and require minimal publishing time (Brink, van der Walt & van Rensburg 2018:61).

Secondary sources are systematic review articles or meta-analyses where material derived from primary source literature is inferred, described, discussed, interpreted, commented upon, analysed, summarised, and evaluated. They are usually written or prepared by someone not the original researcher (Polit & Beck 2022:399). Examples of such sources include newspapers, books, journals, the internet and surveys; they are formed by a medium level of detail, with the medium time needed to publish (Brink et al 2018:61).

Tertiary sources consist of collections that compile information from primary or secondary literature, including dictionaries, encyclopaedias, directives, guidebooks, indexes, abstracts, manuals, and textbooks. They are of low-level details and require considerable time to publication (Muenster 2022: 6-7).

2.3.4.4 Currency

This is the timeliness of information where the researcher checks when it was published and whether it has been revised or updated. It seeks to determine whether the information is chosen for the study is current or outdated. The selected studies and information were published between 2017 and 2023. Although there are few studies on the integration of EBP into the nursing curriculum, the information was adequate to answer the research questions. Other published studies accessed dealt mostly with EBP integration and application in clinical practice.

2.3.5 Critical analysis of selected articles

The use of the critical appraisal approach to review literature was of utmost importance for this study. Most articles came from trusted sources that were peer-reviewed and indexed in licensed journals, but grey literature had to go through credibility evaluation using the currency, relevance, authority, accuracy and purpose (CRAAP) criteria (https://www.scribbr.com/working-with-sources/craap-test/). Each of the articles was critically analysed for the following:

Currency: This check when the study's publication was done, determines whether there are any updates, whether the information is current for this topic. Checks were done to determine if there were links provided and to ascertain whether these could be accessed.

Relevance: This revealed how important the information was for the study to answer the research question. The researcher checked whether it revealed the targeted audience. Checks were done to ascertain if it was a good source for the topic. All papers included in the study were checked for publishing credentials, including coverage to determine the relevance of the publication.

Authority: The authority of the study was decided on the credentials of the author and the reputation and trustworthiness of the publishers on the subject. This involved determining whether there was any funding for the study, which could influence the outcomes. Papers were written by independent authors, and five of the studies were funded, but the authors declared no conflict of interest, and no funders interfered with the processes of the study.

***Accuracy*:** This involved confirming the type of evidence that supported the source. The researcher checked whether a study had been cited and if so, determined the number of times it was cited, how it was analysed, what the sampling technique was and whether it was consistent with the research design, how big the sample size was in relation to the research design, what the type of data collection instrument was in relation to research design, how data were analysed and lastly what the methodology was. All the included

studies revealed how data analysis was conducted and clearly indicated the methodology followed in executing the study. There was no study where the data collection instrument was published and revealed.

Purpose: The researcher checked on what the motive behind publishing the source was, whether the purpose, aim or objectives of the source were clearly stated, what the authors were trying to discover, if the results were clearly stated, and whether the results matched the initial motive.

2.4 REVIEWED LITERATURE ON THE RELEVANT METHODOLOGY

This section presents the research methodology that was followed when conducting the study to address the topic of the integration of evidence-based practice in teaching and learning programmes. This included searching for research designs, paradigms, sampling methods and techniques, data collection and analysis procedures, quality check practices and ethical considerations. At this stage, the researcher decided on the relevant approach, design and methods that could be used, depending on the research question, objectives, or topic. Three approaches are commonly used in conducting research, and these approaches are qualitative, quantitative, and mixed methods (Creswell & Creswell 2018:3). The purpose of this study was to explore and describe the integration of EBP into teaching and learning programmes for nurse educators at KZNCN to develop a strategy to support nurse educators and to put forward recommendations for the inclusion of the teaching and learning of EBP skills in the nurse training curriculum; hence a descriptive qualitative design was the preferred approach. The qualitative research approach was a more suitable approach because it is in sync with the current research question, objectives and topic (Busetto, Wick & Gumbinger 2020).

Methodology search was conducted on the relevant qualitative studies. The aim of conducting this methodology search was to get an understanding of how to carry out a qualitative research study and to identify common practices and strategies for such methods. In addition, it was also important to identify the countries in which these were done so that comparison was made to South African (SA) context for the need of such

qualitative studies. Studies that were selected for review and inclusion were summarised and classified according to the identified research approaches. Articles from the identified qualitative studies were set aside for further review and for the researcher to gain more information and a better understanding of the methodology used in qualitative studies. Additional search was conducted through the Elsevier ScienceDirect database and more qualitative studies were located. The information gathered from these studies revealed similarities on research methodology. These findings supported the proposed research methods for the current study regarding the appropriate methods of investigation, by explaining what qualitative research methods are, why choosing them and how to conduct the study, checking quality and how reporting is done.

Systematic review studies were also considered in this study. Polit and Beck (2022:22) define systematic reviews as rigorous integrations of research evidence from multiple studies conducted on a specific topic. Systematic reviews are secondary sources of data and are considered cornerstones of EBP with increased importance in health disciplines. Systematic reviews integrate research information on a topic so that conclusions about the state of evidence can be reached. Best practice clinical guidelines typically rely on such reviews; hence they were considered for studies examining evidence-based practice. Although EBP in nursing largely depends on both qualitative and quantitative research, qualitative research remains a more powerful tool in terms of advancing EBP in the healthcare and nursing fields. Again, qualitative studies contribute to policy development, patient safety, healthcare interventions and an understanding of different types of illness (Williams, Bylan & Nunan 2020:3). Qualitative methods offer an insight into quantitative studies by providing an explanation of the success or failure of newly developed health interventions and are considered the best approach to answer research questions in this context. This section focuses on a review of qualitative studies. Published articles were critically reviewed on the basis of the selected research approach, proposed theoretical framework and the data collection methods. Below is a summary of research studies that were conducted using qualitative methods, showing the extent to which phenomenology was used as the relevant research design. Out of the selected studies, one was identified as a South African study.

Table 2.2: Examples of qualitative research methods from health and nursing disciplines

Author/year& Country	Design	Data Collection	Sampling & size	Analysis	Rigour/trustworthiness
Berg, Lalloo, Ngongo and Bogren (2023) - Central Africa	Qualitative study	Semi-structured interviews	Purposive, with 22 strategically chosen participants ()	Inductive content analyses as described by Elo and Kyngas (2008)	Researchers were guided by their reflexivity throughout the research process.
Brooke (2017) - England	Qualitative study	Seven focus groups and field notes	Inclusion criteria - 33 participants who met inclusion criteria.	Thematic analysis as described by Braun and Clarke (2017)	A pilot focus group for confirmability of the research question
Kitson, Harvey, Gifford, Hunter, Kelly, Cummings, Ehrenberg, Kislov, Petterson, Wallin, and Wilson (2021) – United Kingdom	Exploratory-descriptive	Semi-structured interview guide	Purposive - 55 participants	Content analysis using NVivo Software Sandelowski (2000)	Skype calls team meetings, reflection, refinement and data interrogation
Lateef and Mhlongo (2019) - Nigeria (Africa)	Phenomenological approach	Semi-structured, in-depth individual interviews	Purposive - 15 participants selected	Thematic content analysis using NVivo 10 software following an inductive approach.	Description of the study context allows for transferability and applicability of the study.
Lehane, Leahy-warren, O'Riordan, Savage, Drennan, O'Tauthaigh, O'Connor, Corrigan, Burke, Hayes, Lynch, Sahm, Heffernan, O'Keefe, Blake, Horgan and Hegarty (2019) - Ireland	A qualitative study	Skype interviews	Purposive - five EBP education international experts were purposefully invited	Qualitative content analysis techniques used as advised by Bogner et al (2009)	Explicit description of methods, participant profile, peer review of data, and extensive referencing to interview transcripts
Lopez-Entrambasaguas, Calero-Garcia, Diaz-Meco-NiNo, and Martinez-Linarez (2019) - Europe	Descriptive-exploratory	Semi-structured interviews and focus groups	Convenient - 24 participants	Braun and Clarke's (2017) method using Atlas.ti software	No previous contact with participants, peer debriefing and triangulation
Macquibar, Roman, Fraile-Bermudez and Estalella (2022) - Spain	Sequential mixed-methods	Individual in-depth interviews in qualitative phase	Convenient (Willing) - 13 participants	Graneheim and Lindman (2004)	Preliminary results shared with participants for confirmability and contextual description provided for transferability
Mikkonen, Koskinen, Koskinen, Koivula, Kskimaki, Lahteenmaki, Maki-Hakola, Wallin,	Qualitative	Semi-structured in focus groups interviews	Purposive - 48 participants (16 focus groups of 2-5)	Inductive content analysis	Three phases of Elo et al (2014)

Sjogren, Salminen, Sorminen, Saaranen, Kiuvula and Kariainen (2019) - Finland					
Naqshbandi and Karim (2019) - Iraq	Phenomenological	Semi-structured in-depth interviews	Convenient - 15 participants	Van Manen's (1990) six steps method	Lincoln and Guba's four criteria
Piro (2021) - Iraq	Phenomenological	Semi-structured in-depth interviews	Purposive and willingness - 10 participants	Van Manen's (1990) six-step method	Lincoln and Guba's four criteria
Rasheed, Aziz and Osman (2021) - Iraq	Phenomenological	Semi-structured interviews	Purposive - 15 participants	Van Manen's (1990) six-step method	Lincoln and Guba's four criteria
Saifan, Devadas, Abdel-Fattah, Aljabery and Michael (2021) - UAE	Descriptive approach	Face-to-face interviews	Purposive - 25 participants	Braun and Clarke techniques- Computerised thematic analysis (NVivo)	Two interviewers used to avoid bias
Teresa-Morales, Rodriguez-perez and Ramos-Richardo (2023) - Spain	Descriptive	Written document with no restricted word count	Convenient - 106 participants	Graneheim et al (2017) - content analysis	Lincoln and Guba's (1985) four criteria
van der Merwe, Barnes and Labuschagne (2022) - South Africa	Descriptive-constructivist paradigm	Semi-structured group interviews and consensus meeting	Purposive – convenient - five expert participants	Content analysis using double coding	Independent researchers, member checking, field notes and recording
Walten-Nunez (2019) - United States	Qualitative	Semi-structured open-ended interviews	Purposive - 11 participants	Open coding thematic analysis with NVivo Software	Member checking for conformability
Xiarchi, Palmer, Nassen, Codwell and Lundberg (2023) - Greece	Descriptive phenomenology	Online in-depth interviews	Convenient -12 participants	RLR principles followed	Use of openness coding and constant reflection

2.4.1 Qualitative Research Approaches

Qualitative research approaches are used to understand the phenomenon from the perspective of those experiencing or involved with the phenomenon. There are five types of commonly used qualitative research approaches, namely grounded theory, phenomenology, ethnography, narrative, and case study (Berman, Snyder and Frandsen 2022:56). Grounded theory approach is described as inductive and is only fit for use when a theory is to be developed (Gray 2018:167), which was not the case with this study. The ethnography approach was also not appropriate for this study as

it is associated with anthropology and focuses on understanding the worldviews of the culture of a specific group. A narrative study involves the investigation of a complex phenomenon focusing on the recollections and stories of people's experiences through storytelling (Maree 2020:84, Leedy & Ormrod 2021:264, Liamputtong 2020:128). Nevertheless, a narrative enquiry was not an appropriate choice for this study. In case study research, the focus is on developing an in-depth understanding of the single entity (Polit & Beck 2021:483) in contrast to phenomenology, which seeks to understand phenomena from multiple shared perspectives. Phenomenology was an appropriate approach for this study, which aims to describe how life is experienced in the context of peoples' everyday lives (Fouche et al 2022:293, Polit & Beck 2021:477). Most of the reviewed qualitative studies from the table 2.2 followed a phenomenological approach. Further details on phenomenology are provided under the description of the selected research approach in the next chapter three.

Common and general characteristics of a qualitative research are described by various scholars such as Creswell and Creswell (2018:180), Creswell and Poth (2018:7), Maree (2020:59) and Polit and Beck (2021:471), that qualitative research is a method for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. In qualitative methods, the research process has an emergent design, meaning that planned research activities may be changed at any phase as the need arises during data collection. Another characteristic is that of triangulation, which usually forms part of a qualitative study; for instance, there can be multiple sources of data and the use of different data-collecting methods. The final reporting is usually flexible with a complex picture and covering multiple perspectives.

2.4.2 Rationale for using a qualitative approach in health sciences research

Qualitative research is critical for the nursing fraternity in terms of improving nursing education, practice, and policy. It is found to be very useful in explaining nursing issues by focusing on ideas that talk about a similar topic (Saifan et al 2021:3). In nursing research, the qualitative method assists nurses in understanding their patients better, and nurses can generate information that can help inform clinical decisions to enhance quality patient care (Williams et al 2020:3). Qualitative nursing research provides an

in-depth understanding of a particular phenomenon. It helps explain human beings' complexities and experiences. Qualitative research is recommended for advancing nursing careers and improving patient care, hence the importance for nurses to study qualitative research methods to comprehend human experiences so that high-quality health care is achieved (Squires & Dorsen 2018:15).

2.4.3 Research paradigms in qualitative research

How one qualitative research study is conducted may differ from any other, depending on the type of problem and research objectives (Gray 2018:192). Conducting a research study can also be influenced by the researcher's choice of research paradigm, which is the philosophical stance the researcher takes to provide the basic set of beliefs guiding the selection of data gathering and analysis methods (Creswell & Poth 2018:325). Qualitative approaches are based on the philosophical perspective of naturalism or constructivism. Constructivists believe in multiple interpretations of reality where the aim of the research is to understand how individuals construct reality within their context (Polit & Beck 2022:380). Constructivism was chosen to guide this study regarding the phenomenon of nurse educators' experiences, understanding and perceptions about the integration of EBP into teaching and learning programmes and data collection took place in participants' natural work environment.

2.4.4 Sampling methods and techniques

To find a suitable sample for a qualitative study, non-probability purposive sampling methods are used (Brink & van Rensburg 2022:148; Gray 2018:209). Sampling techniques commonly applied in qualitative studies are purposive, snowballing, and convenient methods, which are based on a volunteering process (Polit & Beck 2022:176). Though convenient participants are readily available, they might not be able to provide rich information as expected; however, in purposive sampling, participants are selected based on their rich knowledge that may be beneficial to the study (Creswell & Poth 2018:157-158; Brink & van Rensburg 2022: 149). It is also possible to use snowballing (network) sampling where participants recruit each other and refer the researcher to other participants for them to participate in the study (Polit

& Beck 2021:263). In most studies, participants are selected because of having shared experiences of the phenomenon and being able to articulate what it is like to have lived that experience (Brink & van Rensburg 2022:151; Polit & Beck 2021:265). Based on the researcher's judgement of the participants regarding the phenomenon being studied (Brink & van Rensburg 2022:150; Polit & Beck 2021:265), purposive and snowballing sampling was the best options for the current study.

2.4.4.1 Sample size

In a qualitative study, the sample size is only determined upon reaching data saturation (Creswell & Creswell 2018:186). A sample size is the total number of people participating in a study (Polit & Beck 2022:399), and phenomenologists often rely on small samples comprising about 10 or fewer participants. Qualitative studies that were reviewed by the researcher had sample sizes ranging from 10 to 106 participants. One study had a large sample size because the data collection instrument used was a written document which had no restrictions to the number of self-administered questionnaires. According to this article, all first-year university students were invited to complete a questionnaire with open-ended questions (Teresa-Morales et al 2023:2). In other words, researchers could not determine when and how data saturation would be reached until they read through all the questionnaires.

2.4.5 Qualitative data collection methods

When choosing appropriate data collection methods, researchers are guided by the study designs which provide specific directions for procedures followed in conducting a research study (Creswell & Creswell 2018:11). Qualitative researchers use a variety of data collection strategies such as one-on-one interviews, focus-group discussions, observation and document analysis. Although the individual face-to-face interview strategy was selected for this study, focus-group discussions could have been another option, but the challenge with this data collection method is that the researcher has less control over the process and there is lesser participation by all the participants in a group; nevertheless, focus-group discussions can be useful when a homogenous group of participants with shared experiences on the topic is used and focus-group

discussions are more relevant for cultural studies. Focus-group discussions are discouraged when dealing with sensitive topics because of power dynamics like intimidation by the researcher or other participants, which can compromise the outcome of the discussions (Fouche et al 2021:363). Where there is a possibility of power differences and conflict of interest between participants, face-to-face interviews become the best option.

Document analysis is more dependent on the recorded data, something which was impossible for this study because first-hand in-depth information was required to answer the research question. In the context of this study, Husserl's descriptive phenomenological design was followed because the researcher needed to describe nurse educators' experiences with the integration of EBP and to explore the meaning of these experiences to achieve the objectives of the study. In Husserl's phenomenological study, the major data gathering method primarily holding in-depth interviews with participants for the purpose of describing the meaning of a phenomenon shared by several individuals (Rafique 2020:1), hence unstructured, in-depth individual face-to-face interviews, together with participant observation, comprised the data collection methods, using a grand-tour question supported by follow-up questions and captured on a voice recorder.

In-depth interviews involve the participants being questioned to understand reality based on the experiences of individuals. Unstructured interviews are not pre-planned; hence researchers cannot know and plan what to ask or even predict what the interviewee will say as an answer; furthermore, they use more open and exploratory research questions than closed-ended ones (Maree 2020:108). Qualitative researchers are intensely involved in the data collection process, and thus, they become key instruments directly involved in the data collection process. An interview guide is used to guide the interview process so that all areas of the problem are explored. Open-ended questions are most beneficial to the study when a researcher conducts descriptive research to allow the participants the freedom to provide rich and detailed information in their responses (Saifan et al 2021:3). Qualitative studies follow

a naturalistic approach, where data collection takes place in the natural setting in which participants experience the problem or phenomenon under study.

2.4.6 Data analysis in qualitative studies

Johnson et al (2020:143) mention that the management of data analysis in qualitative studies requires the use of manual methods or computer software applications; however, the researcher remains the main instrument in data analysis. A computer software application is a useful tool in studies where a large amount of data is to be analysed, making it easy to code, sort, organise and weigh data elements. Coding errors can be identified easily when using computer software. Examples of computerised qualitative data analysis software are NVivo series and Atlas.ti. However, the researcher opted to use Atlas.ti 24, which was freely available through the Unisa library as the latest edition.

Qualitative research employs meaning-based data analysis rather than statistical forms of data analysis. It inductively builds on patterns and themes from the bottom up to establish a comprehensive set of themes (Creswell & Creswell 2018:180; Creswell & Poth 2018:7; Maree 2020:59; Polit & Beck 2021:471). In qualitative studies, data analysis commences as soon as data collection starts and continues until data saturation is reached and data analysis processes are completed. Different analysis methods and techniques were used in the reviewed qualitative studies, as indicated in Table 2.2 above, to guide qualitative data analysis. Content, thematic and phenomenological data analysis approaches formed the basis of these studies and are discussed in the following paragraphs.

2.4.6.1 The Content Analysis Approach

According to Polit and Beck (2022:261), content data analysis involves an analysis of narrative data to identify prominent themes and patterns among the themes, the breaking down of units, coding and naming units according to the content they present, and finally, grouping coded material according to shared concepts.

2.4.6.2 Inductive content analysis (ICA)

From the reviewed studies, it emerged that ICA was used in two studies (Berg, Lalloo, Ngongo & Bogren 2023:2; Mikkonen et al 2019:9). ICA is described by Elo and Kyngas (2008) as a technique that seeks to understand an unknown phenomenon from its context. It involves reading of transcripts on several occasions to identify meanings that answer the research question. These meanings are compared and then finally sorted into categories. For an example, in an article written by Berg et al (2023), two categories were finally organised as factors facilitating and those that had hindering effect on the phenomenon under study, which was a qualitative study about the implementation of university-based midwifery education programme.

Kitson, Harvey, Gifford, Hunter, Kelly, Cummings, Ehrenberg, Kislov, Pettersson, Wallin & Wilson (2021:8) conducted a study on how nurse leaders can promote the implementation of EBP in which Sandalowski (2000) guided the process where content analysis became reflexive and interactive as the researcher continued to manage new data to ensure that it fitted well into the phenomenon under study. Lehane et al (2019:104) opted for qualitative content analysis as advised by Bogner et al. to examine expert reviews. A six-step process was applied as follows; transcription, reading through and paraphrasing data, coding data, thematic comparison, sociological conceptualisation, and theoretical generalisation.

Some studies mentioned that they used *open coding content analysis and double coding content analysis.* For an example, van der Merwe et al (2022:3) and Walton-Nunez (2019:49) used both open and double coding. Strauss and Corbin (1998) define *open coding* as the process of breaking down, examining, comparing, conceptualising and categorising data on a phenomenon through close examination (Gray 2018:695). *Double coding* content analysis (co-coding) is done by two researchers to ensure that the coding is consistent in what is called intercoder reliability (O'Connor & Joffe 2020:2).

2.4.6.3 The thematic analysis approach

This is an accessible and a flexible theoretical approach that is seen as a foundational method for qualitative analysis, with a step-by-step guide covering six phases. These steps include i) familiarisation with data, ii) generating initial codes, iii) searching for themes, iv) reviewing themes, v) defining and naming themes, and vi) producing the report (Gray 2018:693). This approach, as described by Braun and Clarke (2017), was used in five studies, that is, Brooke (2017:3) Lateef and Mhlongo (2019:14) Saifan et al (2021:10) Lopez-Entrambasaguaz et al (2019:3) and Walton-Nunez (2019:33). A similar approach was followed in studies conducted by Macquibar et al (2022:90) and Teresa-Morales et al (2023:2) involving iterative data familiarisation through repeated reading, identification of meanings, and coding data according to similarities. Discussions and reviews by the researchers followed during consensus meetings and that led to the development of themes that were confirmed through data reflection.

2.4.6.4 The Van Manen data analysis approach

Van Manen (1990) is another form of thematic analysis method which is less structured and focuses on an understanding of the themes. Phenomenological reflection is done to grasp the essential meaning of the phenomenon (Creswell & Poth 2018: 202). This data analysis comprises the six steps that follow:

1. Approaching the nature of the lived experiences
2. Investigating an experience as it is lived
3. Thinking about the major themes as the characteristics of the phenomenon under study
4. Using the art of writing and re-writing to describe the phenomenon through
5. Maintaining a strong and orientated relation to the phenomenon
6. Balancing the research context by considering the parts and the whole.

Naqshbandi and Karim (2019:3) Piro (2021:25) and Rasheed et al (2021:62) followed a similar approach to analyse research data.

2.4.6.5 Reflective Lifeworld Research (RLR) principles

RLR principles were applied in one study conducted by Xiarchi, Palmer, Nassen, Codwell and Lundberg (2023:3) to analyse data. Here, the interview text was divided into smaller segments to form units of meanings. Clusters of meanings were created. A search for essential phenomenal structure was done to subsequently provide the relationships between the meanings. This analysis is carried out constantly, moving between meanings and specific research data. The whole-parts-the-whole options involve describing and searching for essential new meanings to understand the phenomenon.

2.4.6.6 Phenomenological analysis

For this phenomenological qualitative study, the researcher proposed the use of Colaizzi's data analysis method (Polit & Beck 2022:263) as it is explained in Figure 1.3 from Chapter One. Cheon and You (2022:3) used a similar method to analyse data collected from focus-group interviews and two researchers got involved with content analysis. They read and derived meanings from the transcripts, checked codes repeatedly, then categorised them into specific categories and subcategories, then finally, all the discrepancies found on the themes and codes were resolved through consensus meetings. According to Creswell and Poth (2018:201), phenomenological analysis follows guidelines of analysing data for significant phrases, develops meanings, clustering them into themes, thus presenting an exhaustive description of the phenomenon (Creswell & Poth 2018). The simpler version is explained by Moustakas (1994) in the six steps which are:

1. Describing the researcher's personal experience with the phenomenon under study and set those experiences aside
2. Developing a list of significant statements from interviews and other sources
3. Grouping statements into broader units of information
4. Creating a description of participants' experiences with the phenomenon
5. Drafting a description of what and how the phenomenon was experienced by the participants
6. Writing an exhaustive and comprehensive description of the phenomenon.

2.4.7 Enhancing rigour and quality in qualitative studies

Special strategies are used to enhance rigour. Researchers and reviewers are guided by some form of quality criteria known as checklists. These require strict adherence to a specific universal criterion to check or review trustworthiness and quality of the study. However, concern is raised by some qualitative researchers that checklists do not fully provide the same results for different approaches and the multiple procedures used in qualitative studies (Johnson et al 2020:138). Therefore, to enhance the credibility of the of the research study, Johnson et al (2020:140) discusses special strategies which are of vital importance with regard to designing and conducting qualitative studies as well as analysis data and reporting on findings.

During the process of selecting appropriate methods for the study, the aim should be to help minimise the bias associated with qualitative studies and to make research believable to readers and other researchers. Qualitative research should be guided by Lincoln and Guba's (1985) four criteria for it to establish good practices and trustworthiness. These criteria include credibility, transferability, dependability and conformability (Polit & Beck 2022:276) and were used by most of the reviewed studies and will be further explained in the later stages of Chapter Three.

The best practices recommended for sampling and data collection involve clear rationale for deciding on sampling design, piloting, determination of data saturation, reflexivity, ethical considerations in a research design, member checking, prolonged engagement with and persistent observation of study participants and triangulation of study sources (Busetto et al 2020:6-7). During the data analysis process, the use of computer software, peer review, audit trail, triangulation and negative case analysis are some of the best practices that can be applied to ensure the integrity of a qualitative research study. Other general strategies that can be employed in ensuring quality for qualitative studies may include stakeholder involvement, the use of independent researchers and the co-coding of data to ensure reliability. Field notes and interview recordings allow for dependability and conformability (Polit & Beck 2022:277-283).

2.4.8 Ethical considerations in qualitative research

The main goal of the researcher's ethical conduct is to safeguard the rights and integrity of all the stakeholders affected by the processes involved in the study. All the reviewed qualitative studies reported on ethical issues considered during the research process, from the commencement of the study where institutional review boards (IRB) had to approve the study. Gatekeepers' permission, provision of information about the study, getting participants' consent, data collection and analysis standards involving participant protection from harm enhanced ethical standards. Assurance of participants' confidentiality, anonymity and privacy was also explained within the reviewed articles (Fouche et al 2021: 117-129). An example can be noted from the qualitative study conducted by Xiarchi et al (2023:3), which explains how ethical issues were addressed.

Table 2.2 below provides a summary of articles that were considered for inclusion in the study in relation to content.

Table 2.3: Summary of articles related to the topic under study

Qualitative				
Title, Author and Year	**Purpose**	**Method/Sampling**	**Participants/Sample size**	**Findings/Outcome**
Evidence-based practice education for healthcare professionals: An expert view. Lehane et al (2019)	To ascertain current and nuanced information on EBP education from an international perspective	Qualitative methodology followed using interviews	5 EBP education expert	Three main categories emerged, namely; 1. EBP curriculum consideration 2. Teaching EBP 3. Stakeholder engagement
Factors influencing Nursing Education and Teaching Methods in Nursing Institutions: A case study of South West Nigeria. Lateef and Mhlongo (2019)	To explore the lived experiences of nurse educators regarding teaching methods and the challenges encountered in nursing education institutions in South West Nigeria	A qualitative enquiry research approach	15 nursing educators	Results showed some of the factors hindering teaching methods that support students' learning such as students' inadequate preparedness, teachers' insufficient facilitation skills, misconceptions about teaching practices, resource constraints, resistance to change and lack of incentives.
Nurse mentors' implementation of EBP and strategies to support student nurses to adopt this approach in community settings. Brooke (2017)	To explore burse mentors' strategies to apply evidence to their own practice and their support to student nurses to understand and develop EBP in community settings	An explorative study using focus group discussions	33 registered nurses participated.	Three main themes emerged; being current, EBP used every day, time as a barrier to and facilitator in mentoring student nurses in community stings.
Mixed methods				
Author, Title and Year	**Purpose**	**Method/Sampling**	**Participants/Sample size**	**Findings**
Evaluating evidence-based healthcare teaching and learning in the undergraduate human nutrition; occupational therapy; physiotherapy; and speech, language and hearing therapy programmes at a sub-	To assess EBHC teaching and learning in the undergraduate human nutrition; occupational therapy; physiotherapy; and speech, language and hearing therapy programmes at a sub-Saharan African university.	Followed a triangulated methodology of document review of module guides; focus-group discussions and interviews of lecturers and an online survey completed by final year students.	89 modules reviewed, 4 focus-group discussions with 2 interviews for key lecturers and a total of 53 students responded to the survey.	Findings revealed that learning outcomes focused on enabling specific competencies and EBP competencies were not explicitly addressed. Lecturers highlighted challenges to teaching and application of EBP knowledge and skills. Students felt that EBHC learning should be spread throughout the period of training to allow for repetition, consolidation and application of acquired knowledge and skills.

Saharan African academic institution. Schoonees, Rohwer & Young (2017)				
Enhancing EBP and critical thinking skills of nursing students: Lessons from the review of the Bachelor of Science in nursing curriculum of the University of Zambia. Mwiinga-Kalusopa, Maimbolwa, Wahila, Katowa-Mukato, Vwalika, Nzala, Kabinga-Makukula, Chigunta, Kampata, Kuyamba, Kafumukache, Simuyemba, Musenge, Mwiinga and Goma (2022).	To enhance the existing Bachelor of Science in nursing curriculum through integration of EBP and critical thinking skills	A needs analysis was conducted through a five-phase approach using adapted Kerns' six-step model.	Defined participants are nursing students, lecturers, regulators and deans.	Gaps were established in the existing curriculum and critical core competencies and best practices in integrating EBP and critical thinking skills were also identified.
Development, implementation and evaluation of EBP model in a new hospital in Chile. Galiano et al (2020)	To describe an implementation programme for an EBP model in a new Chilean hospital and to analyse the programme evaluation results	A mixed-methods study conducted in a three-stage approach; 1. Literature review to develop the EBP model, 2. Internal and external analyses conducted to evaluate facilitators and barriers and 3. Implementation strategies were chosen and executed. A longitudinal design was used for	From 2016, an average of 128 participants of all healthcare professionals working in the new hospital	Results revealed that having an EBP programme with ongoing implementation strategies improves knowledge over time and that formal training enhances positive results.

		programme evaluation.		
EBP curriculum development for undergraduate Nursing Students. Hung (2019)	Aimed to construct an EBP undergraduate nursing curriculum and develop clinical scenarios that support EBP teaching	Action Research study incorporating focus-group interviews and questionnaire surveys	11 nursing teachers, 68 third-year and fourth-year undergraduate students with EBP experiences and 3 external EBP education experts.	An EBP curriculum was developed and a preliminary evaluation showed appropriateness and feasibility in fostering EBP competency of students and increasing their confidence and positive attitude toward EBP.
Integration of evidence-based interventions in clinical settings in Jordan: a policy brief. Alzaatreh, Al-Maraira, Tbar, Alsadi, Khrais, Abunab, Kasasbeh, Almaani & Khalil (2021).	The aim of the brief was to discuss the process of utilising nursing EBP in clinical settings.	Action plan following a systematic approach	Professional nurses employed by the hospital in Jordan	A comprehensive description of this policy brief was provided with reference to the imminent steps of policy analysis and evaluation and the overall suggestion by all the authors was the development of a unit for EBP to deal with issues related to clinical practice guidelines.
Providing teaching and learning open and innovative toolkit for EBP to nursing European curriculum (EBP e-Toolkit): Project rationale and design. Patelarou, Vlasiadis, Panczyk, Dolezel, Jarasova, Gotlib, Skela-Savic, Mecugni, Finotto, Ruzafa-Martinez, Ramos-Morcillo and Patelarou (2020).	1. To fill the gap in nursing education across Europe about the missing EBP competency framework and lack of guidelines for EBP teaching 2. To foster and harmonise the teaching and learning of EBP in the European nursing curricula 3. To produce the acquisition of EBP competence earlier in professional life	Mixed-methods research which ran for over four years.	Targeted groups were nursing students, educators, and clinical mentors from the six countries in Europe (Slovenia, Czech Republic, Greece, Italy, Poland, and Spain).	The project was expected to increase nurses' and nursing students' level of EBP competency by formulating specific guidelines to be implemented in EBP teaching and learning.
Strategies for teaching EBP in nursing education. Horntvedt et al (2018)	To identify strategies for teaching EBP in undergraduate nursing education	A thematic literature review for qualitative research and mixed-methods	Seven studies were identified and participants assessed were nursing students, nursing education and nursing programmes.	Four themes emerged: 1. Interactive teaching strategies 2. Interactive and clinically integrated teaching strategies 3. Learning outcomes and 4. Barriers
Teaching and implementing EBP in a Hospital Unit with secondary vocational	To improve the routine use of EBP by nurses at the hospital	Action research	60 preceptor nurses	The authors learned the importance of simplifying the five steps to suit the nurses' level of education by formulating PICO questions around major patient-care topics

trained nurses: Lesson learned Friesen-Storms (2017).				and having a search strategy such as systematic reviews and critically appraised topics.
Teaching EBP in nursing curricula in six European countries. Skela-Savic et al (2020)	To describe the presence, characteristics and content of courses of EBP in nursing bachelors', masters' and PhD programs in six European countries.	A mixed-methods design was employed with descriptive cross-sectional and qualitative descriptive research methods, conducted from December 2018 to March 2019.	A total of 162 nursing faculties teaching any of the three mentioned programmes	An average of 134 hours spent on the Bachelors' Degree teaching EBP steps, 127 hours in Masters' Degree and 52 hours in the PhD programme. EBP subjects focused on different topics which lead to the conclusion that teaching EBP is not yet sufficiently integrated into the nursing curricula.

2.5 ANALYSIS AND DISCUSSION OF REVIEWED LITERATURE

Figure 2.3 presents a visual summary of the themes that emerged from reviewed literature in relation to the content relevant to understanding and integration of EBP concepts into teaching and learning. A report on the analysis and discussion of the reviewed literature thus follows in the paragraphs below.

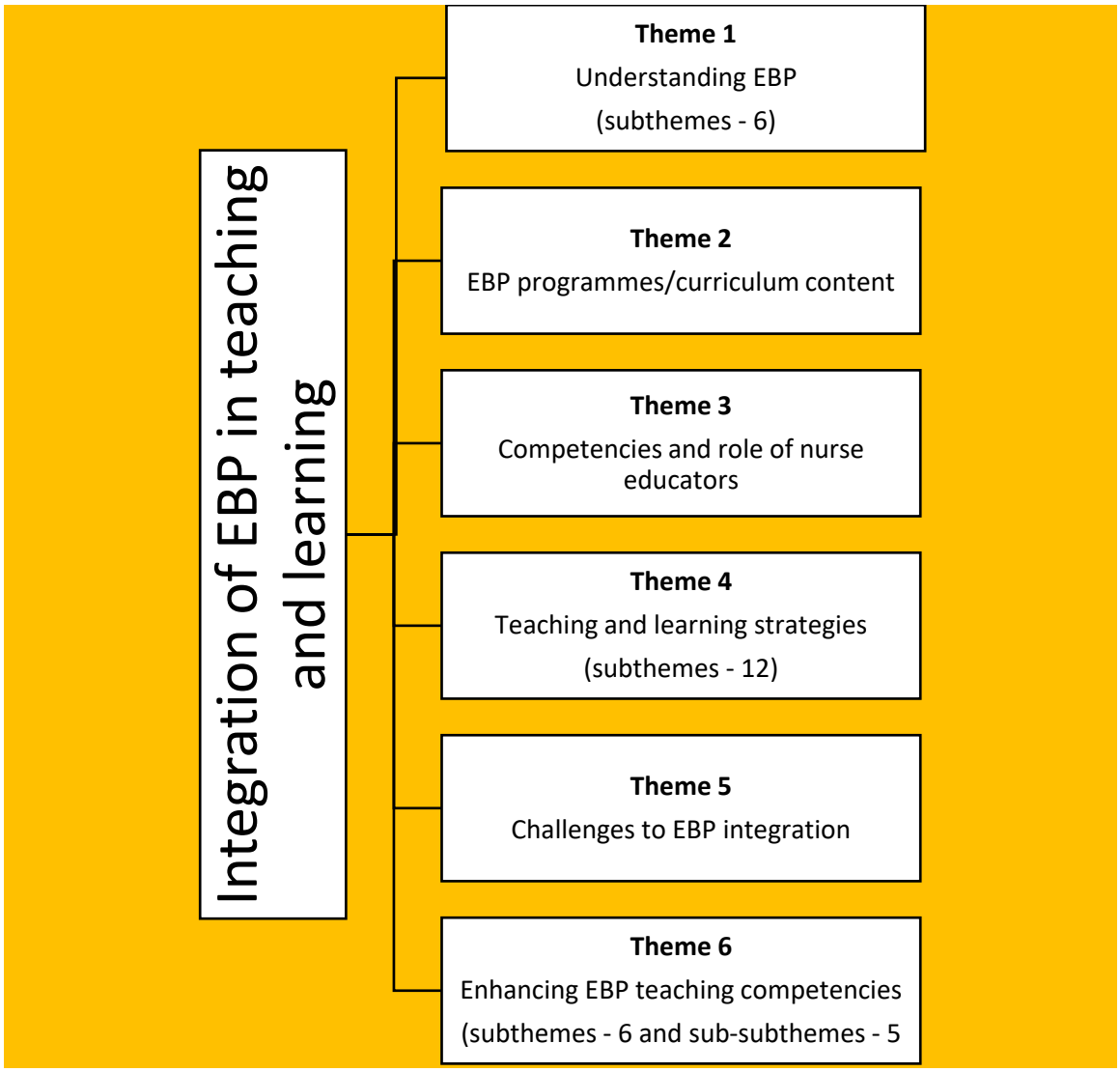

Figure 2.3: Visual presentation of findings from reviewed literature

2.5.1 Understanding EBP

Sigma Theta Tau International (STTI) defines EBP as a shared decision-making process combining the experiences of the clinical team, the desired patient outcomes, and the knowledge gained from understanding the best clinical evidence available (Coleman, Kamai & Davis 2018:2). STTI is an international body that was formed by the nursing community to promote nurses' academic excellence in scholarship, research, and clinical nursing practice (http://www.honorsociety.org). The International Council of Nurses described EBP as a way in which the nursing discipline minimises the theory-to-practice gap, to create an avenue for nursing educators to disseminate foundational knowledge to undergraduate and graduate nursing students (Chien 2019:2). The theory-practice gap refers to the inability to relate and implement knowledge gained in education to the realities of modern-day healthcare practice.

EBP is not a new concept and has been emerging at different rates worldwide in the past four decades (D'Souza, George, Nair, Noronha & Renjith 2021:261). The concept has been defined by many health professional scholars, but the original definition has been offered by scholars in the medical field. Dr Sackett's (1996) commonly used definition refers to evidence-based medicine (EBM) as the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. Sackett, Straus, Richardson, Rosenburg and Haynes (2000) refined the definition to integrate the best available evidence with clinical expertise, and patient preferences and values, a definition which has been adopted by international scholars and organisations (Stannard 2019:1080).

According to Stannard (2019:1081), these classic definitions have failed to fully define EBP for the nursing practice; hence, a study was conducted with the aim of developing a practical definition of EBP within the context of nursing practice. The proposed definition referred to EBP as a way of entering the situation with curiosity and engagement that follows the nursing process by responding to an issue or a problem using the best available evidence. Stannard (2019:1080) further equated and compared EBP five steps to nursing processes and methods in relation to solving patients' problems.

History indicates that Florence Nightingale, a nurse pioneer in EBP within the nursing discipline, utilised researched information and evidence from experiments to plan, provide and influence patient care in her early practice (Dang, Dearholt, Bissett, Ascenzi & Whalem 2022:6). It is believed that Florence was one of those who started the concept of providing safe and competent care using sound evidence (Chien 2019:2).

Incorporating the best available, researched evidence along with clinical experience and patient preferences into clinical practice enhances nurses' ability to make informed patient-care decisions thus ensuring quality healthcare with improved patient outcomes. Clinical expertise refers to the knowledge the practitioner acquires through training and professional experiences, including critical and problem-solving skills, while the patient's perspective is formed by personal or family values, preferences, expectations, and priorities together with cultural and traditional beliefs which can influence healthcare delivery. This integration is done in a manner that respects and honours the patient.

For the best available scientific evidence, the sources could either be internal, where data were collected through observations made within the patient-care domain or external, where information would come from scientific literature in the form of articles and journals. The emphasis is that all the three elements; that is research evidence, clinical expertise and patient preferences (values and beliefs) must be present for a true EBP-informed healthcare (http://onlinenursing.duq). Figure 2.4 below illustrates and summarises the links between all the concepts used to define EBP.

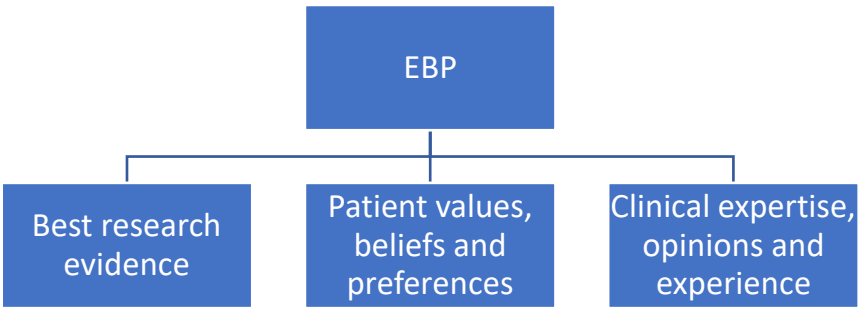

Figure 2.4: Concept map - Evidence-based practice (EBP)

2.5.2 Are research, EBP and research utilisation (RU) similar?

EBP is not the same as research utilisation (RU); however, what is prevalent across many countries around the world is the misconception that RU is similar to EBP. RU refers to the application of research results as the basis of making decisions, conducting new procedures and developing new policies. RU is understood to be part of EBP and is just a basic step towards achieving EBP status and it does not use patient-centred approaches (Chien 2019:6). EBP is broader than RU because it assimilates research results and other fields of science, requires the use and integration of best research evidence together with experience in clinical practice, patient values and needs within conscientious and cost-effective health-care delivery manner (Dewi & Mani 2020:1). EBP sometimes includes the use of recommendations, guidelines, care pathways and clinical protocols.

EBP is not research. In a study conducted on EBP and nursing research, Chien (2019:6-7) established the difference between nursing research and EBP. While nursing research refers to conducting research to generate new knowledge, evidence-based nursing practice refers to utilising the best available evidence as the basis of nursing practice. The challenge commonly faced by nurse educators and nursing students towards engaging with EBP is that EBP content is often confused with that of a research process and research outcomes, resulting in teaching nursing research with the false view of preparing nurses for EBP. Nurse educators need to recognise this ambiguity and understand the need to clear this confusion among nursing students.

2.5.3 What are the components of EBP?

Components of EBP should include EBP five steps, level of evidence, knowledge of PICOT are basic and gold standards to EBP. Sackett and Rosenberg (1995) developed the five steps of how EBP can be applied and these are considered iconic and original skills to EBP. These steps include asking the question, accessing information, appraising the evidence, application of the change and evaluation of the

effectiveness and efficiency of the change. These steps are considered the original and iconic EBP skills (Stannard 2019: 1080).

Berman et al (2022:53-54) add two more steps (steps 1 and 7) to the model used to change practice; otherwise, the five steps remain the core of EBP. The seven steps are explained below.

Step 1: This involves cultivating the spirit of inquiry to identify problems.

Step 2: This step is about asking the clinical question and for the sake of consistency and efficiency, the question must be asked using the PICOT format.

> PICOT is the mnemonic word derived from elements of the research question, that is patient or population or problem, intervention, comparison, outcome and (sometimes) time. It is an EBP principle used to break down the problem encountered by the patient into a researchable element (Jensen, 2018:2). The research question needs to identify the patient or population with the problem, the intervention or treatment proposed for use, the comparison of possible interventions, and the anticipated outcome.
>
> P – Represents the question: Who or what is the *patient*, *population* or *problem* identified?
>
> I - Represents the question: What *intervention* (action or treatment) being considered to eliminate the problem?
>
> C - This represents other interventions that should be considered for *comparison* or as a comparator.
>
> O -This represents the expected or desired treatment *outcome*.
>
> T – Stands for *timeframe* needed to reach the desired outcome.

A well-formulated question allows the researcher to properly begin literature search in pursuit of question answering (Stannard 2019:1081). Once the question is formulated, then next searching phase commences, followed by a critical appraisal of evidence, then the evidence is integrated into use, evaluation for effectiveness follows and lastly there is sharing and disseminating of the outcomes.

Step 3: This deals with searching and accessing the best evidence using the key terms identified in the previous step and this is done to locate relevant evidence in the literature.

Step 4: It is where critical the appraisal and summarisation of evidence is done using several toolkits available to guide the validity, clinical significance, and usefulness of the process.

Step 5: Here, appraised research evidence is integrated with clinicians' expertise and client or family preferences and values. There is need to determine how evidence fits the clinical condition of the client, available resources, institutional policies and clients' wishes before its implementation.

Step 6: Practitioners implement and evaluate the effectiveness and efficiency of the outcomes of the four previous steps and prepare for improvement if there is a need.

Step 7: Involves the dissemination of the outcomes to all the relevant stakeholders. Nurses are encouraged to share the results of their work with others, and this can be done locally and formally through publications, posters, or conference presentations (Okoli 2021).

2.5.4 Skills inherent in EBP application

A specific set of skills is needed to apply EBP steps and principles properly. A discussion in an editorial paper which was centred on research utilisation and EBP in nursing identified the following skills as crucial for the application of EBP:

- Deep ***analytic skills*** are needed for the assessment and evaluation of research evidence that will influence specialised and unique patient care.
- Possession of strong ***critical thinking skills*** may assist nursing practitioners to successfully bring together EBP components and to develop and support ideas, and provide reasoning behind certain clinical decisions made. According to Mwiinga-Kalusopa et al (2022:164), critical thinking encourages nurses to critically reflect on daily activities to develop confidence in EBP practice to promote good practice and discard ineffective one.

- ***Problem-solving skill*** has also been identified as helpful in noting and removing the challenges before they create any disturbance during the EBP process.
- In the modern age, ***literacy on information technology*** is also a critical skill that helps with searching for current scientific evidence and valuable information from different online websites.
- ***Critical appraisal skills*** are significant in deciding on the best available evidence that must be incorporated into clinical practice.
- To successfully disseminate scientific ideas, findings and shared decisions made with the relevant stakeholders, the health practitioner must possess good and effective ***communication skills*** (Lehane et al 2019:106).
- Lastly, good ***leadership skills*** are vital in guiding other nurses towards incorporating EBP-related changes and improvements within the nursing practice (Dewi & Mani 2020:1).

2.5.5 Why is EBP important?

For EBP to be successfully implemented, it is crucial for nurses to understand why the concept is important to the future of healthcare and how to use it effectively. Application and incorporation of EBP into nursing practice has been proven to improve the quality of care and patient outcomes (Dang et al 2022). The main goals of EBP are to improve patient outcomes, increase practitioner competence, give health institutions good reputation and reduce costs in all clinical practice settings (McNett 2021:74). The achievement of such goals has the following implications for the patient, staff, and institutions (Alzaatreh et al 2021:1).

2.5.5.1 For the nursing practitioner

Nurses always seek to perform their functions in a better and safer way. Scientific research assists nurses in making informed decisions to support everyday clinical practice, which enhances nurses' professional autonomy that gives a unique identity to nurses and encourages them to define themselves by what they know rather than by nursing tasks. Nurses become more knowledgeable by constantly keeping up to date with current information on medical protocols about patient care. These lead to a

better understanding of practice risks and hazards behind certain treatments and an improved decision-making process (Alzaatreh et al 2021:1; Okoli 2021:19-20).

2.5.5.2 For the nursing practice

EBP is a way of ensuring that practice remains current and has been found to be very effective in closing the gap between theory and practice. Approaches to nursing care are being challenged by holding nurses accountable for their practice (Okoli 2021:19-20) and there is improved knowledge about the benefits of some diagnostic and therapeutic measures, thus reducing healthcare complications through eliminating outdated interventions (Alzaatreh et al 2021:1).

2.5.5.3 For the patient

EBP can lead to changes in policies that have been standardised for decades. New guidelines are developed which, when implemented, result in improved patient outcomes. To improve patient outcomes and safety, nurses should strive to use sound evidence and implement current clinical guidelines that cover all areas of nursing care (Okoli 2021: 19-20). Patients are provided with an opportunity to play a more active role in planning their own healthcare where they can put forward concerns and share their values and preferences, thus enhancing nurse-patient relationship and cooperation (McNett 2021:74).

2.5.5.4 For the healthcare organisation

Healthcare organisations can operate in a cost-effective manner as the use of outdated supplies may no longer be relevant. This boosts the efficiency of patient recovery at a lower cost as the length of stay in a healthcare institution is reduced. Healthcare complications and hospital-acquired infections are minimised, resulting in the reduction of morbidity and mortality rates (Alzaatreh et al 2021:6) and removal of the element of constant litigation.

2.5.6 Sources of evidence used in EBP

Usually, the primary source of information is the colleague, especially the physician, and library and research are appealed to as the last resort. Information can also be generated from the following sources:

- Clinical audit reports and clinical data
- Clinical experts' opinions supported by experiences
- Published research findings and evaluative studies
- Reviews and best-practice clinical guidelines
- Patients' concerns and personal experiences, but these cannot always be trusted.

2.6 INTEGRATION OF EBP INTO THE NURSING EDUCATION CURRICULUM

2.6.1 What is the meaning of EBP integration?

Integration relates to the act or process of uniting or combining different things to form a whole (Paperback Oxford English Dictionary 2012:378). The researchers' understanding is that the idea involves incorporating or adding something new to an already existing thing. In the context of this study, integration relates to the act of aligning teaching and learning of EBP skills with an existing nurse training curriculum and programmes. The threading of EBP content into already existing courses enables nurse professionals to identify and locate evidence which is used to make the relevant clinical decisions that enhance the provision of scientific and quality patient care (Dewi & Mani 2020:1).

2.6.2 Why EBP integration is needed

EBP processes, whether related to developing, disseminating or implementing evidence, should be embedded in everyday clinical care and practice to promote active and consistent engagement with EBP and this could be done in a more structured way and on a continuous basis (Lehane et al 2019:3). Again, Patelarou et al (2020:1) state that EBP is an essential and the best approach to improved patient outcomes and care. However, the question still stands regarding the reason the

nursing practice remains unchanged and why nurses continue to base nursing-care decisions on peers and personal experience. Is it a problem of nurses resisting change? To answer these questions, through literature search, the researcher identified gaps within practice and education regarding the application of EBP.

Previous studies focused more on EBP implementation by nurses in clinical practice, but failure to practise in an evidence-based manner continued due to inadequate training at the basic level. Ewers, Anyinam & Davis (2022:12) are convinced that the promotion of the culture of inquiry needs to happen at a foundational level of nursing education for EBP to be successfully applied in the clinical practice. Other studies conducted on EBP teaching approaches indicated that nurses are not appropriately trained to utilise and apply EBP in their practice. For an example, as mentioned earlier in a study conducted by Melnyk et al (2018:16), registered nurses (RN) and advanced nurse practitioners (ANP) are not competent in any of EBP competencies; hence, the recommendation was to improve academic programmes to ensure that nursing students are adequately skilled in EBP by the time of their graduation.

Other challenges facing newly qualified nurses that require continuous improvements and adjustments in the provision of clinical care, and contributing to poor EBP application, are the ever-changing and complex healthcare environment. To mitigate these challenges, it is paramount that EBP is promoted and adopted for all healthcare professionals; hence, EBP principles should be embedded in nurse training programmes to ensure that future nurses confidently contribute to safe and evidence-based healthcare (Galiano, Larrain & Guiroga 2020:7-8).

Insufficient preparation during basic training has been mentioned as a huge challenge that hinders the adoption of EBP by nurses in their practice. For an example, studies conducted on the implementation of EBP by healthcare professionals identified lack of knowledge and skills as a barrier inhibiting utilisation of EBP (Skela-Savic et al 2020:1; Yoo, Kim JH, Kim JS, Kim HL, & Ki 2019:2). In addition, the poor uptake of existing resources available to guide EBP education has been stated by Lehane et al (2019:4) as a form of a barrier to the application of EBP, hence the urgent need to develop and implement effective professional education programmes to facilitate EBP.

The high demand for the integration of EBP into the nursing curriculum is being experienced worldwide. This demand is increased by the challenges experienced during the implementation of EBP in the clinical setting. Nurses need proper education and training to evaluate research and apply evidence-based changes in clinical practice, hence the importance of introducing EBP into the nursing curricula (Papadopoulou et al 2019:30). Nursing education institutions are obliged to teach nursing students how to embrace EBP early in their clinical practice after graduating (Alzaatreh et al 2021:8).

To close the EBP-related knowledge gap found within the nursing practice and other healthcare professionals, more countries like Australia, Canada, European countries, India, Jordan, New Zealand, Rwanda, Taiwan, the United States of America and Zambia have embarked on the process of developing new courses and reviewing current nursing curricula to include EBP skills (Cardoso, Couto, Bobrowicz-Campos, Santos, Rodrugues, Countinho, Pinto, Ramis & Rodrigues 2021:9; D'Souza2021:262; Hung et al 2019:1; Irandukunda & Mayers 2020:5; Lehane et al 2019:1).

The priority placed on EBP by health policies of developed countries create pressure to underdeveloped and developing countries like South Africa to move towards the same direction to ensure provision of efficient healthcare. The adoption of EBP has occurred within other healthcare professions like medicine, dentistry, social work and physiotherapy (Patelarou et al 2020:21). A focused EBP educational programme can assist to minimise the theory-practice gap, thus increasing EBP-related knowledge, skill, attitudes and behaviours (Cardoso et al 2021:1). To increase nurses' conviction towards the application of EBP, more authors have recommended the inclusion of EBP into the nursing education curricula (Dewi & Mani 2020:1; Manjula, Srivastava & Dorle 2018:4; Papadopoulou et al 2019:1).

EBP educational programmes have been found to improve undergraduate nursing students' EBP knowledge and skills (Cardoso et al 2021:10). Again, integrating EBP into nursing education builds a scientific foundation for the nursing profession in addressing the gaps in research and practice (Mwiinga-Kalusopa et al 2022:165),

reinforcing the expectation for nurses to use evidence in clinical practice in the post-graduation period (Ramis, Chang, Conway, Lim, Munday & Nissen 2019:1).

Once nursing students understand the importance of EBP, they become competent practitioners in EBP principles and fundamental steps. The main activities involved with EBP principles include knowing how to frame a good clinical question, how to find credible evidence, how to critically assess the evidence, and how to make wise and well-informed clinical decisions (Ewers et al 2022:12). These competencies must be achieved on completion of a nurse training programme and will ultimately influence nurses' behaviour in terms of clinical decision-making, the use of current best evidence in professional practice, valuing EBP as an important strategy and being confident to apply such evidence in clinical practice (Lehane et al 2019:4).

2.6.3 What are the benefits for EBP integration?

The knowledge of EBP principles and introduction of EBP concepts to undergraduate nurses allows for the achievement of the following:

- Early exposure and acquisition of EBP competency in a nursing career facilitates the development of positive attitudes toward research and EBP among nurses, which results in active participation in the application of EBP in clinical settings (Iradukunda & Mayers 2020:2). Nursing students become independent and self-directed practitioners. Emphasis on early exposure to EBP prepares and empowers students to effectively and confidently practise these skills and that students are likely to retain the knowledge for a longer period.
- Teaches nursing students the art and science of updating their practice throughout their nursing careers, thus enabling rightful decision-making in nursing practice in the process of providing quality healthcare (Mwiinga-Kalusopa et al 2022:163).
- There is increased awareness for nurses to implement practical and cost-effective methods to improve healthcare outcomes in the nursing practice.
- EBP awareness creates a more focused nurse who is able to reach EBP solutions to improve nursing care and allows for the implementation of

constructive changes in clinical practice according to EBP principles (Pandya 2019:53).

- Students' confidence and positive attitudes toward EBP is increased and these empower nurses to deal with challenges and manage difficulties of evolving healthcare environment.
- Enhances better achievement in terms of students' learning experience and outcomes, thus stimulating nurses' interest in being actively involved in clinical decision-making.

2.6.4 Curriculum content for consideration

To develop EBP core teaching competencies in health professionals, Albarqouni et al (2018:5) conducted a systematic review and a survey that included consultation with EBP experts. This review and survey revealed 68 core competencies which were finally grouped into a set of main EBP domains, namely introductory, ask, acquire, appraise, and interpret, apply, and evaluate (Albarqouin et al 2018:6). These competencies are in line with the five-step model in the Sicily Statement used as a guide to teach EBP and which sets out the requirements and skills needed to practise in an evidence-based manner (Larsen et al 2019:2; Maskey et al 2019:46; Pandya 2019:53).

Health organisations' commitment and supportive education system is needed for healthcare professionals to achieve EBP competencies through the curricula that target these competencies according to the Sicily Statement on EBP, which laid down the basis for teaching EBP skills to nursing professionals (Lehane et al 2019:1). The consensus statement was agreed on by the delegates that attended a 2003 conference on evidence-based healthcare teachers and developers. The Sicily Statement on EBP, which was published in 2005, recommended that EBP is a practice that requires healthcare decisions to be based on the best available, current, valid, and relevant evidence. Decision-making should include patients receiving care and must be informed by knowledgeable healthcare providers within a well-resourced environment. It clarifies what EBP means, describes the skills that must be mastered to implement EBP and determines the minimum requirements for a nurse training

curriculum which must be grounded in the five-step model of EBP (Larsen et al 2019: 2). The statement is continuously reinforced by the nursing faculty in support of the EBP subject content taught (Mwiinga-Kalusopa et al 2022:156).

The teaching of EBP skills is not explicitly and properly laid out in nursing curricula. To enhance the teaching and learning of EBP in nursing education in Europe, Patelarou et al (2020:1) conducted a study that developed an EBP e-Toolkit called Teaching and Learning Open Innovative Toolkit for the European Nursing Curriculum. The tool provided specific guidelines for EBP teaching which helped in increasing the level of competency for nurse educators and nursing students and is available for use by any other nursing education institution. Further benefits offered by this tool include closing the gap in the present nursing education, introducing early acquisition of EBP competencies for the nursing profession and eventually developing a European framework on which to base the teaching and learning of EBP. Another European study concluded that the teaching of EBP was not adequately integrated into the nursing curriculum, thus calling for the need to develop guidelines and strategies that guide the teaching and learning of EBP in nursing education (Skela-Savic et al 2020:2).

Since integrating EBP into nursing education is a new concept, this sometimes poses a challenge for nurse educators as it requires a lot of changes to be effected within the curriculum, for an example, the development of new content for inclusion, reviewing of teaching and learning strategies as well as assessment methods. Taiwan, where attempts to integrate EBP into nurse training have been made, a study was conducted to evaluate the EBP training programme offered to school nurses in that country as health promotion programmes (Hsieh & Chen 2020:1). The nurse training programme content included all the five-steps of EBP which Hung et al (2019:2) consider vital for students to learn and master. The programme was reported as very effective in advancing EBP knowledge and skills to nursing professionals.

Coleman et al (2018:1) conducted a study in Hawai'i to measure the impact of collaborative effort by different stakeholders in providing training on EBP. The content provided within the training course included defining concept EBP, distinguishing

between scientific and non-scientific literature, understanding EBP-related resources, the five steps of EBP, how to manage change and how project presentation is done. The outcome of this project demonstrated a positive impact collaborative effort on clinical functions within Hawaii's State health organisations (Coleman et al 2018:3). The preliminary results of another action research study conducted in Taiwan showed that the suggested curriculum should include learning outcomes, the five steps of EBP and scenario activities developed in the form of assignments and simulation for each level of training as the content for EBP teaching and learning (Hung et al 2019:10).

International experts from four countries; United Kingdom (UK), Canada, Australia and New Zealand considered the merits of integrating EBP into contemporary nursing education and agreed that curricular changes should consider the inclusion of, firstly, the aims and objectives of implementing EBP; secondly the literature review of the main activities in teaching EBP; thirdly approaches to inform nursing students on the best healthcare outputs; and lastly, the involvement of the relevant stakeholders in EBP education (Lehane 2019:1).

2.6.5 What or when is the appropriate time to introduce EBP content?

A lot of variation has been going on worldwide regarding addressing the appropriate level at which EBP content can be introduced. Some studies have found the inclusion of EBP into basic nursing education programmes vital for new recruits in the nursing fraternity (Hsieh & Chen 2020), which is why nursing scholars have proposed that the teaching of EBP should be introduced early in the undergraduate nursing education. Early exposure to EBP concepts benefits students, making them progress smoothly through the programme and they become more willing to apply knowledge while gaining confidence in practice as they move along the course (Mwiinga-Kalusopa et al 2022:163). Ewers et al (2022:12) supported threading the integration of EBP from an early stage throughout the undergraduate nurse training course.

Although the teaching and learning of EBP concepts and principles usually comes a little too late in the training programme, it is suggested that new courses are developed to stimulate students' interest in the application of such knowledge and skills. Changes in the structure of the curriculum are encouraged to allow for early introduction of EBP

principles. For an example, one or two of the five steps of EBP could be taught each year or each level of training, building on each other until the completion of training (Ewers et al 2022:12).

2.7 COMPETENCIES AND ROLE OF NURSE EDUCATORS

Nurse educators need to have good professional competencies and academic education because the future of nursing and the provision of quality nursing education lie squarely in their hands (Salminen, Tuukanen, Glever, Fuster, Kelly, Kiele, Koskinen, Sveindottir, Loyttyniemi, & Leino-Kilpi 2021:5). Nurse educators should be competent enough to apply every skill that needs to be transmitted to nursing students and their main role is to promote nursing students' learning and professionalism (Bono Neri 2019:105). For this study, the concept 'nurse educator' refers to both academic classroom and clinical nurse teacher who provide teaching services to nursing students and the personnel is employed by nursing education institutions (NEIs). The word competency refers to the core abilities that one requires to fulfil their role and these are acquired through studying and experience (Fukada 2018:1).

According to SANC, a nurse educator is a professional nurse with additional qualifications in Nursing Education, registered as such with the SANC and functions as a lecturer, clinical educator, researcher, and nursing manager (Competencies – Nurse Educator 2014:1). Salminen et al (2021:2) describe nurse educators as those who teach nursing academic content in educational institutions and their critical role is to promote students' learning and professional development. The most specific characteristics of nurse educators include being more understanding and knowledgeable and demonstrating expertise of the subject content (Mwiinga-Kalusopa et al 2022:165).

In a systematic review study conducted by Mikkonen, Ojala, Sjogren, Piirainen, Koskinen, Koivula, Sorminen, Saaranen, Salminen, Koskimaki, Routsalainen, Lahteenmaki Wallin, Maki-akola and Kaariainen (2018:85) with the aim of describing the health science teachers' competencies and factors influencing teachers' competencies, the importance of having health professionals who are competent enough to incorporate theory into practice is highlighted. To acquire EBP

competencies, future health professionals must be taught by qualified personnel with the right skills, knowledge of the subject, and a positive attitude towards their work. The level of education for healthcare science educators differs worldwide, with no similar requirements about the minimum qualifications (Mikkonen et al 2018:1). In addition, university education that stresses active involvement in research and appropriate nursing qualification, for example, a master's degree with three years clinical experience is a recommended competency in nursing education (Immonen, Toumikoski, Kaariainen, Oikarinen, Holopainen, Kuivila, Mannisto, Mikkonen, Mattila, Vesterinen, Paatalo, Koivunen, Ylimaki & Mikkonen 2022:10). Nurse educators with a university qualification are more inclined to base their teaching on evidence-based knowledge than other teachers.

Mikkonen et al (2018: 85) further suggested that factors like age, experience, qualification, position, and type of organisation of employment are highly influential in determining health science teachers' competencies. The higher the level of education with an advanced age and a wide array of experiences, the more competent the teacher is likely to be; thus, older teachers were found to be more competent in their pedagogical skills than their younger counterparts. Mikkonen et al (2018: 85) argued that young teachers need to put more effort in practicing teaching skills to expand their experience.

WHO puts much emphasis on the need for nurse educators to be knowledgeable and adequately skilled, exhibiting positive attitudes towards the adoption of innovative approaches to the management of nurse education programmes. WHO developed the Nurse Educator Core Competencies with the aim of assisting nurse educators to provide high quality education and to produce adequately skilled nurses, the type of nurse that can withstand all healthcare-related challenges and the needs of the global population (WHO 2016:5). According to WHO's structure of competencies, what is more relevant in this context is the reconsideration of the knowledge of curriculum implementation, pedagogical competency, knowledge of teaching and learning theories for adult learning, nursing practice, experience in nursing research and gathering of evidence, management, digital technology, communication, adhering to

ethical principles and professionalism, as well as monitoring and evaluation (WHO 2016:10).

The SANC nurse educators' competencies are closely related to WHO's structure of competencies on research and evidence (Competencies – Nurse Educator 2014:6). In this context, nurse educators are expected to completely understand the dynamics of the integration of EBP into nursing education by demonstrating the ability to engage in scholarly activities and using the best available evidence in all academic activities so that students are motivated to accept the fact that knowledge translation is the basis of EBP (Salminen et al 2021:2).

There are seven domain competencies outlined by SANC for nurse educators to fulfil their role and all of them are of paramount in nursing education; whether it is about curriculum development or restructuring, these remain so relevant that nurse educators ought to engage in them. These competencies are:

- Scholarship of teaching and learning
- Academic and student management
- Curriculum development
- Management and leadership
- Personal development as a nurse educator
- Research and knowledge creation
- Professional, ethical, and legal practice (Competencies – Nurse Educator 2014:2-7).

European Union (EU) directives highlighted nursing practice and pedagogic competency as core areas that nurse educators should prioritise. Some of the indicators to these competencies include theoretical and clinical nursing knowledge, skills, and positive attitudes to nursing practice. The pedagogical competency is the process of being able to transmit knowledge, skills and attitudes, and conducting teaching and learning in a positive learning environment and atmosphere. For this study, pedagogical competency requires nurse educators to motivate nursing students to engage with EBP to guide them through the development of self-direction and decision-making skills (Salminen et al 2021:2).

Findings from various studies indicate that nurse educators continue to teach how to do research, instead of teaching how to use research as in the EBP approach to care, leading to graduate students completing their educational experience with negative attitudes towards research (D'Souza et al 2021:262). Nurse educators are known for being good change agents and can potentially influence change in the clinical setting, thus initiate the adoption of EBP through role modelling. More emphasis should be that modelling and facilitation of evidence-based nursing care, should start with the nurse educator during their teaching and learning activities (Skela-Savic et al 2020:6).

Adequate capacity from NEIs and healthcare facilities is crucial to provide support for nurse educators in dealing with the challenges of providing EBP education (Patelarou et al 2020:5). As agents of change, nurse educators have the ability and opportunity to initiate the process of change, through the facilitative and supportive roles. Nurse educators ought to master the teaching of EBP so that it is easily adapted to the nursing curriculum (Skela-Savic et al 2020:6). Pandya (2019:53) found that a curriculum enriched with adaptation of evidence-based practices can equip nurses with the correct skills to focus on EBP. In addition, nurse educators, together with curriculum developers, are encouraged to integrate EBP competencies into nursing education programmes (Albarqouin et al 2018:9; Horntvedt et al 2018:10).

Mwiinga-Kalusopa et al (2022:165) did a study on curriculum review aiming to integrate EBP and critical thinking skills into a Bachelors' programme in the University of Zambia, since the current one did not address these skills, leading to compromised healthcare and safety for patients. In this review, specific attributes that were identified and suggested for nurse educators' competencies include being experts in the questioning process, the ability to understand content clearly, seeking expert advice from stakeholders and getting support with teaching resources for the enhancement of effective adoption of EBP skills.

Nurse educators must demonstrate commitment to EBP principles by providing the relevant resources, creating a supportive environment and having the ability to promote critical thinking amongst nursing students. The critical thinking skill is a crucial skill inherent in the application of EBP and is considered a prerequisite for EBP (Dewi

& Mani 2020:1). Finally, nurse educators must possess all skills relevant for promoting EBP, that is, pedagogical, evaluative, leadership, problem-solving, research, technological, clinical, supervisory, being current, motivating and able to form positive relationships with students (Mikkonen et al 2018:82).

2.8 TEACHING METHODS

The low levels of EBP knowledge and skills amongst undergraduate nursing students is believed to be a result of the existing gap between research-generated evidence, clinical nursing practice and education (Chien 2019:1), including the traditional approach used in research education, which continues to exist within nursing education and research (Cardoso et al 2021:9).

Integrating the teaching and learning of EBP principles into the nurse training curriculum requires effective teaching activities and valuable pedagogical strategies (Fiset et al 2017: 537-539). Intellectual curiosity and the ability to question common practices by nurses are encouraged to improve patients' outcomes and staff productivity. Nurses need to question why certain practices are done in one and the same way for a long time, without any improvement being added to the quality of healthcare. According to Hung et al (2019:10), this line of questioning will make a huge impact on the competency and confidence of nursing students towards the application of EBP; and promotion of this type of enquiry during teaching at undergraduate level should yield positive outcomes in terms of changing nursing students' attitudes towards EBP (Iradukunda & Mayers 2020:2).

WHO recommends that nursing students need to achieve a basic understanding of their role and its purpose in EBP through education and training (Skela-Savic et al 2020:6). The development of EBP competencies for nursing students depends on the teaching and learning strategies adopted by both nurse educators and nursing students. It is important that individual students' learning styles are considered. Learning should be student-centred to allow for active participation (Mwiinga-Kalusopa et al 2022:158). The use of self-learning, question–oriented learning, blended learning and practical exercises are some of the examples of learning styles recommended by

Hsieh and Chen (2020:2). Students' learning styles should match their personalities and behaviours in the community (Mwiinga-Kalusopa et al 2022:158).

The adoption of innovative teaching methods continues to challenge nurse educators. Traditionally, the focus of research-related training for nursing students has been on preparing them to become research producers instead of educating them to be research consumers, resulting in difficulty understanding the relevance of research to clinical practice (Patelarou et al 2020: 5). The need for the modern curricula to shift focus from teaching how to conduct research onto how to translate research evidence to practice (Skela-Savic et al 2020:6) and the provision of healthcare that is based on current scientific evidence should be highlighted to the relevant authorities. To teach EBP skills, Cardoso et al (2021:9) proposed developing and adopting a curriculum that provides opportunities that allow nursing students to practise the application of research-based evidence.

Traditional teaching methods appear to be more teacher–centred than modern ones, resulting in students becoming lazy; thus, these methods are discouraging to students (Lateef & Mhlongo 2019:13). The belief that nursing students prefer class-based note-taking to other methods remains a myth and has made it difficult for nurse educators to shift from traditional ways of teaching to innovative teaching techniques (Lateef & Mhlongo 2019:19).

Improvement in the quality of clinical practice and patient care through application of EBP principles (Coleman et al 2018:3) is a necessity, as it closes the knowledge gap between theory and practice. The degree to which nurse educators promote EBP plays a big role in ensuring that learning becomes a success for nursing students. Emphasis is placed on the adoption of effective and practical teaching and learning methods to realise the goal of EBP teaching, which is the removal of the theory-practice gap (Mwiinga-Kalusopa et al 2022:158). According to Lehane et al (2019:106), international EBP experts suggested the following recommendations to enhance EBP teaching and learning strategies;

- Clinical integration of EBP teaching and learning should be promoted.
- EBP teaching and learning should be embedded in the training programmes

- Teaching and assessment strategies should have contextual focus and should be relevant to the individual learner or professional cohort.
- Scaffolding technique should be applied.

The scaffolding learning process should be considered an appropriate strategy that promotes the learning and application of EBP concepts; this is so because there is increased subject complexity and reinforcement that happens throughout the programme (Lehane et al 2019:106). The scaffolded approach allows the teaching of EBP steps at different levels of training (Iradukunda & Mayers 2020:6). It is an essential instructional approach that is in keeping with recent literature specific to EBP education and the new information or knowledge builds on the previous one (Ewers et al 2022:16). It connects multiple levels of prerequisite knowledge so that nursing students gain more competencies to satisfy future practice needs upon their completion of training. This systematic integration of EBP into the formal curriculum across the period of training for both undergraduate and postgraduate nursing students results in better learning experiences and outcomes (Hung et al 2019:1).

For curriculum consideration, Lehane et al (2019:2) proposed that EBP principles be integrated into all the elements of health profession curricula. Approaches to EBP training can include EBP training course, lectures, seminars journal clubs, practical exercises, self-directed learning on critical appraisal of literature and group counselling provided in both classroom and practical settings (Cardoso 2021:9; Hsieh & Chen 2020). Other methods may include establishment of EBP centres, organising EBP seminars and workshops, creation of webpages and formation of promotional groups to facilitate EBP education and training (Hsieh & Chen 2020:2).

2.8.1 Open Journey Theory

To thread EBP concepts into an existing programme, the Open Journey (OJ) Theory can be one of the best frameworks and strategies in facilitating the process of integrating EBP into the entire nursing programme (Ewers et al 2022:12). The OJ Theory is a teaching-learning theory that resulted from research conducted on spiritual care education. It is considered very helpful when engaging nursing students in experiential learning for many areas with concepts that are difficult to teach,

comprehend and integrate into clinical practice. It forms a framework to guide nurse educators and nursing students in providing quality care for all types of patients (Cone & Giske 2018:24).

The OJ theory resembles the journey taken by nurse educators and nursing students to maximise learning outcomes in nursing education; if borrowed, it can be an effective strategy for the teaching and learning of EBP concepts and principles. The theory is characterised by three phases, which are: preparation, connection, and reflection. Table 2.3 below displays the OJ Theory as adapted to the teaching and learning of EBP.

Table 2.4: Adapted phases of the Open Journey Theory

Phases	**Evidence-based practice (EBP)**
Preparation phase	- Can follow similar actions, for EBP awareness can be created by introducing EBP concepts and principles - Making students understand the importance of EBP
Connection phase	- Relies on the use of different activities to learn and understand what is involved in EBP - Nurse educators can involve students through role modelling of the five steps of EBP in an iterative and interactive way and using scenarios.
Reflection phase	- This is a period of evaluation done to reflect on what was learned, whether that was done well and, if not, what will be the plan to improve EBP learning.

2.8.2 Classroom learning and teaching approaches

The teaching and learning process usually take place in both classroom and clinical settings. These two environments benefit students in different ways. The classroom setting offers nursing students more knowledge and skills, whereas clinical setting exposes them to integrated experiential work and learning, which enhances attitudes and confidence in the application of EBP concepts (Hung et al 2019:2). Regarding teaching in a classroom setting, findings from a study conducted in Taiwan showed that mobile learning technology and flipped classroom were more effective strategies that could be applied by nurse educators to enhance the translation of EBP knowledge and skills to nursing students (Hsieh & Chen 2020:8). The flipped classroom teaching approach provides more opportunities for critical thinking, promotes interactive learning, and assists students to become high achievers (Hsieh & Chen 2020). In a

flipped classroom, students are assigned cases to prepare and present them to other students with the guidance of the teacher. Other classroom teaching approaches, according to Ewers et al (2022), include lectures and classroom discussions facilitated by group collaborations.

A scoping review study on the methods of teaching EBP (Larsen et al 2019) provided an overview of EBP teaching methods and identified the following as the key methods frequently used by health academics: research courses and workshops, collaboration with clinical practice, information technology (IT), journal clubs, embedded librarians, and implications for practice.

2.8.3 Research courses and workshops

The integration of EBP into the teaching of research to undergraduate nursing students, especially those who have recently been exposed to nursing research for the first time, is encouraged. This usually takes place in the classroom setting (Larsen et al 2019:28). According to Maskey et al (2019:52), exposure and opportunities to research activities increases the level of EBP understanding and helps nursing students to easily grasp the relevant concepts to improve EBP knowledge (Dewi & Mani 2020:1). Skela-Savic et al (2020: 6) supports the incorporation of EBP skills into the teaching of research to nursing students as part of the process of adapting the current curriculum which happens while students are actively involved in research activities. Conducting periodic workshops for students has a positive impact on research activities and students' interest in EBP is stimulated (Horntvedt et al 2018:11).

2.8.4 Collaboration with clinical practice

Clinical placement is a very important part of the nursing curriculum during which students get exposed to the real experience of how to apply EBP at individual level (Brooke 2017:2). Strategies such as the use of patient examples, clinical scenarios, EBP role models as champions to lead implementation activities and EBP experts are recommended for use during clinical placements, and it is beneficial in that it improves appraisal skills. Collaboration with clinical practice is one method that is practice-

based and frequently used for the teaching of EBP to undergraduate students in healthcare environment (Ewers et al 2022:16). Although this is a less prioritised method, it is fundamental to the teaching of nursing students as part of clinical nursing education (Larsen et al 2019:29). Infusing teaching and learning with clinical practice provides first-hand experience for students. The experiential service-based learning is a powerful tool in closing the theory-practice gap inhibiting the application of EBP (Shahzad, Younas & Ali 2022: 11).

2.8.5 Clinical integrative and interactive strategies

Integrated approaches enhance practical skills, attitudes and behaviour change amongst the nursing students, assist in linking academic and clinical worlds, facilitate deeper learning for students, which is essential for knowledge translation, and expose students to real situations of utilising EBP to clinical practice (Mwiinga-Kalusopa et al 2022:166). In Taiwan, when EBP teaching was provided independently as a standalone subject, the challenge encountered was the difficulty associated with clinical application, which increased a need to develop a curriculum that teaches how to incorporate EBP concepts into clinical practice rather than teaching what EBP principles are (Hung et al 2019:2). Hence, nurse educators are encouraged to use interactive methods such as role play and group discussions that promote understanding and increase literacy towards students.

2.8.6 Clinical scenario assignment

Assignments, as a learning activity, provide an opportunity for students to focus more on specific skills like analytic and critical appraisal skills of EBP principles (Horntvedt et al 2018:7). Furthermore, Hung et al (2019:9) suggest that students should be allowed to practise EBP in a scenario assignment form during clinical practice. Working on the assignment during clinical practice opens chances for students to experience learning in real situations where guidance is provided continuously by clinical academics. When students experience the impact of EBP in the clinical area, their attitudes towards EBP tend to be positive with increased interest.

2.8.7 Case-based pedagogic strategy

A case-based pedagogic strategy can be used to conduct an EBP course. This approach allows for integrative, reflective thinking and promotes a dialogue about the cases under discussions. For an example, according to Ewers et al (2022:14), a few cases can be discussed each week using the blackboard as a learning management system. The blackboard learning system is encouraged as an innovative strategy that uses virtual means of teaching and learning that are centred on students' achievement. In addition to the blackboard system, PowerPoint presentation can be very effective if there are important concepts to be highlighted (Ewers et al 2022:14).

2.8.8 Library instruction

Librarians are experts in the field of information literacy and can assist with the teaching of searching, reviewing and critically analysing information. Library sessions are used to access literature and form an integral part of continued professional development and awareness of information literacy throughout the participants' nursing career (Ewers et al 2022:16). The integration of library instruction into the curriculum affords the librarian an opportunity to assist the participants to locate EBP literature resources, support EBP projects, use information literacy to find and evaluate relevant data, and assist with understanding the difference between research and non-research literature (Coleman et al 2018:4). Embedding librarians as part of EBP teaching to nursing students is regarded as an effective way of promoting EBP principles (Larsen et al 2019:29).

2.8.9 Information literacy or information technology

According to the Duke University Medical Centre Library, information literacy represents the ability to access, appraise, and apply best research evidence (Coleman et al 2018:4). IT can be used as a method of teaching EBP in both classroom and clinical settings. Larsen et al (2019:29) identified IT as the key method to the enhancement of information literacy and allows access to websites and video resources using mobile devices such as cell phones to search for information on EBP. Contemporary students have access to IT equipment which provides easy access to different websites, articles and various research sites. These devices can be used to practice exercises on EBP steps (Ewers et al 2022:10).

2.8.10 Journal clubs

Journal clubs constitute one of the most effective EBP teaching methods. Nursing students should be encouraged to subscribe to published journals and/or join local institutional journal clubs for information sharing. Being part of these journal clubs improves skills on locating, critically appraising and reading the relevant articles, thus enhancing the development of evidence-based healthcare competencies (Larsen et al 2019:29). The use of journal clubs to promote and teach EBP in clinical settings is encouraged.

2.8.11 Simulation-based teaching and learning

Simulation-based teaching may offer a solution to the teaching and application of EBP. This is a commonly used teaching method in undergraduate and postgraduates nursing education, as it uses problem scenarios that are rarely found in clinical practice. It encourages critical thinking, self-confidence, knowledge, skills, and abilities among nursing students (Niu, Ma, Zhang, Zhu, Deng & Luo 2022:6). The students learn to practise clinical skills without the fear of causing harm to real patients and it is practised in a safe environment where the facilitator can immediately provide feedback (Iradukunda & Mayers 2020:2). A simulated clinical patient scenario allows nursing students more opportunities to efficiently practise EBP skills (Hung et al 2019:9).

2.8.12 Stand-alone course

In some European countries, EBP is taught as a stand-alone subject or as a course integrated into other subjects (Skela-Savic 2020:7). A shift from teaching EBP as a stand-alone unit towards clinically integrative and interactive teaching is highly recommended (Lehane et al 2019:106; Mwiinga-Kalusopa et al 2022:166). Stand-alone EBP courses have been effective in improving the knowledge, skills, attitudes, competencies, and future use of EBP amongst nursing students, which increased EBP competencies among undergraduate nursing students (Skela-Savic et al 2020:6). However, the stand-alone-unit teaching approach has been found to be less effective in promoting nurses' behavioural and attitudinal change towards EBP application,

hence the integrative and interactive teaching approach is preferred to other approaches (Lehane et al 2019:106).

Finally, most studies indicated that blended teaching and learning approaches should be promoted, as they are rendered effective in embedding EBP in nursing education (Patelarou et al 2020:18).

2.9 CHALLENGES ASSOCIATED WITH THE INTEGRATION OF EBP

Nursing education programmes face a challenge of the curriculum that is devoid of EBP teaching, learning and clinical application. Many studies argue for stressing the importance of involving students with the application of EBP as it allows for the promotion and adoption of EBP in clinical practice; however, some nursing academic programmes have not developed a curriculum that explicitly teaches EBP principles (Hung, et al 2019:1; Skela-Savic et al 2020:1). Any effort made towards the integration of EBP is met with ambiguity regarding the actual content to be taught, teaching strategies to be used, learning outcomes, when to introduce EBP principles and the process of integrating them into professional courses, hence some academic institutions have failed to fully integrate EBP concepts or the integration has only been done to certain aspects of the curricula.

Factors that may sometimes hinder the implementation of changes in the nursing education system are identified by Salminen (2021:2) as related to legislation, organisational culture, healthcare demands, teaching and learning philosophies, curriculum structures and economic situations. Lehane et al (2019:4) and Patelarou et al (2020:2) also added lack of clear government policy and guidelines on EBP teaching as a barrier to the implementation of the EBP agenda, including the absence of a curricular framework. Although these factors may differ from country to country; stakeholder engagement in EBP education requires that policy makers, curriculum developers, patients and health professionals make a significant contribution towards advancement in the teaching and application of EBP in clinical care (Lehane et al 2019:3).

Other challenges encountered with the teaching of EBP principles are clinical staff shortage needed for student support in the clinical setting (Mwiinga-Kalusopa et al 2022:165). The lack of academic and clinical staff knowledgeable in teaching of EBP due to insufficient training has resulted in the curriculum being poorly aligned with the process of applying EBP principles (Skela-Savic et al 2020:1). To ameliorate these challenges, the recruitment of more confident clinical staff and skill reorientation for the available staff to grow positive attitudes towards EBP and involving them in the clinical application of EBP concepts is recommended (Mwiinga-Kalusopa et al 2022:165).

Being in possession of a higher-level education and holding an administrative position in a full-time job is believed to contribute positively to the application of EBP. To enhance nurses' confidence, proper education and training in EBP skills is needed for all nurses, hence the need to integrate EBP into learning, teaching, and practice (Papadopoulou et al 2019:30). The recruitment of more knowledgeable staff to deal with staff shortages and employment of qualified nursing research consultants to provide in-service training and support to available staff should be encouraged (Dewi & Mani 2020:1).

Insufficient EBP skills, lack of the necessary support systems, together with poor information literacy skills, and resources are also regarded as key challenges by Horntvedt et al (2018:9). Lack of organisational support limits access to financial resources needed to fund the procurement of information technology (IT) materials such as computers. Non-payment of subscription to journals, non-attendance of conference and poor internet connectivity can negatively affect nurse educators' ability to access evidence. Non-availability of training resources and poor infrastructure hinder the support that should be offered to the integration of the EBP into the nurse education curriculum and interruptions to internet connection have often created disruptions, resulting in delays and an increase in the time needed to complete planned internet search sessions (Lehane et al 2019:4).

Introduction of new content and changes to the existing curriculum require time and more commitment for curricular updates, developing new content, deciding on the

teaching strategies and evaluation methods. Limited awareness about innovative teaching strategies from faculty, large workload, insufficient time and resources to study new strategies are identified as the commonest hindrances (Ewers et al 2022:14). Change is not always accepted by all and can bring a lot of controversies; hence, there should be a paradigm shift towards a positive attitude for nurse educators responsible for curriculum reviews (Patelarou et al 2020:21).

Integrating EBP into the nursing curriculum is not always a smooth process for nursing students, as they may experience anxiety due to the perception that the EBP course is additional work that needs more time to complete and this is compounded by the threat of writing more tests. This experience interferes with students' level of comprehension of the content and encourages students to learn for the sake of passing the test and not to increase knowledge about the content (Ewers et al 2022:15). Students always viewed anything related to research as a distraction from the primary purpose of learning about nursing practice (Fiset et al 2017:536-537).

In clinical practice, some healthcare professionals believe that EBP is prescriptive and rigid, thus limiting professional autonomy. Nursing students end up developing negative attitudes and lacking in knowledge and skills due to unsupportive environments and resistance to the utilisation of research evidence from clinical staff and managers. In addition, lack of time and poor access to research reports has resulted in the development of negative attitudes, thus aggravating the problem of lack of knowledge and skills about EBP (Fiset et al 2017:536-537) and supported by Lehane et al (2019:4).

Other challenges experienced by students during learning are caused by lack of understanding information literacy, difficulty in locating and translation of research which created students' dependency on librarians and their lecturers for help (Horntvedt et al 2018:11). It was also reported that large class sizes and lecture style settings did not support student engagement in discussions and interactions with lecturers, resulting in less student involvement (Ewers et al 2022:15).

All these factors contribute to delays in the adoption of EBP by nursing personnel and raise students' disengagement with research and EBP learning. However, according

to Fiset et al (2017:536-537), having interest in a particular research area, getting involved in scientific activities, and getting adequate support from managers and other health professionals enhance nurses' confidence and motivation in EBP. Nursing students should be able to access high quality research evidence and EBP teaching should adhere to an easy-to-understand method.

2.10 ENHANCING EBP TEACHING COMPETENCIES IN THE FUTURE

Enhancing EBP teaching and learning requires improvements in an existing curriculum. Dewi and Mani (2020:1) suggest a review of training programmes regarding curriculum design, development of an implementation model, and engagement of clinical practice to successfully integrate EBP. Good and effective leadership can effectively foster curriculum development and facilitate the implementation thereof (Hung et al., 2019:9; Patelarou et al 2020:21). The following factors have been identified as contributing to the enhancement of EBP teaching competencies for nursing education.

2.10.1 Paradigm shift

There is a need for a shift in the culture of nursing education organisations and nurse educators' mindset in terms of believing and promoting the benefits of EBP (Patelarou et al 2020:21). This paradigm shift will foster positive attitudes, increase nurse educators' competency and confidence towards incorporating EBP concepts and inclusion of evidence in nurse training programmes. The main concern for nurse educators is how to stimulate the development of EBP skills in nursing students to enable translation of research evidence into action. Strong leadership can influence a paradigm shift in organisational culture, which is necessary to the development of effective EBP training programme in nursing education (Patelarou et al 2020:21).

2.10.2 Organisational support

Incorporation of EBP into the culture of an organisation may be a long process that requires more specialised resources. Educators' influential role in the development of new programmes and educational institutions appreciate the need for more resources to support EBP teaching (Hung et al 2019:9). Policy makers play an important role in

ensuring that relevant support is provided to nurse educators by developing policy guidelines that promote successful application of EBP knowledge and skills (Iradukunda & Mayers 2020:2). Policy direction should be provided at the government level for the inclusion of EBP as an integral part of a school's philosophy across professional health education, setting out relevant education and training standards (Lehane et al 2019:106). Policies should provide guidelines towards continued professional education in the concept of EBP, select EBP champions with the organisation, and ensure sustainability of EBP programmes (Coleman et al 2018:7).

Government interventions at national level should clearly state the policy directives regarding EBP education and explain its relevance across health profession courses and the need for financial support to health education institutions as the basis for the successful integration of EBP into nursing education (Lehane et al 2019:106). Funding is needed to support, for an example, the training of the faculty, the purchasing of IT material, the payment of internet connections, the buying of library books and paying for subscription to journals

Nursing education institutions (NEIs) should set standards to measure against and to achieve the government's vision on the integration of EBP. It is important that policies, procedures, and practice guidelines are evidence-based. Provision of support from higher authority to nurse educators, education institutions, health services and clinicians is vital in building on the capacity and competencies to meet challenges encountered with EBP teaching and learning (Lehane et al 2019:107).

2.10.3 Develop a curricular strategic plan

Organising curriculum, programme structure, and identification of the main challenges to optimal EBP education is recommended as the means of effecting positive change and making EBP programme as an integral part of all nurse training curricula (Coleman 2018:3). A curricular strategic plan should take place at the national level to align the teaching of EBP competencies in a curriculum. The integration process should clearly map out curricular framework and associated benefits for all NEIs at both graduate and undergraduate levels (Ewers et al 2022:12). The curricular framework should clearly provide a layout with the following elements;

- General principles and practices for nursing education clearly stating the minimum professional qualifications for nurse educators needed to teach EBP principles (Salminen et al 2021:2)
- Description of the content to be taught, including teaching and learning approaches that promote integration and the format of how EBP content should be integrated, for an example, as a stand-alone module or an explicit part of another module
- Introduction level for EBP principles to be integrated into nursing education and practice preferably in the first year of the programme and scaffold EBP teaching in subsequent years as suggested by different EBP experts.
- Learning outcomes related to EBP should be clearly stated in the module guides.
- Promotion of EBP teaching in the clinical modules for bedside EBP learning.
- Development of assessment methods and feedback mechanisms following EBP teaching programme to evaluate effectiveness.
- Case reports, seminars, and EBP champion building activities should be added in nursing education curriculum to accommodate teaching of EBP skills and sharing of research outcomes (Ewers et al 2022:12). Poster presentation is encouraged during conference meetings to create awareness about EBP principles (Lehane et al 2019: 107).
- Set out periodic curriculum reviews and evaluations on a regular basis (Ewers et al 2022:12; Schoones et al 2017:15).

Curriculum development is not a one man's task, but a cooperative function that requires engaging other members of the profession. To reach a consensus among nurse educators on the EBP core competencies, programme committees and groups are convened to perform curriculum design activities (Hung et al., 2019:9). These activities involve grand rounds, audits and research meetings designed to identify practice gaps for improvement where to embed EBP within nursing care and education (Lehane et al 2019:107).

European countries have suggested the use of EBP experts to develop a competency framework meant to guide nurse educators, managers and EBP stakeholders in the

development of content and teaching strategies that incorporate EBP knowledge, skills and attitudes into nursing programmes (Skela-Savic et al 2020:7).

2.10.4 Provide EBP training programmes for nurse educators

To advance teaching skills and knowledge, the training of trainers is encouraged through the development of and investment in national reasonable ways of integrating EBP education and strategic integration of EBP learning into workplace settings. The translation of EBP knowledge to the nursing student depends mainly on how nurse educators were trained. Previously, EBP principles were never taught during nurse educators' basic training; and so, to close this gap training programmes should be developed for purposes of capacity building (D'Souza et al 2021:262). Nurse educators need a sound educational foundation in EBP for them to be able to incorporate EBP concepts into current programmes; hence, formal training should be provided for nurse educators (Lehane et al 2019:106). The nurse educators' influential role and their ability to review the validity of current practices and to bring possible alternatives in the curriculum create more opportunities for the integration of EBP into teaching and learning programmes.

Although some of the nurse educators have been previously exposed to EBP training, others still express the need for acquiring advanced teaching skills and knowledge. There is also need for nurse educators to show self-direction and a desire to develop and grow a personal teaching philosophy, improve academic qualifications to influence and enhance EBP teaching (Hung et al 2019:9). However, the question asked is: What kind of support is needed by nurse educators to successfully teach EBP? To answer this question, Hung et al (2019:9), in agreement with Lehane et al (2019:105-106), proposed the following strategies for nurse educators to enhance EBP teaching competencies within the classroom and clinical practice: workshops, group activities, short courses, peer mentoring, the use of online resources and involvement in research projects.

2.10.4.1 Workshops

Support for nurse educators to advance the EBP agenda is necessary and this should be in the form of training. EBP training programmes have been found to be effective in improving the knowledge, attitude, practice and competency of nurse educators. Training interventions include different teaching and learning strategies that positively impact programme outcomes (D'Souza et al 2021:268). Organising workshops for nurse educators on curriculum development and teaching of EBP in the classroom and at the bedside is encouraged.

Workshops help to provide reorientation and retraining on EBP principles for those who had previously been exposed to training so that curricular changes are sustained (Hung 2019:9). It is important that nurse educators remain current and up to date with research–based knowledge so that current information is translated to students. Once nurse educators are fully aware of the meaning and importance of EBP in nursing education, they can firmly incorporate EBP into the teaching and learning process (Coleman et al 2018:3).

2.10.4.2 Peer mentoring

Access to EBP mentors to share knowledge about EBP teachings is suggested by Hung et al. (2019:9). The development of mentorship courses should be organised and are best provided by EBP experts and should include information on role modelling and socialising nursing students to understand and apply EBP skills (Immonen et al 2022:6). Health professionals should have reasonable access to EBP mentors, become part of local and international journal clubs, participate in grand rounds taking place in the clinical settings, and regularly attend clinical audits and research meetings. These activities are vital in embedding EBP with the health care and education environment (Lehane et al 2019:107). Mentoring in designing and implementing an EBP embedded curriculum should be provided in the form of continuous professional development (CPD) to ensure that EBP principles and concepts are infused into academics on an ongoing basis (Lott, Hughes & Johnson 2020:11).

2.10.4.3 Short courses

Nurse educators cannot be expected to teach what is not known to them; hence, need to empower and equip them with relevant knowledge and skills to teach EBP principles. Hung et al (2019:9) noted that following an EBP training programme, educators still felt the need for advanced EBP teaching skills and knowledge, hence the need to enhance nurse educators' EBP teaching competencies. Professional development courses in EBP and research enquiry assist nurse educators to critically examine evidence directly related to current clinical issues.

Continuous professional development (CPD) courses need to include learning about EBP principles. Increased understanding of EBP allows for a smooth process of confidently incorporating EBP into nursing education. EBP education should be viewed as an integral part of CPD for nurse educators. Lifelong learning is encouraged as it is fundamental to the future of nursing education, thus enabling nurse educators to withstand the complex changes occurring within the nursing education system (Mikkonen et al 2018:85). Educational session which takes on the form of research and EBP projects provides opportunities to practice application of EBP (Fiset et al 2017:534).

2.10.5 Create academic-practice partnerships

Clinical settings serve as means to the successful achievement of EBP integration. Nurse educators need to ensure that they work in partnership and maintain relationships with practice areas. The inclusion of EBP activities during the actual clinical practice increases the chances of nurses to participate in the application of EBP (Lehane et al 2019:106). Collaboration and engagement of other clinical professionals in open discussions about EBP stimulate more interest and strengthens processes in the nursing education system. To improve on effective application of EBP, it is suggested that clinical professionals can teach EBP application better than nurse educators and librarians in terms of teaching the use of electronic database (Hung et al 2019:4). Support from healthcare service and other clinicians assist in enhancing capacity building and competency needed to meet the challenges associated with providing such education (Lehane et al 2019:107).

2.10.6 Provide adequate funding and resources

EBP training for nurse educators may be costly; nevertheless, it remains necessary that an adequate budget be availed from the national office of nursing education to purchase and pay for relevant resources (Skela-Savic 2020:2). Financing national health facilities enables the development of EBP guidelines at national level and allows for the procurement of IT material (Lehane et al 2019:106). Online resources such as computers and internet access available to NEIs and at point of care allow for easy access to scientific evidence in the form of guidelines, protocols, and peer-reviewed research reports.

2.10.6.1 Information literacy and technology

Nurse educators were found to be unfamiliar with technical terms used in evaluating research articles, such as odds ratio, relative risk and confidence interval; hence, information literacy competency should be promoted (Coleman 2018:4). Educational programmes on IT are highly recommended to empower nurse educators with IT skills to access online resources and databases for acquiring up-to-date knowledge. Although nurses in practice still use peers or general search engines as the preferred source of evidence, which is sometimes not completely reliable, establishing competency in information literacy remains important (Marqukbar, Roman, Fraile-Bermudez & Estalella 2022:93). Knowledge in IT provides a better platform in terms of locating research evidence and to facilitate literature search (Coleman 2018:4).

2.10.6.2 Optimisation of library services

Library is another important resource that is integral to CPD building on information literacy throughout the nursing career. Collaborating with librarians to teach EBP principles contributes positively to an improved understanding of the EBP concepts (Hung et al 2019:9). A librarian can provide support and guidance towards the development of searching and critiquing skills to decide on the best available evidence (Friesen-Storms, Beurskens & Bours 2017:407).

The involvement of the librarian is encouraged to assist with information discovery throughout the training project presented by faculty members, providing support with the setting up of computer links to local library databases, assisting with systematic reviews and summary of findings and ensuring circulation of valid and reliable research literature within clinical settings and NEISs (Mwiinga-Kalusopa et al 2022:165). Coleman et al (2018:1-8) concluded that programmes implemented in collaboration with the library produced a high level of benefits such as cost effectiveness, improvement in the quality of health care and saved time for nurses from library search and concentrating more on providing the much-needed quality nursing care.

2.10.6.3 Information resources.

Nurse educators are encouraged to access online libraries, such as the Cochrane Library and other journals. The Cochrane Library is a collection of databases that contain different types of high-quality independent evidence to inform policy makers, healthcare services and the public towards informed healthcare decision-making. Access to the Cochrane Library is free for South African citizens as it is funded through the South African Medical Research Council (SAMRC). However, internet connection is required to access these online libraries, which is costly and subscription to other journals is sometimes not free; thus, more funds may be necessary to sustain membership (https://southafrica.cochrane.org).

In the classroom settings, literature on EBP is provided from regular common sources such as journals, articles and books; hence, more funding is needed to purchase all these materials. Nurse educators should be encouraged to subscribe to journals and join journal clubs to remain informed about current research evidence. Journal clubs serve the purpose of reviewing specific research and to discuss the implication of clinical practice and to make collective effort to keep updated with current scientific literature (Ilic, de Voogt & Oldroyd 2020:46).

2.11 EXISTING GAPS

Most studies dealt with literature related to perceptions, attitudes, skills, knowledge and beliefs of nurse educators about the implementation of EBP. The researcher had difficulty locating literature that relate to nurse educators' experiences about the integration of EBP into the teaching and learning process. This lack of information was supported by Schoonees et al (2017:1-18) in a study conducted in a sub-Saharan academic institution to evaluate evidence-based healthcare (EBHC) teaching and learning in the allied healthcare 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 practicing EBHC (Schoonees et al 2017:13-14).

Although EBP is considered an important competency and standard of practice by nurse regulators and nurse educators, nursing curricula across the world still lack proper strategies for the teaching and learning of EBP competencies (Ewers et al 2022:9). According to Canadian Registered Nurses' Association of Ontario (RNAO), the use of nursing best practice guidelines (BPG) to implement EBP is encouraged and, currently, nursing practice around the world is increasingly guided by best-practice clinical guidelines. These guidelines are the way to go by if the nursing practice must provide safe and quality healthcare, and these are developed using EBP five steps. More time is needed to follow the EBP's five steps every time there is a problem to be solved, though a group of personnel should be responsible for these tasks. However, the success of EBP application depends on the level of knowledge and skills about EBP (Ewers et al 2022:9).

It is of vital that an evidence-based approach to nursing care be adopted and included into clinical nursing practice settings. Unfortunately, the gap between research, theory and practice remains present and this poses a challenge for registered nurses to apply EBP in clinical practice settings. In addition to nurses' failure to understand, conduct, appraise and consume research findings, there is insufficient training at the undergraduate level, which is compounded by lack of knowledge and the skills to apply EBP principles (Alzaatreh et al 2021:3; Skela Savic et al 2020:1). Many registered nurses from clinical practice lack an understanding of what EBP is and how to use this approach in their daily practice. Another challenge is the current nursing culture where nurses have no will to question why a common practice is considered the best

practice. According to WHO (2016), nurse educators' mandate as change agents for EBP is to mentor evidence-based nursing through appropriate learning activities.

The application of EBP-related decision-making in the healthcare and practice is not only important for the clinical settings, but it forms part of the standards expected by regulatory agencies, health insurers and healthcare users. However, in the study conducted to determine nurse educators' competencies, Salminen et al (2021:3) mention that the participants' competence was low in teaching students decision-making skills together with the promotion of integrating theory and practice. The new innovative teaching approaches should be considered together with an EBP strategy that could enhance decision-making skills when properly effected (Selminen et al 2021:5).

Nursing professionals from developed countries are increasingly adopting EBP in practice, while some nurses from developing states like South Africa are yet to heed the call for the adoption of EBP. An additional challenge has been failure to effectively implement EBP and to provide an enabling context to achieve significant outcomes (Pickler 2019:1); suggesting that arming the staff with knowledge, skills and investing in infrastructure with appropriate resources is the best approach to follow (Dang et al 2022:29) in order to build competency for use and for the application of EBP by nursing professionals. EBP continues to advance and evolve along with the nursing discipline but the gap between research-generated evidence, clinical nursing practice and education remains a challenge; however, literature indicates that addressing EBP competencies in the nursing curricula is inadequate, which further compromises the provision of safe care and patient outcomes (Mwiinga-Kalusopa et al 2022:163).

However, there is a perception that EBP education and training tends to improve nurses' EBP knowledge and skills, thereby enhancing clinical implementation and application (Hsieh & Chen 2020). In agreement, Iradukunda and Mayers (2020:1) concluded that to promote effective application of EBP, the nursing curriculum should incorporate EBP as its theoretical and practical components. Lehane et al (2019:2) added that integrating EBP into nursing education is fundamental to the delivery of quality healthcare and for meeting the health needs of modern society; thus,

recommending incorporating the concepts of EBP into the nursing curriculum, globally (D'Souza et al 2021:269).

A mandate from the national competency standards for most undergraduate and postgraduate programmes requires the use of research and EBP to promote quality outcomes in patient care (SANC 2005). Nursing professionals have the responsibility to comply with these standards and to practice accordingly to make sound healthcare decisions. In addition to the accreditation process within professional standards and requirements, Mwiinga-Kalusopa et al (2022:163-164) believes that the integration of EBP should be regarded as a core competency.

The application of the best nursing practice guidelines, adoption of technological advances and implementation of relevant researched scientific evidence are all important for the nursing discipline to move forward as a well-informed discipline for both the undergraduate and post-graduate curricula (Maskey et al 2017:11). In view of these reports, the future of nurses requires the EBP competency and skills to guide them through the decision-making process (Mwiinga-Kalusopa et al 2022:163). Effective incorporation of the necessary EBP knowledge, skills and attitudes into the healthcare profession's educational programme remains a vital component. However, dearth of literature supporting integration of EBP in teaching and learning has left countries like South Africa lagging behind. Therefore, establishing EBP training programmes within nursing education is urgent; hence, the need to design a programme suitable for nurse educators to enhance the transmission of EBP knowledge and skills to nursing students (Hsieh & Chen 2020: 8) at KZNCN.

2.12 CONCLUSION

This extensive narrative literature review has provided a comprehensive overview of what is already known about the teaching and learning of EBP concepts and the qualitative research methodology. This study focused on the literature related to the description of EBP, the integration of EBP into teaching and learning frameworks, nurse educators' competencies and practice, challenges, promotion of the integration of EBP into the curriculum, teaching and learning strategies, gaps for nursing education, and enhancing EBP teaching for the future in nursing education. Several

and relevant studies were reviewed, analysed and synthesised. Most of the literature came from international studies, with South Africa comparatively contributing limited studies on the topic.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter three gives a detailed insight of the research methodology followed in conducting this study. The paradigmatic perspective of the study, the chosen qualitative research methods, approach and design used to conduct the study are provided in this chapter. It explains how fieldwork was accessed, including research sites and research setting as located on the map. This chapter also covers topics such as sampling strategies used to select participants, including data collection and analysis processes. Data were collected using in-depth unstructured individual interviews lead through the grand tour questioning and naturalistic participant observation with the researcher and interview guide as data collection instruments. Colaizzis' data analytic approach guided the data analysis process. Reasons supporting the researcher's choice of the methods, advantages and characteristics of these methods and data collection procedures are discussed in this chapter. A description of how the researcher ensured reflexivity during the interview process and how the trustworthiness of the study was maintained is also provided. Ethical issues considered during the research project are discussed in this chapter, together with the limitations to the study.

3.2 PARADIGMATIC PERSPECTIVE STUDY

Researchers commonly base their choice of the research approach on paradigms and philosophical assumptions that help them get answers to the research questions. However, how one qualitative research study is conducted tends to differ from the way other qualitative studies are conducted, depending on the type of problem and research objectives (Gray 2018:192). A paradigm is a philosophical stance taken by the researcher to form a basis of beliefs that guide the research activities and have influence over the processes and procedures followed while undertaking a study (Creswell & Poth 2018:325). Paradigms are sometimes considered conceptual and/or

methodological models relating to a specific discipline such as social and health disciplines during a particular period.

3.2.1 Naturalistic paradigm

The naturalistic (constructivism) paradigm is an appropriate approach for studying topics that relate to social and health disciplines, looking at how people engage in the process of constructing and reconstructing meanings through people's daily interactions (Leavy 2017: 129; Polit & Beck 2021:10-11). Constructivist perspective guided the gathering and analysis of data on the phenomenon encapsulated in nurse educators' experiences, understanding and perceptions about the integration of EBP into teaching and learning programmes. Constructivists believe in multiple interpretations of reality, where the aim of a research study is to understand how individuals construct reality within their context (Polit & Beck 2022:380). It was also characterised by data collection processes which took place in the participants' natural work environment. For this study, interviews were conducted either in the participants' offices or campus boardroom, environments which were considered their natural setting. Through the naturalistic (constructivist) paradigm, the researcher gained deeper understanding of the nurse educators' patterns of descriptions, with meanings being assigned to the relevant experiences and situations. The researcher depended on nurse educators' subjective shared information in the construction of meanings and interpretations of answers to the research question.

Furthermore, the researcher prioritised participants' subjective understanding and meanings of the research problem under investigation. Nurse educators' experiences about the integration of EBP into teaching and learning were discussed with the researcher through individual face-to-face interviews. The findings of the study were a result of the interaction between the researcher and the participants (Polit & Beck 2022:8) leading to the build of the proposed strategy to enhance the integration of EBP into the nurse training curriculum.

3.2.2 Philosophical concepts

Maree (2020:58) further describes a paradigm as a set of assumptions or beliefs about the fundamental aspects of reality which give rise to a particular worldview. An assumption is a condition that can be undermined but has the power to influence the worthiness of a project (Leedy & Ormrod 2021:26) and is accepted as true for the researcher. Assumptions may result from a researcher's past experiences. They are formed through past research findings or from certain kinds of data collected and reviewed during other research projects conducted by the same researcher. However, assumptions do not remain the same, but do change all the time (Creswell & Poth 2018:19). It is important to note that the impact of a research philosophy on the choice of research methods is important (Creswell & Poth 2018; Polit & Beck 2021:796). The researcher looked at the three key philosophical concepts, which are, epistemological, ontological, methodological and axiology beliefs. All these were considered in identifying the appropriate design for this research study.

3.2.2.1 Epistemological belief

Epistemology is about how can we find or get to know the truth about a phenomenon and it is defined as a branch of philosophy that deals with the study of knowledge and beliefs (Maree 2020:56). Beliefs, in this context, are related to how researchers look at the nature, origin, and limits of knowledge and knowing. Epistemology can be understood as the researcher's perspective of how knowledge about the phenomenon under study can be obtained. It seeks an understanding of the subjective experiences of social beings together with the meanings attached to these experiences. The epistemological stance supports the belief that knowledge is constructed through human interpretation and social interactions. It emphasises the subjective and interpretive nature of human experience; hence, the constructivist paradigm should guide the study.

Creswell and Creswell (2018:21) also state that in epistemological assumption, researchers try to get as close as possible to the participants being studied by extending their stay in the research site. Then, it becomes important to conduct a study

in the field where participants live and work to gain first-hand information about their experiences. It is believed that epistemology provides a high level of confidence in the data collected for a research project, directs researchers' approach in identifying and finding answers to the research question, confers knowledge legitimacy and adequacy (Grey 2018:21), guides the researcher to select the appropriate research designs that will work on the basis of a set objectives and assist researchers to make decisions on the kind of evidence to be collected, from where and how it is going to be analysed.

The researcher believes that engaging with nurse educators for an extended period could be valuable and helpful in acquiring deep and rich information on the phenomenon; hence, the use of qualitative methods to explore and describe nurse educators' experiences with integration of EBP into teaching and learning was the most appropriate choice. Since this study is based on Husserl's philosophy (1962), descriptive phenomenology was the design of choice for this nursing research that explores and describes nurse educators' lived experiences and enabled the researcher to understand and find meaning to nurse educators' experiences relating to the integration of EBP skills into teaching and learning (Qutoshi 2018:1- 6). Hence, Polit and Beck (2021:49) describe phenomenology as a way of knowing where the questions such as: "How do we know what we know?" or "What is the essence of the phenomenon?" as experienced by people and its meaning to them are asked.

3.2.2.2 Ontological belief

Ontology is all about what truth is and it is defined as the study of the nature of reality, how reality is viewed or the study of being (Maree 2020:56). Ontology relates to asking whether the research topic is realistic and feasible to be studied. Explanations and descriptions of the topic should have multiple subjectivity and be consciously constructed. It is about what reality is to the researcher's world and what the nature of human engagement in the world is. It seeks to understand assumptions made by the researcher to accept something as truth. Ontological assumptions direct the researcher's thoughts about the topic, highlighting its relevance and the possible strategies to be used in finding answers to the research questions.

The researchers' ontological stance leaned more on the constructivist views where the researcher acknowledged that each participant can provide different individualised realities about the phenomenon being studied. The resultant themes emerged from the evidence received from individual participants presenting their own perspectives using the actual spoken words (Creswell & Poth 2018:20). The researcher purposely engaged with several nurse educators to share their different experiences regarding the integration of EBP into teaching and learning so that descriptive themes could be formulated from multiple realities and reported on in their actual words. The reality of these experiences was consciously shared through individual in-depth interviews where a grand tour question directed the conversation.

3.2.2.3 Methodological belief

According to Liamputtong (2020:4), methodology refers to the general approach, design, methods, and procedures used to study a research topic. The researcher believed that the chosen methodology was the best to obtain supporting evidence to the study. For instance, this included methods and instruments for participant sampling, data collection, and data analysis methods. Furthermore, methodological belief in a research study is about the trust that the researcher has on the choice made about specific methods that help in answering the research question. The researcher was confident that the qualitative approach was appropriate to meeting the aims and objectives of the study.

The methodological assumptions of this qualitative research were that the study should follow a more flexible emergent approach influenced by the researcher's experience in data collection and analysis, research problem and question that needed to be addressed and the audience to which the researcher is writing. Data collection involved site visits and observing participants' behaviour during interviews in which the study topic was discussed openly through open-ended questioning. Inductive data analysis of the collected data was to be followed to develop resultant themes for interpretation and discussion (Creswell & Creswell 2018:16).

3.2.2.4 Axiological belief

Axiology refers to the study of ethical issues that are considered by the researcher during the research proposal phase (Kivunga & Kiyuni 2017: 28). It is one of the philosophical approaches towards the right decision-making where there is understanding of what is right or wrong behaviours that are displayed during the research process. Axiology includes the value attached to the research procedures, study participants, data collected and the audience of interest. For an example, the researcher ensured that permission is granted where relevant, consent received from participants and approved methods of data collection including assurance of confidentiality to data and participant anonymity.

3.3 RESEARCH METHOD

This study followed a qualitative research method which was used to explore and understand the meaning ascribed to EBP integration by individual participating nurse educators, using open, exploratory research questions than closed-ended questions. Although, there were proposed research activities, changes were employed as the study progressed and as the need arose during the data gathering process. Reflection as the key instrument, the researcher was vigorously, intensely and directly involved in the data collection process. Another data collection instrument included an interview topic guide, digital voice recorder and the notebook, thus supporting the use of triangulation as a common characteristic of a qualitative research, where different data collection methods are used. In a qualitative study, data are collected in the participants' natural setting, which was the case for this study, as the study followed the naturalistic paradigm and inductive data analysis was followed towards the emergence of patterns and themes. Qualitative research uses special strategies such as Lincoln and Guba's five criteria in ensuring trustworthiness of a study and the final report of a study should be complex with multiple perspectives (Creswell & Creswell 2018:180; Creswell & Poth 2018:7; Maree 2020:59; Polit & Beck 2021:471).

3.3.1 Rationale for a qualitative method

In the context of this study, qualitative research was a more suited method because the study relied on words rather than numerical data (Busetto et al 2020) and findings were provided in the form of textural data. According to Creswell and Poth (2018:46) qualitative research is a method that explores and solve problems. The researcher develops understanding of feelings, perceptions, experience or expertise of human sciences, talks about and hear what participants know (Patel & Patel 2019:49). It is the preferred standard methodology for healthcare professions that provide assistance in better understanding patient care; can answer research questions that cannot be answered by quantitative research (Patel & Patel 2019:49). Qualitative research is more useful for studies where little is known about the topic and enables researchers to get in-depth information to develop new theories about the topic under study (Creswell & Poth 2018:46). However, EBP has been thoroughly explored worldwide while in the context of this study, there is limited knowledge and skills for its application in nursing education and practice.

3.3.2 Phenomenological approach

Phenomenology has its origins and emanates in the works of a German philosopher Edmund Husserl (1859-1938). It was developed by Husserl and Heidegger (Giorgi 2007:63), based on psychology and philosophy foundations (Fouche et al 2021:293; Polit & Beck 2021:477). Husserl was more concerned with the human consciousness as the pathway to understanding social reality and believed that understanding how consciousness works enhances the knowledge on how people make sense of social life (Liamputtong 2020:6). Leedy and Ormrod (2021:263) further state that phenomenology refers to the individuals' perception of the meaning of an event, as opposed to the event as it exists external to the individual. Hence, the focus in this study was to understand and to find the meaning behind the lived experiences of nurse educators about EBP integration into teaching and learning rather than interpreting them.

A phenomenological study carries its strengths and weaknesses. It is characterised by human interaction based on mutual respect with the real thick description of the phenomenon being studied. Also has great flexibility and adaptability to context and participants' comfort. The main weaknesses of this approach are subjectivity which might render findings invalid and results cannot be generalized as they are individualized thus becoming non-generalisable (Ayton 2023). Data collection is time consuming through long periods of interviews which requires interpretation and with the potential of researcher bias (Liamputtong 2020).

In this phenomenological study, participants were allowed to give in-depth description of how the phenomenon was experienced. Data was collected from nurse educators as individuals who had common experiences with teaching and learning of EBP using in-depth face-to-face unstructured interviews. The emphasis was to finally provide thick description of nurse educators' experiences, of what was experienced and how it was experienced (Maree 2020:85-86). Although the researcher may have had a personal experience in relation to the phenomenon under investigation, nevertheless it was important for the researcher to get a better understanding to the meaning of experiences of others.

3.4 RESEARCH DESIGN

A descriptive phenomenological research design was identified as an appropriate design for this study which aims to describe how life is experienced in context of peoples' everyday life (Fouche et al 2021:293; Polit & Beck 2021:477). Further details on the chosen design are provided in the following paragraphs and the map below.

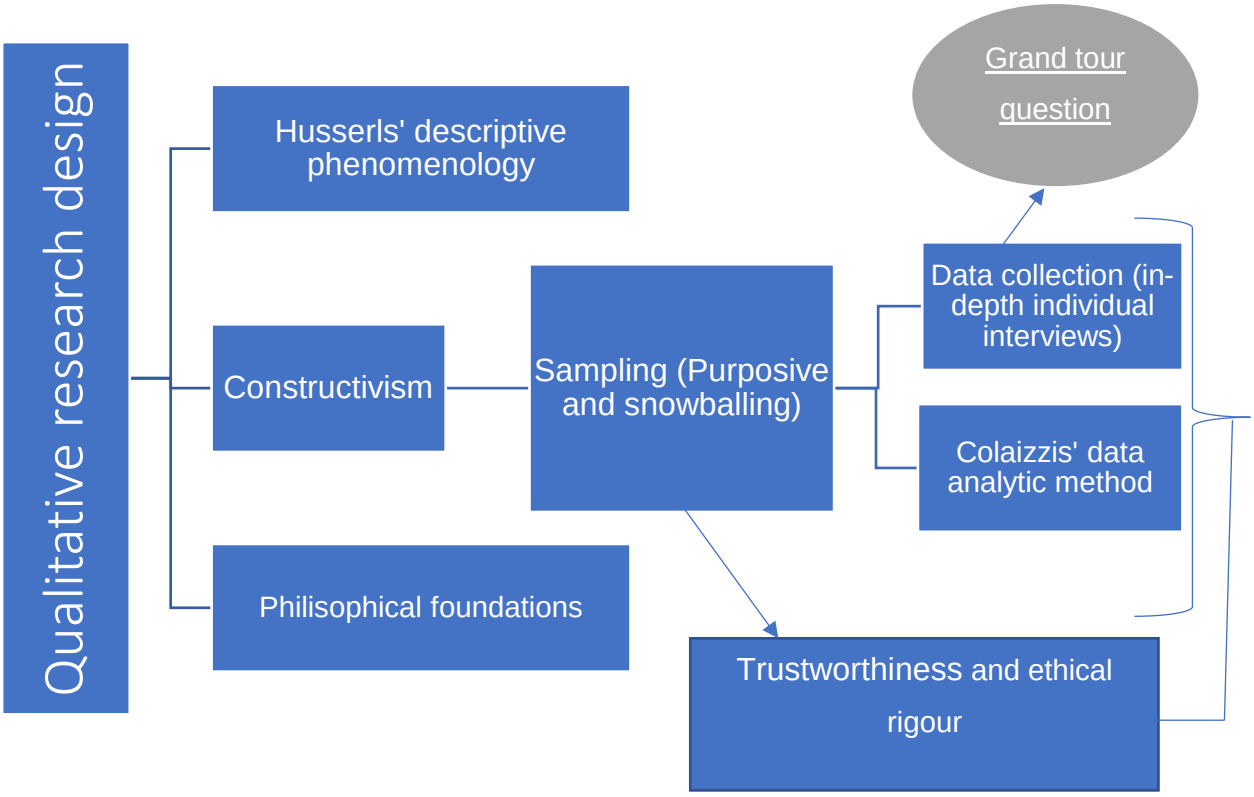

Figure 3.1: Research design mind map

A research design is the conceptualised structure that shows how the research question will be answered. It is a guide for data collection and analysis methods. As a master plan, the study design assists the researcher in deciding on the alternate tools used to solve problems (Gray 2018:169). It optimises the validity of data for a given research problem and an overall configuration of a piece of research to obtain good results from collected data.

Furthermore, Kothari (2019:35) explains that a research design assists with the smooth running of the different operations involved in a research study to make sure that maximal information is acquired in a cost-effective manner with the minimum time spent and with less effort. A research design includes deciding on the setting, sampling methods, data collection and analysis, including strategies for ensuring the integrity of the study and having control over the factors that could interfere with the validity of the findings (Polit & Beck 2021:477).

In research designing, researchers need to consider different participant groups, timing of data collection and researchers' intervention to answer research questions (Gray et al 2017:1054). However, it is crucial for a qualitative researcher to note that in a qualitative study, the design continues to unfold as the researcher reflects on what has been learned to make new decisions (Polit & Beck 2021:785), hence, an emergent design is characteristic of qualitative studies (Polit & Beck 2022:161). Husserl's descriptive phenomenological design was chosen as an appropriate design for this study.

3.4.1 Husserl's descriptive phenomenological design

Since phenomenology is concerned with the lived experiences of human beings, this design was more relevant to this study where the focus was on describing life experiences of nurse educators and explaining the meaning of these experiences (Polit & Beck 2022:165), hence Husserl's descriptive phenomenological design was chosen to respond to the research question of integrating EBP into learning and teaching to achieve the set objectives and purpose of this study.

Husserl developed this design for the purpose of searching for answers to the question: What is known to human? Hence, the design is classified as descriptive phenomenological in accordance with the purpose of the study, which is about the description of the phenomenon under study. Descriptive studies tend to respond to the "what" questions and they focus on giving back what participants provided during interviews (Fouche et al 2021:295; Maree 2020:60). This design fitted well with the focus of the study regarding describing the experiences of nurse educators and their perspectives, aiming at gaining insights into the integration of EBP into teaching and learning.

Husserl's philosophy holds the belief that the nature of reality is subjective, with multiple realties that are mentally constructed ideas of individuals (Polit & Beck 2021:546) and this is congruent to the characteristics of the naturalistic paradigm. In relation to this design, findings of the study were a result of constant interaction between the researcher and study participants and the focus was mainly on the

description of what was detected from in-depth interviews (Creswell & Poth 2018:21; Gray 2018:25; Polit & Beck 2021:471).

According to Polit and Beck (2021:478), two acts underpin Husserl's descriptive phenomenological design and those are bracketing and reduction. Firstly, bracketing is understood as the practice used to assist qualitative researchers to eliminate any form of influence that can inhibit complete understanding of the phenomenon under study (Maree 2020:85). Secondly, reduction is the practice used by phenomenologists through constant questioning of the meaning of an experience to gain more attentive openness. The process followed in a descriptive phenomenological study goes through the phases of bracketing, intuiting, analysing and describing (Gray 2018:167; Polit & Beck 2022:165).

3.4.1.1 Bracketing phase

Bracketing is the process of identifying and suspending any preconceived beliefs, intuition, experiences and opinions about the phenomenon under study (Fouche et al 2021:294; Liamputtong 2020:4; Polit & Beck 2021:779; Terre-Blanche et al 2018:562). Due to the fact that the naturalistic paradigms involve how the researcher interacts with participants to get information, in the case of this phenomenological study, it is important that researchers avoid personal bias and suspension of personal judgement is encouraged to allow for consideration of any viable perspectives (Brink et al 2018:105; Leedy & Ormrod 2021:263; Maree 2020:85). Failing to employ bracketing might influence the outcome and interpretation of the findings and might deter the researcher from giving the real meaning to participants' experiences which enables the discovery of new insights that were not known previously (Polit & Beck 2021:478; Qutoshi 2018:2). More applicable information on bracketing is provided under data collection section 3.6.2.

3.4.1.2 Intuiting phase

During intuiting phase, the researcher commits to understanding participants' experiences while remaining open to the meaning participants attach to the

phenomenon in a specific context (Terre-Blanche et al 2018:562). In relation to this phase, all the information provided by the participants was accepted as unquestionably and undoubtedly true. The researcher could not interfere even in circumstances when a participant seemed way out of the topic. Calmness was maintained and all the information was accepted.

3.4.1.3 Analysing phase

This phase occurs when extraction of important statements, categorising and making sense of the meanings that are essential to the phenomenon is done. A common understanding was reached through repeated reviewing of data, contrasting, and comparing the final data to determine the patterns and themes that emerged during data analysis (Polit & Beck 2021:478). For many times, the researcher moved back and forth, reading transcripts, re-coding data and renaming categories and themes until the researcher was satisfied with the final emerging statements.

3.4.1.4 Describing phase

This takes place when researchers come to a conclusive understanding and have carefully defined phenomenon, giving full attention and providing adequate explanation to findings through an audit trail (Brink 2018:105; Polit & Beck 2021:478). The researcher had to consider employing the description phase during the discussion and reporting of the research findings which was supported by member check and use of study records such as field notes and transcripts. According to the descriptive phenomenological design, the researcher needed to focus more on the phenomenon under study which was about the description of the experiences of participants, bracketing of own experiences, collecting data from several people with similar experiences, reducing data to significant statements and themes, and finally developing a textural and structural description of their experiences (Maree 2020:86).

3.5 SAMPLING STRATEGIES

3.5.1 Accessing the sites

Polit and Beck (2021:803) define a site as an overall location where a study is undertaken and setting as a physical location in which data collection takes place in a study. These two concepts might confuse the reader because their meanings are very close. For an example, in this study, KZNCN campuses were identified as the appropriate sites to be used for this study and nurse educators' office spaces and campus boardrooms were identified as settings where the actual interviews and participant observation would take place. Gaining access to these sites required the researcher to negotiate with the gatekeepers who had authority to grant or deny permission to access these sites. Terre-Blanche et al (2018:559) describe a gatekeeper as a person who can give or deny permission to a researcher in terms of gaining entry into a setting.

Permission was granted by the campus principals as gatekeepers and supported by the KZNCN principal and approved by provincial research committee of the Department of Health (see attached annexures). Once permissions were received from the college and each campus principal, the researcher negotiated the scheduling of the dates on which to conduct interviews. Four of the campuses were finally utilised as compared to six campuses that were previously approved from KZNCN in the KZN Province in the Republic of South Africa (RSA). These four campuses are located within Amajuba, Ethekwini and Ugu Districts.

3.5.2 Site location

The KZNCN is an institution accredited by SANC as an NEI and by CHE as a HEI to provide programmes registered with the South African Qualifications Authority (SAQA). This is the only public nursing college in the KwaZulu-Natal Province (KZN) offering nurse training and it is governed by the DoH (kznhealth.gov.za/kzncn.htm. accessed on 23 October 2021). The college has 11 campuses six of which were proposed as research sites but, eventually, four campuses were visited from Amajuba,

Ethekwini and Ugu Districts in KwaZulu-Natal. The map depicting the districts of KZN is presented below.

Figure 3.2: Map depicting districts of the KwaZulu-Natal Province

3.5.3 Accessible population

Population in which the researcher was interested and talked to in order to answer the research questions (Polit & Beck 2022:394), included nurse educators who were accessible, available for this particular study and who met the inclusion criteria as employees of KZNCN. The researcher decided that the best way of contacting prospective participants was to send an invitation to campus principals asking for nurse educators to voluntarily participate in the study. From the sample of volunteers, the researcher confirmed if these were eligible for participation, and whether they were the best fit for the study. Then, the appointment dates for the interviews were scheduled.

For this qualitative study, to select the correct and representative population sample, non-probability sampling methods were used. Non-probability sampling means that not all the members of the sampling frame stand a chance to be selected (Fouche et al 2021:381). These sampling techniques are mostly purposive, snowballing and convenient methods (Polit & Beck 2022:176). Availability of the participants in convenient sampling does not always produce sufficient information, hence, in purposive sampling, participants are selected according to the knowledge and information beneficial to the study (Brink & van Rensburg 2022:149; Creswell & Poth 2018:157-158). In this context purposive and snowballing were used to locate nurse educators that could best answer the research questions and ensured that the purpose of the research was achieved. In addition, study participants were selected based on having a shared experience of the phenomenon and able to articulate what it is like to have lived that experience (Brink & van Rensburg 2022:151; Polit & Beck 2021:265). The sample was drawn from a sampling frame that totalled 208 nurse educators employed by KZNCN (Gray 2018:773).

3.5.4 Purposive sampling

In purposive sampling, selection of participants is commonly based on the researcher's judgement (Brink & van Rensburg 2022:150; Polit & Beck 2021:265); allowed the researcher to select nurse educators who could benefit the study the most with the richest information relevant to the topic being studied (Polit & Beck 2021:492) and supported the researcher's idea of interviewing individuals who are believed to have insights into EBP teaching and learning with. For this study, the selection process was mainly controlled by the researcher in deciding on the criteria used to select the participants of interest (Fouche et al 2021:382). Highlighted below are the criteria the researcher followed to identify the study sample of nurse educators.

3.5.4.1 Eligibility and inclusion criteria

Since the eligibility criteria use specific attributes of the target population (Polit & Beck 2021:785), the researcher identified and invited nurse educators who met the inclusion criteria as described in Chapter 1.10.

3.5.4.2 Exclusion criteria

The exclusion criteria for this study, included all nurse educators not working for KZNCN and those who were not in possession of nursing education.

3.5.5 Snowball sampling

Snowballing is a sampling technique that requires researchers to initially and purposefully select a few research participants who are then asked to recruit, refer or introduce others who meet the research criteria and who might be interested in participating in the study (Liamputtong 2020:402; Polit & Beck 2021:498). The snowball (network) sampling technique is used in cases where it is difficult to access the right sample (Liamputtong 2020:22), hence researchers will approach one participant to provide relevant rich data about the phenomenon under study, while relying on this participants' recommendations and referrals to reach out to more participants. However, for this study, the participants were clearly specified, identified and chosen purposively to voluntarily participate in the study. Snowballing was used as a supplementary technique, on a smaller scale within the campuses to invite more nurse educators especially those who were reluctant to participate in the interviews but had interest in the study (Polit & Beck 2021:499).

3.5.6 Sample size

Guided by the phenomenological philosophy and sampling technique of participants, the sample size remains small recruiting only those participants that have a direct experience with the phenomenon under study, also who can explain what and how the phenomenon is experienced (Leedy & Ormrod 2021: 263; Polit & Beck 2021:504). In qualitative research, the sample size cannot be predetermined before conducting the study or randomly selected. The sample size is informed by data saturation which occurs when there is no new information obtained and redundancy has been achieved during data collection and analysis processes (Creswell & Creswell 2018:186; Maree 2020:92; Polit & Beck 2021: 802). When an inquiry has reached data saturation, data collection has to stop to avoid repeating information and all questions have been answered to the satisfaction of the researcher. For this study, data saturation occurred at Participant Number 17 at the third site, but the researcher continued to the fourth

site to honour the pre-scheduled appointments until Participant 21. Then, the researcher terminated further interviews and proceeded to the organisation and management of data. The biographic profile of the sample is also provided in Table 4.1.

3.6 DATA COLLECTION

During the data collection process, information was gathered from nurse educators who participated voluntarily in the interview process. Individual face-to-face in-depth unstructured interviews with a grand-tour question supported by supplementary questions, including an interview topic guide, were used to collect data. These were the most relevant data collection methods and formed the basis on which to begin an informative discussion. The grand tour question asked participants to describe experiences and understanding of the integration of EBP into teaching and learning. Data collection commenced on the 20th to the 29th of February 2024. The duration of interviews ranged between 6 and 17 minutes. This duration was shorter than proposed estimated period provided during the proposal stage as this confirms the description that qualitative studies often follow an emergent design (Polit & Beck 2021:471.) The researcher adhered to the following procedures to achieve smooth operations during the data collection process.

3.6.1 Accessing the fieldwork

According to Polit and Beck (2021:787), fieldwork involves the activities undertaken by qualitative researchers to collect data. Fieldwork took place from the selected institutions and the researcher accessed the research sites after obtaining ethical clearance from UNISA, which was granted, the researcher emailed letters to all the relevant campus gatekeepers, KZNCN and DoH-KZN research ethical committees, requesting permission and support to conduct the study. Preparation for the data collection process commenced once these permissions were granted.

Screening demographic data forms for participant's eligibility, information sheet and consent forms were prepared, packed and made available according to research sites.

Gatekeepers were contacted for the scheduling of interviews, to arrange and agree on the appropriate dates, to make appointments and to assist with the recruitment of the participants. The researcher made a special request describing the type of venue that was appropriate for conducting interviews. For example, the venue had to be a well-ventilated and private one, to allow for the comfort of the participants and must be characterised by less physical disruptions like noise interruptions.

The pretesting of the recording devices was done before reaching the venue to save time and extra charging devices were kept within easy reach. On arrival at the venue, the researcher followed safety and security screening procedures as per sites requirements where applicable; these included wearing of face masks where necessary, completion of screening security forms, sanitising of hands and equipment. Some institutions still maintain these practices to prevent transmission of diseases especially those campuses accommodated within the hospital premises, where staff are encouraged to wear mask and visitors are treated with precautions. Campus principals at the sites arranged for the introductory meeting with the campus staff where the researcher was introduced and the reason for the visit explained. The researcher was allowed to briefly explain the nature of the study and information sheets were handed and read to the participants to make sure that they had understood and were clear about the inquiry. The available nurse educators were requested to participate voluntarily. Assurance on maintaining privacy, anonymity and confidentiality throughout the study was given and the researcher indicated that if, in anyway, privacy was invaded or confidentiality was violated, related data were to be destroyed. On agreeing to participate in the study, the researcher and the participant signed informed consent forms.

3.6.2 Reflexivity and bracketing

Due to extensive literature review conducted as well as the researcher's own experience, the use of reflexivity and bracketing was of utmost importance to reduce chances of bias. Reflexivity refers to the qualitative researcher's effort to identify personal, social, political or philosophical biases that increase the chances of influencing the collection and interpretation of data (Leedy & Ormrod 2021:270).

Liamputtong (2021:33) stated that reflexivity, as an essential characteristic of qualitative research, supports the integrity and nature of knowledge that qualitative researchers possess. In Polit and Beck (2021:156-157), reflexivity is described as looking critically on the self and evaluating personal values that can influence the gathering and interpretation of data. Reflexivity, as a strategy developed to enhance quality in qualitative research, should from part of the data collection process as it was used in this study. Self-awareness and introspection should be part of reflexivity in enhancing the quality of any study (Gray 2018:690; Polit & Beck 2021:157). This form of self-reflection ensures that there is no researcher bias affecting data collection. Bias is described as any form of influence that can distort or alter the findings of a study to an extent of undermining the validity of the inquiry (Polit & Beck 2021: 778).

The researchers' nature of work is grounded in nursing education, and as an experienced nurse educator who understood and had read extensively about the topic under study, it was important that the researcher put forward a plan to critically reflect on actions, feelings, preferences and observations during the data collection process to avoid exerting any influence on the participants' responses. The researcher's reflection on the past experiences and becoming aware of what personal background could bring to the study process was crucial to the elimination of any possibility of influence. To achieve this, the researcher kept reflexive notes. This was done to remind the researcher of any ideas from previous experiences that could affect the research process. To enhance the quality of this research study, the researcher engaged with reflexive activities as part of the data collection process where the researcher acknowledged the role of a researcher as a human instrument within the research process that was undertaken. The researcher acknowledged the influence that the researchers' current position could bring into the study, hence the researcher continuously reflected and embarked on an introspection of own behaviours during data collection to remove any form of bias and misinterpretations of data.

Although there would be occasional challenges with how the researcher would question the participants, for instance, the researcher would use words like "us and we nurse educators", which was not intentional and only realised later that this should

not have happened, this was not easy to control due to previous exposure to and encounters with the participants. Again, the researcher had to reflect and take note of the previous personal relationships with the participants. This personal information was kept separately from other field notes as this was done as an ongoing activity until the study was completed (Polit & Beck 2021:571).

The other strategy that the researcher used to minimise researcher bias was bracketing which was described in detail previously in section 3.4. Qualitative researchers use bracketing interchangeably with reflexivity. The researcher applied bracketing before, during and after gathering data to ensure that data remained pure and raw for analysis to allow for new meanings to emerge. Bracketing prepared the researcher to be unbiased and open-minded during the analysis phase, so that the focus would be on the essentials of the pending analysis.

There is another concept of bridling used in reflective life-world research (RLR). Bridling enables researchers to reflect on the taken-for-granted assumptions so that the phenomenon being studied can show itself more fully (Polit & Beck 2021:801). However, other researchers use the term ‘bridling’ instead of ‘bracketing’ to describe an open and respectful attitude the researcher must have towards studying and understanding the phenomenon under study. Bridling was not appropriate for this descriptive phenomenology, as it is more relevant for a combination approach of descriptive and interpretive phenomenology which was not the intention of this study. Nevertheless, the researcher continued to reflect on the processes and procedures of the study to exclude researcher interference with raw data.

3.6.3 In-depth unstructured individual interviews

The choice of data collection techniques in qualitative research is influenced by the topic, research questions, purpose of the study, research design and study population. In this study, research aims and objectives determined the approach used to collect data to make sense of the research topic (Fouche et al 2021:355-357). Since this was a phenomenological interview, the aim was to gain thick and rich descriptions of nurse educators’ experiences with EBP teaching and learning (Gray 2018: 382), therefore,

the in-depth, unstructured individual interview approach was selected for this study. This is a one-on-one unstructured interview that uses open-ended questions and occurs between the researcher and the participant (Maree 2020:108). Liamputtong (2020:400) states that an in-depth interview focuses on creating an informative conversation between the interviewer and the interviewee to get understandings and interpretations of the interviewee's experiences of the phenomenon under study. Fouche et al (2021: 357) further described in-depth interviews as a kind of interviews undertaken in a natural setting where participants have a connection with their lived experiences, feelings, perceptions or situation to obtain rich and thick data; hence, in this study interviews were conducted within the participants' work environment. Open-ended interviews last for an extended period and are repeated until no new information emerges (Maree 2020:108) and they increase the credibility of the study.

Good communication skills are vital in conducting in-depth interviews. During this inquiry, the participants were allowed to lead the discussion and to speak freely (Gray 2018:381). Unstructured interviews are sometimes referred to as non-directive interviews, hence there are no predetermined questions that direct the researcher (Gray 2018:381) excerpt for the topic guide that reminds the researcher of the important issues to be covered. Although some participants asked for direction on how to respond following the asking of the first question, the researcher avoided and abstained from giving leads but only encouraged them to respond as they wished, which resulted in the unfolding of an informal conversation.

3.6.4 Grand-tour question

The questioning of the participants in conducting an unstructured interview for this study was done using a grand-tour type of questioning. Polit and Beck (2021:788) define a grand-tour question as a broad open-ended question posed by the interviewer to get the general view of the phenomenon under study. The distinct aim of this type of questioning is to start an open, conversational discussion to allow interviewees the freedom to respond to questions as they wish and feel (DeJonckheere & Vaughn 2019:5; Gray 2018: 382). Open-ended, non-directive questions were used to explore

the topic. In constructivism, the researcher and the participants co-construct data using unstructured interviews (Gray 2018:381).

To conduct this unstructured interview, the researcher did not need a standardised guide, a list of issues or pre-planned questions; rather, a topic guide was preferred (Fouche et al 2021:357) because the additional questions that could be asked and the way these questions were phrased were unpredictable. The researcher used follow-up questions to seek the clarity and accuracy of the descriptions, including the rephrasing of the answers. The questioning commenced with a simple informal phrase that was stated in the following manner; “As a nurse educator, would you like to describe your experiences with and understanding of the integration of evidence-based practice in your teaching and learning at KZNCN”. Follow-up, probing and focused question relating to the topic were subsequently asked to gain a clarification on the responses. The researcher was assisted by a list of topics in the form of an interview topic guide (see Annexure G) to remind the researcher of the areas to be explored (Gray 2018:378) and the questioning according to the responses continued until the participants had fully described the phenomenon (Polit & Beck 2021:513).
The topic guide focused on eliciting an understanding of how nurse educators described their experiences and knowledge about the integration of EBP into teaching and learning, the significance of EBP, teaching approaches, and recommendations to support nurse educators to facilitate the integration of EBP into teaching and learning programmes. Here are some examples of the list of topics asked: Meaning of integrating EBP in teaching and learning; Understanding the meaning of EBP concept and principles; Content for inclusion in the curriculum to integrate teaching and learning of EBP; Significance of EBP integration for the relevant stakeholders; Teaching strategies relevant to the teaching of EBP; Resources needed for EBP integration; Role of the librarian; and Recommendations or suggestions to enhance or support integration of EBP in teaching and learning.

Since the purpose of this study was to explore and describe the integration of EBP into teaching and learning for nurse educators with the aim of developing a strategy to support nurse educators and to put forward recommendations for inclusion of EBP teaching and learning in the nurse training curriculum, the grand-tour question was

able to yield the required information and thick descriptions of the phenomenon under study were produced from this broad questioning.

3.6.5 The interview process

An interview is a verbal interaction between two people in response to an inquiry, where the interviewer poses questions, and the interviewee willingly provides answers. The advantage with interviews is that the meanings can be confirmed and followed up soon. It is good for people that prefer the spoken words to writing in a questionnaire where open-ended questions are asked (Gray 2018:379).

Qualitative interviews are a valuable source of information and seek to understand the world through the participants' eyes. By conducting an interview, the researcher attempted to uncover the truth about the participants' lived experiences so that correct meanings could be reached, described and interpreted. The use of face-to-face interviews helped with the attainment of rich, thick data about participants' opinions, perceptions and experiences behind their lives and behaviours, which was based on trust (Maree 2020:108). The language of communication used during the interviews was English and this was done to minimise the need for language interpretation and to allow for the smooth conversion of speech to the text verbatim transcription of the interviews.

Although directing interviews required more time, the researcher was able to direct the interviews and to observe participants closely (Fouche et al 2021:355-357; Gray 2018:378). Individual interviews are encouraged for sensitive and personal private issues. In this study face-to-face interviews were used as a method of collecting data from nurse educators. Fouche et al (2021:355) describe three phases of the interview process which the researcher adopted and those were;

3.6.5.1 Introductory remarks

During this phase, the researcher established good relationships with the participants by greeting them and expressing self-introduction before commencement of the

interview; attended to the administrative tasks of handing over and reading the information sheet, explained the relevant information about the research purpose, procedures to be followed during the interview. Clarity on the duration of the interview was provided and permission for audio-recording data was requested, and once permission was granted, consent forms were signed by both the researcher and the participants. The participants were requested to complete a form with demographic data which included age, years of experience, qualifications and etcetera.

3.6.5.2 The body

The core activities of the interview took place during this phase, where questioning interaction happened. The grand-tour question was asked, followed by other different forms of questioning depending on the participants' responses. Issues relating to the study were explored and the participants were allowed to talk freely and lead the discussion. The researcher continued to provide direction to the interview and once the researcher was satisfied with the responses and that the participants could no longer provide new information, the interview process moved to the next and last phase of closing remarks.

3.6.5.3 Closing remarks

Here, the participants were informed that the interview session was coming to an end. Additional information was requested in the form of suggestions and recommendations towards the study. Debriefing of the participants was employed and when the conclusion was reached, the researcher thanked the participants for their time, cooperation and participation.

3.6.6 Naturalistic observation

Interviews usually run concurrently with some form of observation. Although observation was not the main method of gathering data, it was necessary that the researcher observed participants' behaviour, feelings, attitudes and environment where the interview took place (Gray 2018:177). Polit and Beck (2021:795) define

observation as a method of collecting information and measuring constructs by directly watching and recording behaviours and characteristics, whereas according to Maree (2020:105), an observation is a systematic process of recording the behavioural patterns of participants, objects and occurrences without communicating with them. Gray (2018:177) further describes the observation method as the main method of data collection in a qualitative study for naturalistic or fieldwork setting. A naturalistic observation, which is sometimes referred to as non-participant observation, is undertaken in such a manner that it does not interfere with the participants' responses (Gray 2018:177).

In participant observation, the researcher gets immersed in the daily lives of the people being studied (Leedy & Omnrod 2021:455) through participation in an in-depth observation of a group (Polit & Beck 2021:796) without getting involved and has no influence on the dynamics of the setting (Maree 2020:106). When using the non-participant observation method, the researcher remains detached from the field setting as a non-participant or becomes a member of a group or setting (Gray 2018:177). These observations can be conducted with and without the awareness of the participants, hence the classification of the method as overt and covert observation. During these non-reactive observations, the researcher becomes a data collection instrument while the participants are not aware that they are being observed.

By conducting the naturalistic observation during an interview, the aim was to get the real meaning of nurse educators' experiences in a naturalistic setting (Polit & Beck 2021:522). For this study, a disguised observation seemed appropriate to gather non-verbal information and data were recorded as observatory field notes. Field notes are one of the mainstays of qualitative data collection methods through observation the noting down of valuable information about the study setting and participants' behaviours and their meanings (Gray 2018:178). Note-taking, before, during and after each interview for non-verbal communication, is crucial for data analysis. These field notes can be observational, analytical, theoretical and reflexive.

Observational notes are statements bearing upon events experienced through watching and listening during the interview process. They include the recording of the participants' characteristics, describing body gestures and their expressions. They are of little interpretation but are reliable as the observer can construct meaning from them (Roulston 2017:1), and this was the type of notes that the researcher collected and kept.

Analytical memos notes are brief notes about the thoughts, ideas and questions that come to the researchers' mind during data gathering, coding, or analysis processes which allow the researcher to reflect on coding processes and code choices; how the process of inquiry was conducted; and the emergent patterns, categories, themes and concepts embedded in the data (Rogers 2018:890; Roulston 2017:1). More of analytic notes were recorded by the researcher throughout data collection and analysis processes. The researcher noted and wrote down more of analytic notes for utilisation during the discussion of findings.

Theoretical notes represent self-conscious, controlled attempts to derive meaning from any one or several observation notes. Recorded notes make the researcher think about what has been experienced and makes some declaration of meaning that results in the formation of new concepts. Developed concepts are interpreted and linked to previous notes to create a new theory of how to make sense of what is happening. (Polit & Beck 2021:526). For an example, the researcher formulated new statements from the collected information that provided a lead to emerging themes during the data analysis phase. Below is an example of the table used at the end of each transcript to record the researchers' observations of the participants' behaviour.

Table 3.1: Field notes Recording Template (Maree 2020:107) with a sample

Date and Time	Actions observed	Reflection
22/02/2024 @ 09:22 and lasted for 6 minutes.	The participant offered to do the first interview from her site but was very much agitated while responding to questions. A big sigh can be heard on the audio recording when asked one of the questions which were a bit challenging for her. Failed to maintain eye contact, was not comfortable at all even though she volunteered.	The researcher cut the interview short for the comfort of the participant. Weakness on the researchers' side was to ask a lot of closed ended question and also completing sentences for the participant

3.6.7 Data collection instruments

The researcher used an interview topic guide that contained a list of topics of which the researcher wanted to cover during the interview (Fouche et al 2021:370). The researcher referred to these topics as a reminder of the next question to be asked. The recording of interviews was done digitally and in writing (Maree 2020:110). Taking of field notes provided a link between what was said by the participants and what was observed by the researcher during the data collection process to the interpretation of data analysis (Phillipi & Lauderdale 2018:383).

The digital recording device that was used had more recording space where information was saved. The researcher ensured that recordings were transferred into a device that had a permanent memory such as the USB to guard against losing information in cases where the digital recorder would get lost or misplaced. Audio-recording made it easy for the researcher to transcribe audio recorded interviews with the use of convert voice to text application. The device was kept out of participants' visibility to limit influence on how the participants would respond, although the participants were aware of being recorded (Fouche et al 2021:372). The researcher

ensured that the device was checked for proper functioning before the interview and the charging apparatus was readily available.

3.7 DATA ANALYSIS

In qualitative research, data analysis entails reduction and organisational of data and revelation of meaning to data (Gray et al 2018:675; Liamputtong 2020:251). This study followed the phenomenological approach to organise and manage data. According to Maree (2020:123), data analysis is about analysing participants' attitudes, perceptions, understandings, knowledge values, experiences, and feelings to discover how participants make meaning and attempt to describe the phenomenon under investigation and in relation to this study, data gathered on participants' experiences on EBP integration in teaching and learning was analysed.

For this descriptive phenomenological qualitative study, data analysis commenced simultaneously with data collection (Leedy & Ormrod 2021:380; Polit & Beck 2021:534), using the Colaizzi's data analysis approach, as this is common with Husserl descriptive phenomenology (Polit & Beck 2017:539). The researcher chose to use this seven-step analytic method because of its rigorous and robust nature to increase the level of credibility and reliability of the findings (Wirihana et al 2018:30-34). Researchers can easily reveal emerging themes and their connected relationships from the participants' representations, perspectives and the manner in which the process of exploration and description of the phenomenon is done, which becomes clear and logical (Wirihana, Welch, Williamson, Christensen, Bakon & Craft 2018:30-34).

Furthermore, interviews were constantly compared to identify any similarities and differences (Polit & Beck 2021:540; Tie et al 2019:5). A constant comparative method involved a comparison of elements present in one data, which allowed the researcher to be immersed in the data so that common ideas or themes could be identified. During this iterative process, the researcher moved back and forth between data collection and analysis to identify clues, filling gaps, clarifying uncertainties, checking for hunches, and refining categories and meanings as the study progressed (Leedy &

Ormrod 2021:380; Tie et al 2019:3). The initial data analysis created an opportunity for the researcher to check the clarity of the questions, how the participants comprehend and responded to questions and allowed for further collection of new data (Leedy & Ormrod 2021:380). This process is known as inductive analysis of qualitative data, where research findings are allowed to emerge from common significant themes connected to raw data (Leedy & Ormrod 2021:380; Maree 2020:123).

3.7.1 Data organisation

For analysis purposes, verbatim transcriptions of the interview texts were prepared immediately after each interview. The researcher listened to each audio-recording and transcribed the audio-recorded speech into text and these processes commenced soon and on the first day following the initial interviews. A total of 21 audio-recorded interviews from the sample were considered for analysis. Although researchers are encouraged to do their own transcriptions to immerse themselves with data, the process of transcribing can be a daunting task, taking most of the time (Polit & Beck 2021:535). In this context, recorded interviews were transcribed using a convert speech to text application of the digital device. This application converts audio speech into readable text. The text was saved in a Microsoft Word format. The researcher repeatedly read the text of the scripts thoroughly, whilst listening to the audio recordings to ascertain whether the meanings and correct spelling of what was said in the audio did correspond to the verbatim transcriptions, correcting any misinterpretations in the language. All the field notes capturing the researchers' observations for each interview session were included at the end in each transcript as an added paragraph.

3.7.2 Data familiarisation and coding

Colaizzis' phenomenological analytic approach (Polit & Beck 2021:548) guided data analysis for this study. In step 1, verbatim transcripts were read through repeatedly for many times by the researcher to gain an overall feeling and make sense of data. In this way, the researcher was able to reach a deeper understanding of the collected data.

In line with step 2, the data-driven, inductive coding approach was followed to identify important and relevant patterns and statements relating directly to the lived experiences of nurse educators regarding the integration of EBP into teaching and learning. These were identified and coded. Identified statements were highlighted in the form of quotes and the appropriate codes were applied.

Figure 3.3: Cloud map illustrating code groups

Coding was done with the assistance of the Atlas.ti24 software and Microsoft Word review and comment function. In Atlas.ti24, transcripts from each participant were used as documents from which codes were created and applied. Twenty-one transcripts resulted in 21 documents with 254 quotations that led to 64 codes which were then reduced to 19 categories or subthemes resulting in 4 themes being identified. The researcher used the software mainly for coding, writing memos, grouping codes to develop categories and finally identifying emerging themes for further description. See Figure 3.3, a cloud map showing the initial distribution of code categories.

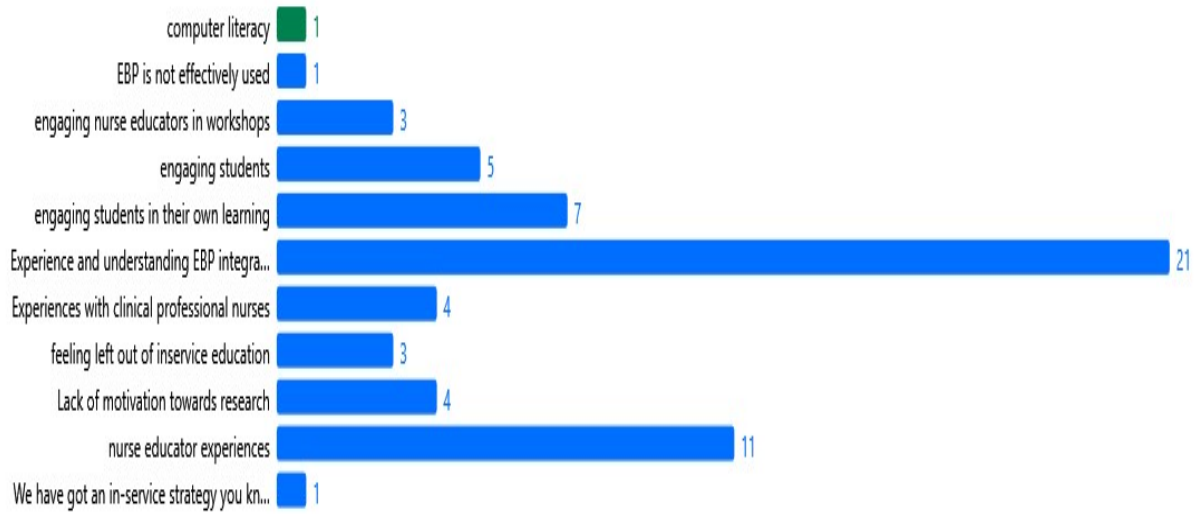

Figure 3.4: Example of code distribution bar graph for nurse educators' experiences code group

In step 3, meanings were then formulated from identified codes and categories. Then, as in step 4, the formulated codes and categories were brought together to form themes. During coding, similar statements that emerged were grouped to form code categories. Statements with common meanings and descriptions were merged into themes and saved in a file that was labelled according to emerging themes and the identified categories. This was an iterative process which required the researcher to move back and forth between steps one and four of Colaizzi's analysis approach until final themes were formed. All the repeated information was deleted. Electronic files of similar content were created for quick access, referencing and for data management.

Step 5 involved the integration of findings into an exhaustive description and discussion of all what happened during the data analysis process. All the findings are presented and discussed in detail in Chapter Four. In relation to step 6, all the descriptions were summarised in Chapter Six of which further suggestions and recommendations were made towards the phenomenon of EBP integration into teaching and learning. To validate the findings and to ensure credibility, in step 7, the researcher had to return to the participants for member checking, organised a discussion with expert and reviewers, and an audit trail employed. Any new data emerging from the validation process formed part of the final descriptions (Creswell &

Poth 2018:353). More details are provided in the next section for ensuring trustworthiness.

The researcher had an option to add step 8, as it was necessary, where new relevant data and theories were worked into the final products of the research. In this study, the study findings provided the basis for developing a strategic intervention to support nurse educators in enhancing the integration of EBP into teaching and learning at KZNCN. This strategy is presented in Chapter Five.

3.8 MEASURES FOR ENSURING TRUSTWORTHINESS

Trustworthiness is the degree of confidence that qualitative researchers have in their data. The researcher assessed trustworthiness using Lincoln and Guba's (1994) framework. This framework suggests four criteria for developing the trustworthiness of a qualitative study (Polit & Beck 2022:52), which are credibility, transferability, dependability and conformability (Fouche 2021:393). The criteria can be used in conjunction with validation procedures such as member checking, triangulation, peer reviews, audit trail, prolonged field engagements and the use of computer-assisted qualitative data analysis software (CAQDAS) (Creswell & Poth 2018:48; Fouche 2021:395-397).

3.8.1 Credibility

This refers to the confidence that can be placed on the truth of research findings where the research participants are correctly identified and described (Fouche 2021:395). For this study, data were collected directly from the participants by the researcher. The participants were qualified and experienced nurse educators and were considered reliable sources of information and had the expertise on the topic under study. Before the final report was written, the researcher had to return to the participants for member checking where audio-recordings and individual transcripts were emailed back to participants for data validation and accuracy confirmation. The researcher also held one-on-one discussion with a research expert and the study's editor to reach consensus on how the findings were presented.

Furthermore, the researcher kept a trail of records which openly described research activities from the first step to the final reporting of findings. An audit trail is useful for the researcher to keep all the records of the research process as evidence of how the study was conducted (Gray 2018:185). Good rationale was provided for all the methods and procedures selected in conducting the study and ensured that all the ethical requirements were met for this study to earn credibility. Again, the use of Colaizzi's phenomenological data analysis method increased the credibility and reliability of the study because the method uses rigorous and robust methods to analyse data (Wirihana et al 2018:30-34).

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3.8.2 Transferability

Transferability refers to the extent to which findings can be transferred to or have applicability in other settings or groups. This allows for other researchers to base and compare their studies to ascertain whether they yield similar results or not (Fouche et al 2022:393). The researcher was able to provide a comprehensive final report on the context under which the study was conducted. Maree (2020:144) explains that users or readers of the research study can easily make a connection between their experiences and the study report. The enhancement of transferability requires that qualitative researchers focus on how research participants can relate to the context under study and to which context the findings can apply (Maree 2020:144).

For this study, transferability was achieved through the provision of adequate thick description of data, so that it could be easily transferred, applicable and supported generalisation of findings to other settings. The use of purposive sampling to choose the sample ensured that the participants had the best knowledge on the topic under study, coming from a similar context and able to relate to such (Gray 2018:185). The researcher reported fully about the study context, participants, and design, and that could benefit readers to make informed decisions about the application of similar procedures in another study.

3.8.3 Dependability

Dependability ensures that collected data are stable over a period of time, meaning that the information related to the collected data remains unchanged over time and if the same study was to be repeated in another context, using the same methods and procedures, a similar outcome would be expected (Fouche 2021:394). Credibility cannot be achieved in the absence of dependability; and so, the researcher followed the proper documentation of data from this study and reputable journals should be used to publish the findings. Furthermore, the researcher ensured that the stability of collected data was maintained over an extended period and that this information remained unchanged over time.

Dependability was further increased by making the research design and its implementation more transparent. All operational details relating to data collection were documented and a reflective appraisal of the project maintained. All these were achieved using a digital voice recorder, together with a USB to save recordings and all the recorded information was safely locked up by the researcher. A record or journal of all decisions made during the research process until the completion of the study was kept (Maree 2020:145).

3.8.4 Confirmability

Confirmability refers to the potential for congruence between two or more independent people about the accuracy, relevance and or meaning of data (Fouche et al 2021:394). Strategies developed to enhance confirmability included triangulation, audit trail and reduction of the influence of the researchers' bias. Triangulation involves the use of multiple methods during data collection and interpretation processes so that the study phenomenon is accurately and adequately represented (Brink & van Rensburg 2022:247). For this study, purposive and snowballing sampling techniques were used to get the correct sample and data were collected through interviews and participant observation.

Audit trail is about keeping a recording system that allows study reviewers to make conclusions about the trustworthiness of the study (Polit & Beck 2021:778). The researcher ensured that all the research activities were documented, including audio recordings of the interviews held with participants to allow for independent auditors or external reviewers to be able to trace back all the research steps and data for accuracy. The use of field notes and voice recordings confirmed that the collected data were a true reflection of the information provided by the participants and that data remained the same (Fouche 2021:394; Gray 2018:185).

In addition, the researcher engaged in reflexive activities by keeping a dairy in which all the experiences and thoughts expressed during the study were continuously recorded. Reflexivity and bracketing were employed by the researcher at the beginning of the data collection process. These were done to avoid and minimise researcher bias (Leedy & Ormrod 2021:380), and ensuring that the researcher had no alternative interest except that of understanding the phenomenon under study. Collected data should depict the truth about the participants' experiences (Maree 2020:145).

3.8.5 Authenticity

Authenticity refers to the extent to which this qualitative research show a range of realities, trueness and legitimacy in the collection, analysis, and interpretations of data. Experiences and feelings of participants are clearly conveyed in the study's final report as they happened (Brink & van Rensburg 2022:186; Polit and Beck 2021: 570). In the context of this study, Chapter 4 discusses the participants experiences which is supported by the real quotes uttered during the interviews. Any reader should be able to understand and put themselves in the feet of the participants. The use of recording devices like the digital voice recorder increased the legitimacy of the collected data, thus increasing trustworthiness of study final report.

3.9 ETHICAL RIGOUR

The researcher did not anticipate any ethical and legal risks for the study, but considered the following ethical issues important for the study. To enable efficient collection of data and to gain access to research sites, the researcher had to apply for permission and approval from institutional review boards (IRB) or committees, including individual participants' consent (Creswell & Poth 2018:154).

3.9.1 Institutional review committee

Polit and Beck (2021:789) state that IRB were formerly used in the United States of America and refer to an institutional group that meets to review proposed and ongoing studies regarding ethical issues. Most institutions where research is conducted have such formal committees whose main concern is the protection of the rights of the participants (Brink & van Rensburg 2022:45). The research proposal for this study was initially approved by the College of Human Sciences Research Ethics Committee of the University of South Africa before the commencement of the data collection process (Refer to Annexure A for the UNISA ethics approval certificate number: Rec-240816-052). Also, the researcher received permission and support to conduct the study from the gatekeepers of KZNCN, KZN DoH and the relevant accessible campuses.

3.9.2 Participants' information leaflet

An information leaflet or sheet is a document prepared by the researcher and it contains all the elements of the study (see Annexure E). It provides information about the processes of and rationale for the study to participants so that an informed decision is made, but it does not require any signature (Polit & Beck 2021:139). The researcher scheduled interview appointments through the gatekeepers who were campus principals manning each research site. On arrival at the venue, a short meeting was held with all the prospective participants to brief them about the study and to recruit other participants on a voluntary basis. The provision of an information leaflet formed part of the participants' recruitment process. Once the participants were well-informed of the study, they volunteered to participate and consent forms were signed before the commencement of the interviews.

3.9.3 Informed consent

Once the participants were adequately informed about the study, they were requested to sign informed consent forms, which confirmed the obtaining of voluntary participation in a research project and that was based on the participants' full understanding of the benefits and risks likely to stem from participating in the study (Gray 2018:769). The participants must have adequate knowledge about the study, comprehend the information and can voluntarily consent or decline participation (Brink & van Rensburg 2022:39; Polit & Beck 2021:137).

To obtain participants' consent, the researcher firstly invited nurse educators to voluntarily participate in the study. Information about the research activities, risks, benefits, and the freedom to refuse participation or withdraw from the study without incurring penalties was provided verbally and in writing through the information leaflet. The participants were given a chance to ask questions to ensure that they fully comprehended the information given to them. Assurance of anonymity and confidentiality was given. Finally, documentation and formalisation of consent were done in writing through the signing of the consent form (see Annexure F) by the researcher and the participants (Brink et al 2018:31-35; Gray 2018:76-77; Polit & Beck 2021:138-139).

3.9.4 Privacy and confidentiality

3.9.4.1 Confidentiality

This is about protecting the identity of research participants from harm from the public. Study participants have a right to expect that the data they provide will be kept in strict confidence (Brink & van Rensburg 2022:39; Polit & Beck 2021:141). Anonymity is used to secure confidentiality and it means that even the researcher cannot link a participant's identity to his or her response (Brink & van Rensburg 2022:38; Polit & Beck 2021:141). Interview transcripts did not bear any participant's identity information. Pseudonyms were used to conceal the participants' identities and any identifying information encountered was destroyed immediately (Brink & van

Rensburg 2022:39). All the information provided by the participants was kept confidential throughout the study. For this study, the participants' identity remained anonymous and unnecessary intrusion to participant's personal information without authorisation was avoided, with their privacy being equally respected.

3.9.4.2 Privacy

The right to privacy is one of the basic human rights and research comes with the possibility of intrusion into participants' personal lives. To avoid intrusion, participants' privacy was maintained by keeping all the data and participants' information confidential (Polit & Beck 2021:135). The participants were informed about their right to withdraw from the interview or refuse to respond to any intrusive questions at any time. Collected data were securely protected to prevent unauthorised people from accessing it. Physical privacy was also respected, as some interviews were conducted away from others in private offices or boardrooms. The participants were constantly reminded of the need to avoid mentioning the names of people and places during the conversation to ensure the anonymity of the sources of information. If there was any form of breach to identity, that information was deleted and destroyed and any other identifying material was restricted (Gray 2018:79-80).

3.9.5 Beneficence and non-maleficence

With the ethical principle of beneficence, participants have a right to free from harm and discomfort and right to protection from exploitation while non-maleficence means that the researcher has an obligation to avoid, prevent or minimize harm in studies involving humans (REF). In the context of this study, there was no physical risk expected but some participants displayed some degree of discomfort for example feelings of anxiety prior to the interviews. The researcher established a good trusting relationship with participants by providing adequate information about the study. The researcher ensured that debriefing was done after each interview and maintained in confidence all recorded information.

3.9.6 Justice

Justice refers to fair selection and treatment of participants including rights to privacy (REF). Participants' privacy was respected and they all had equal opportunity to be selected based on the inclusion criteria. For those who declined to participation were not discriminated. In this study, participants were invited to form part of the study but not all volunteered to take part without being judged.

3.9.7 Scientific integrity

It is 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). Scientific writing and procedures were followed to avoid plagiarism where the researcher continued giving recognition of the source and the use of Turnitin programme to check the rate of similarity. The researcher avoided the following:

- Fabrication which involves making up of data to an extent of including it in the report.
- Falsification where research material, equipment, processes and procedures are manipulated by changing or removing data or distorting results in such a way that results are wrongly reported.
- Practices like poor data management, conflicts of interest, inappropriate financial management, failure to comply with governmental regulations and unauthorized use of confidential information were also avoided (Polit & Beck 2014:92).

3.10 CONCLUSION

This chapter discussed qualitative research methods used to collect data for this study. It also illustrated the participant selection processes, delineated the methods used to collect data as well as the approach that was used to analyse textural data. The focus of the study was to understand nurse educators' experiences and how they have constructed reality around their experiences in terms of integrating EBP into teaching and learning programmes. The next chapter presents, describes and discusses the findings.

CHAPTER 4

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 INTRODUCTION

This chapter presents the findings drawn from in-depth interviews conducted with nurse educators to explore and describe their experiences with the integration of EBP into the teaching and learning programme at KwaZulu-Natal College of Nursing (KZNCN). The chapter presents and discusses these findings to attain the aim and objectives of the study and to address the research question. Nurse educators were purposively selected as participants to provide rich information about the topic under study. The chapter also reports on the demographic information of the sample.

4.2 SAMPLE BIOGRAPHIC PROFILE

Data were collected from a total of 21 participants who made up the sample of the study. In terms of gender, all the participants were female, as it is a common phenomenon that the nursing profession is a female-dominated one. The participants' years of experience ranged between one and 29 years, they occupied different positions or ranks of junior and senior nurse educators, including heads of department (HOD) and programme coordinators. The participants' qualifications ranged from diploma to degrees of different levels, that is, Bachelors, Honours, Master's, and Doctoral Degrees in Health Sciences, Public Health and Nursing Science studies.

Eighty per cent (80%) of the nurse educators occupied higher positions or ranks, with the remaining 20% having other responsibilities as heads of department and coordinating programmes. Demographic results show that 67% of the sample was in possession of either a Doctoral or Master's degree, which is equal to two thirds of the participants, indicating that the sample was well-qualified and knowledgeable enough to answer the research questions. Furthermore, 67% of the participants had more years of working experience, showing that the information provided was quite reliable. The participants were of an advanced age, which in this context were above the age of 50 years, comprising 62% of the sample. They were more than half of the

participants and were associated with a higher level of work experience, thus suggesting that they would contribute more in-depth knowledge. The demographic information of the sample is illustrated in Table 4.1 below.

Table 4.1: Demographic information of the sample

Criterion	**Frequency**
Position/Rank	
Junior	4
Senior	8
Head of Department	6
Programme Coordinator	3
Years of work experience as a nurse educator	
0 – 5 years	3
6 – 10 years	1
11 – 20 years	13
21 – 30 years	4
31 – 40 years	0
Highest qualifications in Nursing	
Diploma	1
Bachelors' degree	4
Honours' degree	2
Masters' degree	12
Doctoral degree	2
Professorship	0
Age distribution	
Below 30 years	
31 – 40 years	2
41 – 50 years	3
51 - 60 years	13
60 and above	3

4.3 DESCRIPTION AND DISCUSSION OF RESEARCH FINDINGS

Table 4.2: Schematic presentation of themes and subthemes

Main themes	**Subthemes**
4.3.1 Nurse educators' experiences and understanding of the integration of EBP	4.3.1.1 Limited and absence of experience 4.3.1.2 Understanding of EBP concepts
4.3.2 Facilitating integration of EBP	4.3.2.1 Attitude and motivation 4.3.2.2 Adequate knowledge and skills 4.3.2.3 Time management 4.3.2.4 Access to information 4.3.2.5 Role of the librarian 4.3.2.6 Engaging students with research 4.3.2.7 Teaching and learning strategies
4.3.3 The significance of integrating EBP into teaching and learning	4.3.3.1 For the nurse educators 4.3.3.2 For the student nurse 4.3.3.3 For the nursing profession and practice 4.3.3.4 For the patients
4.3.4 Suggested strategies to enhance the integration of EBP	4.3.4.1 Skills development 4.3.4.2 Staying current 4.3.4.3 Engaging with research 4.3.4.4 Develop/Review the curriculum 4.3.4.5 Collaboration with clinical practice 4.3.4.6 Provide resources

Table 4.2 provides the visual presentation of the four main themes and 19 subthemes. In the following sections, all the themes and subthemes are described and discussed with supporting quotations from participants being given for affirmation. The researcher also included available relevant literature that was reviewed in Chapter Two to further explain and either support or refute the findings of the study.

4.4 THEMES

4.4.1 Theme 1: Nurse educators' experiences with EBP integration and understanding of EBP concepts

In relation to the research question, the participants were expected to describe their experiences with the integration of EBP into teaching and learning at KZNCN. An

experience can be described as the accumulation and gaining of knowledge through direct involvement and participation in or observation of various activities, events or situations (http://www.collinsdictionary.com). In the current study, it refers to the nurse educators' personal encounter with and understanding of the phenomenon acquired over time, which shaped their perspective regarding the integration of EBP. Experience often involves the development of practical knowledge, emotional responses and lessons learned from both negative and positive encounters with phenomena, thus contributing to individual's personal growth and influencing future behaviours and decision-making. It is also believed that the amount of experience an individual has affects the complexity of the knowledge that they have (chat.openai.com). Furthermore, experiences can either be favourable and/or unfavourable, as they may include opportunities or challenges for the individual.

The integration of EBP into teaching programmes can be viewed in two ways; the first view is that of teaching students how to apply available evidence to make decisions that are inclusive of clinical expertise and patient preferences. The second view is about how nurse educators conduct teaching using evidence-based strategies (Wakibi 2019:75). Nevertheless, to find answers to the research questions guiding this study, the participants were asked to describe their experiences with the integration of EBP into teaching and learning. Regarding participants' responses, the findings of the study indicate that nurse educators' experiences with the integration of EBP were either limited, minimal or absent. These responses clearly demonstrate that the teaching and learning of EBP was not part of the content of the nursing curriculum being taught at KZNCN, hence nurse educators were unable to share much of the related experiences. This has led to the emergence of two subthemes, which are; limited and absence of experience with the integration of EBP and understanding EBP concepts.

4.4.1.1 Sub-theme: Limited and absence of experience

Most participants expressed that they lacked experience with EBP in general, let alone considering the integration of EBP into their teaching and learning programmes. The lack of experience varied between having minimal or limited experience and total absence of experience. Nevertheless, the participants shared more of their teaching

experiences in relation to facilitating research process and research utilisation in general and here is what was said by the participants in describing their experiences with the integration of EBP.

> *"Integration means that we are actually involving these results, these recommended results from various areas into the nursing education that we are imparting to our students so that they can apply it in their clinical area"* (Participant 05, MD, 18yrs).

In the above transcript, Participant 05 appeared to have a clear understanding of what is involved with integration concept. Participant 13 also expressed an idea of what is expected with regard the integration of EBP.

> *"Ok, my understanding of the integration of evidence-based practice is that after you have done some research, the information that you have must be utilised within the KZNCN campuses?"* (Participant 13, MD, 17yrs).

However, Participant 08 described her experience with the integration of EBP as absent, though she said she had heard about the concept but had no practical exposure; hence, she was quoted as saying:

> *"I have heard about evidence-based teaching and learning, but I have never had any first-hand experience with it. I have never been involved, like being formally trained on it and, also, I have never taught students on evidence-based teaching and learning"* (Participant 08, BD, <1yr).

In concurrence, Participant 17 made the following statement:

> *"Currently, we having new programmes that we are teaching. For instance, the R171 programme does not include research at all. So, as far as those new qualifications, there is neither exposure nor understanding of the basic concepts related to evidence-based practice; however, where we previously had R425, where at least there was need for conducting research studies, proposals in some of them carrying it to studies. So, that is where at least they obtained some basic knowledge which they can use in the wards for evidence-based practice, such as literature search because they obtained such skills.*

They obtained such skills as formulation of questions, though not much in terms of critiquing extant literature. So, I would say that we are currently not integrating this concept into our teaching and learning" (Participant 17, DD, 16yrs).

The above quotations concur with the statement made in Chapter One that the teaching and learning of the EBP competencies are not part of the nurse training curriculum at KZNCN. Some of the responses were not forthcoming, as they were full of uncertainty. Straight-forward, negative responses were often given and these might have been an indication that these participants had no idea of what was asked of them and here is how some of the participants responded.

"I am not going to lie; I don't have much experience in EBP" (Participant 02, BD, 14yrs).

"We don't really use evidence-based practice" (Participant 03, BD, 29yrs).

Other participants described their experiences by providing examples from previous personal exposure in order to make sense of what they would consider as EBP, but could not link their perception with the integration of EBP. The participants quoted examples from their own research studies. Here is what one participant said:

"Yes, definitely, I will give you my example because I produced and developed a pamphlet in the reduction of sepsis in post-caesarean section and it was alarming to find that it was also a qualitative one and that when I interviewed the obstetrician and the advanced midwives, I found that they were of such high calibre. However, they lacked in a simple thing, like giving exercise to a postnatal mother and that resulted in the development of puerperal sepsis. What that means is that I got all the evidence, but I could not implement it and it is just lying on the website. It's just there lying as a resource for research by postgraduate students, but it has not yet been implemented" (Participant 15, MD, 20yrs)**.**

"Some of the information that one gets after having done research is not utilised effectively because after one has done research with students, one would find that their studies would be left like that by not being applied. This also means

that it's not assisting us; it's just a matter of doing the research and leave it hanging as it is" (Participant 13, MD, 17yrs).

Again, the participants also shared the level of exposure received from their respective disciplines. For instance, one participant was a Midwifery lecturer and the other one was teaching Primary Health Care module. Both modules were being taught at the post-graduate level and could be associated with a higher level of understanding regarding the meaning of the educators' experience with the teaching of EBP concepts. Below is what was shared by these two participants:

> *"I am a Midwifery lecturer, and this course involves a lot of new evidence-based research that is being conducted. So, it is important that we update ourselves with regard to the new and current evidence-based practices so that our students benefit from it. Yeah, I understand that integration has to be there, especially in my field, that is, Midwifery"* (Participant 10, MD, 12yrs).

> *"But when it comes to primary health care, you know, it's a subject where there's always research being done and we are expected to utilise the latest research findings and I found that it works better with primary health care that we are able to actually implement evidence-based research findings in treating and caring for patients"* (Participant 12, MD, 12yrs).

In her response, one participant insinuated that EBP was not meant for nurse educators or it was seen as a distant and difficult concept to master, which explains why other participants gave the following explanations:

> *"So far, I can say it is not good because of the lack of information. Also, because we've got, I don't know what I can say, a few people who are doing these things for evidence-based learning. It is the information that I once heard about a long time ago when I was working in the community, where they talked a lot about that sort of thing. In the context of the nurse educator, it's the first time to hear about it"* (Participant 04, MD 25yrs).

> *"It is something that is not really spoken of because I think people push it aside"* (Participant 06, HD, 1yr).

“It's something that we haven't fully embraced in our clinical area and in the theoretical teaching arena” (Participant 10, MD, 12yrs).

“*What I have found out is that the term is used loosely. I've often seen it being used in framing objectives, for example, compiling the new degree curriculum. I have seen it being used, but I haven't seen it being implemented”* (Participant12, MD, 2yrs).

The researcher noted that these findings indicate that nurse educators with a higher educational qualification such as master’s and doctoral degrees had a higher level of EBP knowledge than those with lower qualifications, longer periods of experience and advanced age. Participants with advanced age and more years of experience had insufficient EBP-related knowledge as compared to the younger ones with fewer years of experience. The researcher did not expect this finding as it disputed the conclusion made by Mikkonen et al (2018:85) that the higher the level of education with advanced age and experience, the more competent the teacher is likely to be. However, older participants remained more competent in their pedagogical skills than the younger participants due to longer period of experience in the teaching and learning environment.

4.4.1.2 Sub-theme: Understanding of EBP concepts

The EBP concept has been defined in Chapter Two as the use of best current evidence in making decisions about the care of individuals with the incorporation of patient preferences and clinical expertise. This practice has been adopted by international scholars and organisations as the best practice strategy (D’Souza et al 2021:261; Stannard 2019:1080). In searching for answers to the research questions and when it was clear to the researcher that the participants were unable to provide more descriptions of their experience with the integration of EBP, the researcher posed another question to seek clarity and to check whether there was any new knowledge or understanding of EBP principles or concepts. The participants were asked to further describe their understanding of EBP concepts. The responses varied from one participant to another, with some of the participants showing some form of

understanding of what EBP principles were all about, as shown in the following quotations:

> *"Evidence-based practice is based on the evidence that had been gathered by the researchers and has been published as scholarly articles and evidence is made available to lecturers and the world at large, including students; so, we'll be able to practise current and up-to-date strategies"* (Participant 12, MD, 12yrs).

> *"What I've known is that evidence-based practice involves the surfing of the Internet to acquire in-depth and additional up-to-date knowledge that is available on prescribed textbook. It also involves the downloading and searching for articles using information that is obtainable from those articles because it is evidence-based"* (Participant 11, MD, 26yrs).

> *"My understanding of evidence-based teaching is that we need to conduct research and after recommendations have been spelt out, we then need to implement them as soon as possible in practice for the benefit of our students"* (Participant 08, BD, <1yr).

The researcher understood and interpreted the above-cited comments as they related to evidence-based teaching and the responses did not directly speak to EBP principles. The following comment from a participant was also a response to learning that is based on evidence and not practice. The participant said:

> *"For me, evidence-based learning is mainly concerned about the findings drawn from research that has been done by other personnel and then those findings are implemented. Those findings are drawn from the studies that they have been doing"* (Participant 04, MD, 25yrs).

Most of the participants demonstrated lack or poor understanding of the basic EBP concepts and principles. The findings imply that the participants' knowledge was limited to research utilisation (RU) and lacked an understanding of EBP principles. Chien (2019:6) clarified the difference between RU and EBP as discussed in the literature review chapter, and thus RU refers to the application of research results as

the basis of making decisions, conducting new procedures and developing new policies. Although RU is the basic step towards achieving EBP, it does not use the patient-centred approach. EBP is more complex than RU as it integrates the best research evidence, with clinical expertise and patient preferences. The following statements show that some of the participants had a better understanding of what is included within EBP. They had this to say:

> *"It would mean research rather than using textbook information. We use information that is fresh from research that is based on evidence extracted from our patients from the clinical sites. This evidence comes from the experiences of people who have actually experienced the problems that we are teaching about, rather than taking all the information from the textbooks, which is sometimes not applicable to the South African situations. However, because it's prescribed information, you end up teaching things that are too irrelevant to be applicable to our situation"* (Participant 07, MD, 19yrs).

> *"As I can see, there are different perspectives; it's not just about research findings, it's also about the expertise that comes from the professionals. It's also about the patient's knowledge and experience as well"* (Participant 12, MD, 12yrs).

The absence of research and EBP components within the nursing programmes and the nursing education curriculum at KZNCN has contributed to reduction in EBP knowledge and lack of exposure to EBP activities. The participants shared the following information, which encapsulated different views. While some participants showed some form of understanding of what EBP is, others lacked confidence in their description of the concept and thus made the following comments:

> *"According to my knowledge, evidence-based practice is that it is something that you can use as a tool to teach the student"* (Participant 04, MD, 25yrs).

> *"What I've known is that evidence-based practice involves the surfing of the Internet to acquire in-depth, additional and up-to-date knowledge that is available on prescribed textbooks. It also involves the downloading of and*

searching for articles using information that is obtainable from those articles because it is evidence-based" (Participant 11, MD, 26yrs).

"What I have found out is that, like I said earlier, the term is used loosely. I've seen it being used in objectives, for example, compiling the new degree curriculum. I have also seen it being used, but there has been no implementation" (Participant 12, MD, 12yrs).

Some participants had an idea of what the EBP concept is about, for instance, where there was mention of the formulation of the problem, literature search and literature review, most participants confused the concept of EBP with evidence-based teaching, while other participants understood it as the evidence that one produces as proof following a teaching and learning session; others still thought that the concept is only about the integration of theory into practice. The following comments support the views raised herein.

"I would say I've heard about evidence-based teaching and learning, but I have never had any first-hand experience with it. I've never been involved in it, like being formally trained on it. Also, I've never taught students on evidence-based teaching and learning" (Participant 07, MD, 19yrs).

"Most of the skills that we demonstrate from the guides that we are given are shown through the evidence that they provide, for example, where they researched it from and how they came for us to follow the manual to do it in that way. So, in my teaching, I have realised that most of the skills that we practise are things that have been researched correctly and the gaps can be identified because they review them quite regularly as well" (Participant 06, HD, 1yr).

In relation to the above quotes, ICN described EBP as a strategy used to minimise the theory to practice gap in the nursing discipline and as a platform where nursing educators share foundational knowledge with nursing students (Chien 2019:2). Hence, a participant made the following comment:

> *"Alright, evidence-based practice involves marrying the theory with the evidence we see in the clinical teaching and learning environment and applying that exposure in the classroom and vice versa"* (Participant 20, DD, 17yrs).

The level of education, age and years of work experience also had an influence on determining the level of knowledge the participants had. The findings show that the higher the level of education, the better the knowledge an individual has about EBP as stated in the quotation cited below:

> *"Okay, I would say I have had opportunities for evidence, applying and integrating evidence-based practice into my teaching and learning programmes. I think that is what I did when I did my course work in my master's degree in nursing education. I think that really opened my eyes regarding how to better apply evidence-based practice in my own personal experiences and in my teaching and learning"* (Participant 21, MD, 17yrs).

The above statement concurs with the findings of a study conducted by Immonen et al (2022:10) which recommended that university education with active involvement in research and appropriate nursing qualification at a masters' degree level, including clinical experience, is an essential competency in nursing education, hence nurse educators with a university qualification tend to base their teaching on evidence-based knowledge more than others.

Research processes are taught in some of the nursing programmes at KZNCN, where conducting research proposals and full studies is encouraged, but EBP is not included within KZNCN research strategies. Again, Chien (2019:6-7) explained that research in nursing meant undergoing a research study to generate new knowledge as compared to EBP which is the use of best current evidence to make nursing care decisions. EBP is commonly confused with a research process, a finding which was demonstrated by most of the participants who found research processes and EBP as having similar and related meanings.

These study findings also show that the participants' experiences were mainly about the teaching of research processes and not the teaching of EBP competencies. Furthermore, the participants failed to mention or identify the components of EBP,

such as the five steps of EBP, level of evidence, and knowledge of PICOT as the basic principles underpinning EBP. However, the participants still felt that it was necessary for EBP to be integrated into teaching and learning and nurse training programmes at KZNCN.

4.4.2 Theme 2: Facilitating integration of EBP

As the participants described their experiences, it became clear that EBP is not a common practice within the KZNCN. The integration of EBP seemed a bit far-fetched concept for the interviewed nurse educators. However, these participants acknowledged the poor knowledge they had and could foresee challenges in the pursuit of EBP integration in teaching and learning; such challenges include inadequate knowledge, lack of resources, poor access to information, lack of IT skills, negative attitudes, lack of motivation and time-related constraints. All these challenges were identified as the possible hindrances to EBP integration in teaching and learning processes.

To successfully facilitate the integration of EBP into nurse education and training, NEIs should create an atmosphere that is positive in relation to staff attitudes, motivation, knowledge and skills. In addition, access to information and support for the librarian is a necessity in the application of EBP, and this includes the availability of relevant resources. Availability of adequate time is also an important factor needed for the preparation and engagement of students using appropriate teaching and learning strategies. As mentioned previously, EBP was viewed by the participants as similar to the research process and it was due to this understanding that the subsequent discussions focus on both concepts. Despite this ambiguity, facilitation of research and EBP require similar conditions as described in the following subthemes.

4.4.2.1 Sub-theme: Attitudes and motivation

Attitudes can have either positive or negative influence on EBP integration, where some people support the initiative, while others oppose or reject it. For an example, the participants mentioned that research is considered difficult by those who are supposed to adapt to the research practice, thus:

"I found out that it's difficult for them to understand research processes because they've got that negative attitude as far as research is concerned because they don't want to do the actual research, they've got that thinking that research is hard and therefore difficult; so, it's difficult for them to adapt to a research practice area" (Participant 08, BD, <1yr).

The development of positive attitudes towards EBP integration amongst nurse educators can be very effective in aligning or shifting their mind-set, especially when dealing with those who are resisting change from using old practices. The quotes below are the explanations provided by some of the participants:

"So, I think in terms of that issue, as educators, we just need to really become more positive and embrace it positively for the sake of personal and professional growth" (Participant 10, MD, 12yrs).

"One of the problems we do have as staff is that we are very resistant to change; we like to use old practices because we are used to them. Yeah, we are very resistant to change" (Participant 12, MD, 12yrs).

Lack of motivation and lack of interest towards research activities contribute a lot in hindering research and the application of EBP in nursing education and practice. Sometimes, employees expect forms of incentive to encourage their involvement in research. In relation to this issue, two participants were quoted as saying:

"Maybe it is the motivation that lacks too. It is lacking so that you can use those research topics and after that, maybe you find that the students have done those things and then they never came up or came back so that we can use their findings. That is a problem for me" (Participant 04, MD, 25yrs).

"Actually, they don't, because everything that involves teaching and learning for them is for monetary purposes or they expect something as payment. So, in this regard in KZNCN or in the government sector one does not get an incentive for doing research. I think in whatever that they do, nurse educators and professional nurses expect to gain something for that and, in this regard, they're not motivated" (Participant 08, BD, <1yr).

Sometimes, nurse educators may be scared or lack the confidence needed to try something new, such as integrating EBP into nurse education and that could be a huge hindrance in facilitating EBP integration. Lack of experience in research may bring fear, thus removing any interest in committing themselves to any research activities and, accordingly, one participant who made an interesting comment as quoted below:

> *"I also that there is fear of the unknown, which hinders people from implementing the skills they are supposed to apply. This also results in not being assertive when one is supposed to be like that; so, it does have a negative impact on this issue"* (Participant 03, BD, 29yrs).

Exposure to and acquisition of EBP competencies in a nursing career facilitates the development of positive attitudes toward research and EBP. A positive attitude increases the chances of nurse educators getting more involved in research activities, resulting in active participation in the application of EBP in both classroom and clinical environments (Iradukunda & Mayers 2020:2). Therefore, to improve on tackling these challenges, the recruitment of relatively qualified staff and skills development and proper curriculum alignment with EBP principles and processes is recommended for the creation of a positive attitude towards the application of EBP (Mwiinga-Kalusopa et al 2022:165; Skela-Savic et al 2020:1). Change is not always accepted by all and can bring a lot of controversies; hence, a paradigm shifts towards a positive attitude for nurse educators responsible for curriculum reviews is also encouraged (Patelarou 2020:21) through participation in journal clubs and research days including being part of research studies.

4.4.2.2 Sub-theme: Adequate knowledge and skills

The findings show that the participants were highly concerned about the knowledge and skills needed to support the integration of EBP into the teaching and learning programmes. Lack of information technology (IT) skills was identified as an impediment to the integration process. These skills were found to be relevant for EBP and research processes. In support of the above statements, the participants commented that:

“Maybe it is lack of adequate knowledge or even the resources; maybe, they are there but we are not computer literate. We are not well-versed in advanced technology and that hinders us from implementing those findings” (Participant 03, BD, 29yrs).

“Maybe the problem is also with us; we are experiencing challenges as far as information technology is concerned. When it comes to technology we are still behind” (Participant 04, MD, 25yrs).

Also, the study findings have revealed that the EBP process is an uncommon practice for nurse educators, even though the participants were aware of the EBP concept. Evidently, they lacked an understanding of the concept and its use to an extent that the participants were unable to explain it when asked about the EBP skills, process or five steps. The quotes indicated below show how some participants responded when they were asked to describe their understanding of EBP:

“I don't have any idea” (Participant 02, BD, 14yrs).

One of the participants clearly stated that they had never been involved in any formal training provided for them. She said:

“I've never been involved, for example, in being formally trained on it and also, I've never taught students on evidence-based teaching and learning” (Participant 08, BD, <1yr).

Knowledge and skills are necessary for researchers to enhance literature search from the internet using computers, and this is the area of knowledge that the participants felt the need for them to be up skilled. It was mentioned in the earlier chapters that insufficient preparation during basic training is a huge challenge that impedes the adoption of EBP by practising nurses (Skela-Savic et al 2020:1), in addition to the lack of appropriate resources (Lehane et al 2019:4), hence the urgent need to develop and implement effective professional education programmes to facilitate EBP. Prior to one of the interviews, one participant commented on the study topic, indicating that it was seemingly a difficult topic, though she felt that it was necessary and very important for

investigation. These comments indicate that the participants' knowledge about the integration of EBP was inadequate.

4.4.2.3 Sub-theme: Time management

More time should be invested in the application of EBP where preparation time is of essence. Once the formulation of the problem has been done, preparation time is needed to search for and critique literature to find the relevant evidence to be used in solving the identified problems. The participants highlighted that most of the time is consumed by preparation of lesson plans, resulting in less time for searching for and critiquing literature. One participant said:

> *"The challenges I personally have are that it does take a lot of time to compile lesson plans. Actually, we do not have sufficient time because we have to do a lot of research. One has got to understand the current situation with the disease profiles and then understand the availability of the human resources and other equipment that might be needed for patient care. So, this ought to be taken into consideration as it takes a lot of time*" (Participant 10, MD, 12yrs).

Other participants highlighted how important time management is in order to find time for the application of EBP. For nurse educators, more time is spent in staff meetings, thus limiting the time that should be spent in the classroom. The participants said:

> *"I also think about preparation time. I think, we just need to consider time management as individuals and then maybe even address it at the campus level, thus cascading that knowledge to the rest of college as well. The idea is to have more preparation time so that we can really undertake research on all the different topics. Time should not just be spent on the literature search, but also on clinical work, seeing all of the updates"* (Participant 10, MD, 12yrs).

> *"We experience time-related constraints. We hold meetings frequently; however, we are not saying these are unnecessary meeting. These are meetings that are not programmed or organised specifically for the topic. Sometimes you find that the topic doesn't suit the discussion and you feel you do not want to be there, but you have to be there because it's a management*

or team meeting. It's good to attend those meetings to get information. However, the information can be disseminated through other media, such as WhatsApp, instead of all of us going there and wasting time because we need to be focused on things that are very important for students in the classroom" (Participant 15, MD, 20yrs).

The other challenge with time is that current programmes have specified timeframes that do not provide time for research activities. A participant reported:

"So, time is a big challenge, especially with these R171 timeframes" (Participant 19, MD, 17yrs).

Time is needed also for the participants to attend workshops and more time must be allocated to research activities. So, it is obvious that according to the participants, time is not enough for engaging in all these activities.

"We should adjust so that if there are workshops, we prioritise them. We should also prioritise seminars and webinars so that we get all the information and disseminate it to the campus" (Participant 09, Dip, 10yrs).

In contrary to the sentiments expressed above, other participants felt that there was adequate time provided within the class timetable and that time could be used for EBP teaching and learning and for library use, which indicates that the issue of time was viewed differently by the participants. One participant commented:

"With the introduction of new programmes, I think we have a bit of more opportunities with our time slots on the timetable so that we try to integrate this evidence-based practice into the teaching and learning programmes" (Participant 20, DD, 17yrs).

Time is allocated for library activities such as Internet-based literature search and the reading of journals as suggested in the following quotes.

"Usually, the librarian assists the students because they use the library period" (Participant 02, BD, 14yrs).

"The librarian is the best person that will be able to help the students at a certain time scheduled for the library so that students get access to information" (Participant 15, MD, 20yrs).

Adequate time is essential for the EBP application regarding access to information. The five-step EBP process warrants that more time and more personnel be allocated whenever a need arises to find a solution to the problems facing the nursing fraternity (Ewers et al 2022:9). To facilitate the integration of EBP into the teaching and learning processes, nurse educators require more time to accommodate EBP activities. An addition of new content and changes to the existing curriculum need more time and commitment for curricular updates and development to take effect. Insufficient time was identified as one of the common hindrances to the application of EBP (Ewers et al 2022:14).

4.4.2.4 Sub-theme: Access to information

The application of EBP can only be possible if access to the relevant best available information is afforded using electronic journal articles which are widely available on official websites such as ProQuest, ResearchGate, and etcetera. One participant highlighted the reason why access to electronic information is important, thus:

"Making use of published articles on topics that we teach in class and not relying only on textbooks before teaching anything is important. Yes, you check information that is on the prescribed texts so that students will make sure that whatever articles that they are going to download will not deviate from the information that is in textbooks, but it will be additional. This also helps students to embark on in-depth exploration of literature on particular articles, which also widens their horizons and knowledge" (Participant 11, MD, 26).

Access to such information requires internet connection enhanced by a Wi-fi or mobile data, which the participants felt was not always available. Again, computers, which are in the form of laptops, desktops or tablets loaded with enough data, are needed for easy internet connection. Without internet connection, accessing scientific evidence becomes difficult and being computer illiterate, together with the lack of appropriate

resources for connection, can be a huge barrier to access to information. The participants made the following comments regarding access to information:

> *"For me to look for information, the resources I need include the Wi-Fi and other gadgets, such as a laptop or a desktop computer or a smartphone, but the issue revolves around the internet"* (Participant 02, BD, 4yrs).

> *"I think students need access to journals, which is aided by internet. So, they need to have access to the internet and unlimited access to Wi-Fi so that they are able to research during those certain periods, which will reinforce students' knowledge. We should try and do this search because if we do not do it, obviously students won't do it because they don't see a need to apply skills not instilled in them. As educators, we must try our best to instil these skills in students"* (Participant 02, MD, 14yrs).

> *I think there would be limitations in campuses whereby students have a few computers and textbooks in their libraries or they don't have tablets. However, for the campus where I'm working, yes, we do have the resources, and I think this practice can be implemented. There shouldn't be any problems or challenges in implementing it fully"* (Participant 16, MD, 6yrs).

Although other websites and databases, such as Google Scholar, have free access, some journals require that institutions pay a subscription fee for them to gain access to their electronic articles and to download them for printing and that creates a barrier to access to the relevant information. Again, the use of the intranet instead of the internet becomes a barrier to connection because this form of connection has limited access to other websites and is controlled centrally by the Department of Health, which poses a challenge when employees require information that is outside the pre-approved sites. The participants commented:

> *"I usually emphasise to them that they're supposed to use their own books as prescribed books and also go to the library and use the Google Scholar where to get the information from different resources"* (Participant 01, BD, 13yrs).

"And also, at KZNCN, the challenges that we have concerning research or articles is that we don't have internet connectivity. I can't say software, we don't have the internet. We only have the intranet, which limits us from getting more information" (Participant 13, MD, 17yrs).

Findings further indicate that each KZNCN campus has a library, and it is definitely an essential source of evidence available to support the teaching and learning of EBP skills and principles. Access to current evidence requires that one visits the library to find the latest editions of books, published articles and journals. The participants mentioned that some campus libraries do not stock all the relevant material and sometimes, their textbooks are outdated. Libraries need to procure items that are current and not outdated. They should ensure that the latest editions of prescribed books are available to students and nurse educators. Most participants were in agreement regarding the contribution that library services provided to them, as they stated the following:

"I think the library should first of all have enough computers and printed journals on the shelves so that the students know that there's a section for journals where they can go and look for the latest information" (Participant 09).

"What I have also found very good for the students is that the librarian is very supportive and assists the students with any reference in the library as well as searching for information. Librarians are also very IT-skilled, so they support the students in terms of the different links and the different websites that are available so that they gain the relevant information for the topic being researched on, including extra literature" (Participant 10, MD, 12yrs).

Library times are sometimes a barrier to access to information outside the opening hours and that is why some participants suggested that library hours should be extended to 24 hours a day for the benefit of the students. In that regard, this is what was said:

Another problem with our library is that it closes so early that even if you want to utilise it, you can't do it when it's after hours. So, those are the challenges, but if we can have a library that opens 24 hours even to students, it will assist" (Participant 13, Md, 17yrs).

In dealing with time-related constraints, one participant commented on the library period that is provided for students to visit the library to engage with literature search. The participant reported:

> *"Most of the time there is a library period on our timetable that students can use. Usually, the librarian assists them because they will be using the library period"* (Participant 02, BD, 14yrs).

Accepting the use of digital information is often met with the resistance to change from using textbooks. One participant mentioned that their counterparts still preferred the use of prescribed textbooks to the available digital texts.

> *"There's a module I'm coordinating. So, we are a team in that module and we do mark and stuff like that. Somebody asked a question; "Do you really mark any relevant information, maybe a student got information from internet?" The answer to that question was; it has to be from the prescribed book. However, when you look at this prescribed book, it's so outdated, it's so longer printed, and the edition would be a very old one. It makes me wonder really one day maybe you'll end up failing students because they have more advanced knowledge gained through the internet and journals which we, as lecturers, don't refer to or don't use"* (Participant 02, BD, 14yrs).

Library instruction, information literacy and journal clubs play a huge role in ensuring access to the relevant information and evidence. According to Ewers et al (2022:16), library sessions are an integral part of continued professional development and awareness of information literacy throughout the nursing career can enhance access to EBP literature resources. Larsen et al (2019:29) affirms that embedding librarians in the teaching of EBP to nursing students is regarded as an effective way of promoting EBP principles. Information literacy is the ability to search, critically appraise and use the best available research evidence (Coleman et al 2018:4). Encouraging membership to a journal club through subscribing to published journals and/or joining local institutional journal clubs for information sharing empowers individuals with skills on locating, critically appraising and reading relevant articles, thus enhancing the acquisition of evidence-based healthcare competencies (Larsen et al 2019:29). Froland et al (2025:206) on strengthening EBHC in Africa indicated the need for the

involvement of librarians and information specialist to train healthcare providers how to conduct literature search.

4.4.2.5 Sub-theme: Role of the librarian

The EBP process follows five steps where steps two and three involve literature search and the critiquing of articles. These functions are also considered to be the key competencies the librarian should exhibit; hence, performing this function by the nurse educator may require the assistance and support of the librarian, thus allowing healthcare professionals to become dependent and reliant on the librarian to access some of the information. The librarian can provide short courses to train nurse educators and support nursing students with article search and critiquing skills, correct referencing techniques and how to apply them so that the integration of EBP is made easy. The following statements were made by participants when they were asked about the role of the librarian in the integration of EBP into teaching and learning programmes:

> *"The librarian can assist by ensuring that we are able to retrieve information and be able to have the links that assist us to get articles because when you try to research something, you find that you can see this document or will be more effective or assist you with whatever information you need. But you find that it says you must sign up or must ensure that you buy it so it limits you because you end up abandoning that thing. You then have to find other information. So, if our library is able to link us with those web searches, it will assist us to ensure that we are linked and then we can get more articles and we can then be able to get more information"* (Participant 13, MD, 17yrs).

> *"If we cannot check with our facilities, the librarian also has a very valid and important role, as they can help us to search for information. They can also check what's current in the provinces and link us to information and journals and e-learning materials. They also highlight the most important calendar events and months and activities. Also, the librarian makes us aware of what is going on"* (Participant 14, HD, 19yrs).

"Librarians play a huge role in terms of taking students through literature search, teaching them how to access information, and teaching them how to critique literature as well" (Participant 17, DD, 16yrs).

The participants considered librarians as highly skilled and more knowledgeable professionals regarding IT skills and the ability to access relevant journals; hence, they made the following comments:

*"I think they assist and teach them how to look for those journals because sometimes it's not easy when you are a student from home coming to a tertiary institution to search for those journals. They can teach them how to search for the journals, help them to select suitable journals for them as the nursing students" (*Participant 09, Dip, 10yrs).

"A librarian can play a role maybe in helping us to log onto the computers" (Participant 19, MD, 17yrs).

In addition to the responsibilities described above, one participant further suggested that librarians need some form of training for them to be able to provide assistance with EBP processes. A participant said:

"I think the librarian must also have knowledge as well. He or she must also go for learning on what is expected of him or her and I think their role will be helping the student to search for the information from the Internet and also help those students, especially those that are coming from the areas where students have got no knowledge on the use of computers. I think the librarian is an asset deployed to help student on how to use computers, how to research, and how to come up with information" (Participant 18, MD, 18yrs).

This is in contrast with the comments made on the statements expressed above. Thus, the participants felt that the librarian may not be well acquainted with EBP concepts. However, librarians are expected to be adequately skilled in literature search and the critiquing of articles. Another participant also suggested that librarians must be assigned to teach modules that require library skills, including literature search. They made the following statements:

“I definitely think so, because there's a programme that we call HIS programme and I was wondering why our librarians are not involved in it because searching for documents is something that they would be able to teach our students. That means searching for e-resources” (Participant 21, MD, 17yrs).

The above statement is supported by Mwiinga-Kalusopa et al (2022:165) whose study findings emphasised the involvement of the librarian throughout the EBP training programme. It is also important that librarians work together with nurse educators and keep an open communication system between each other for the success of the application of EBP in teaching and learning activities as mentioned in the following quotation:

“The librarian should also be keen to work together with the academic staff. Whatever we need should be communicated. So, our communication system should be open and the librarian should also have a listening ear and must also attend to our needs. If we need books, we need to communicate with the librarian. The librarian should also be able to outsource information and material from other libraries if he or she is unable to acquire those materials or resources using the available funds” (Participant 11, MD, 26yrs).

Although most of the participants appreciated the service provided by the campus librarians, one participant differed and compared the services provided in her institution with those received from one other university library. She alleged that the librarian from her institution was not as helpful compared to the services received from the other university librarian and this is what was said:

“What I see our librarian doing is different from the assistance that I got from the tertiary institution. I found that the librarians were very helpful. You know, if I was looking for information, the librarian would help me to search for it. If there was just no up-to-date information on the shelves, they would guide me to search for some of it, showing us the area where you can search. If I couldn't get it, I could ask for it to get it right. Our librarian does that for us but obviously as for physical books, she should be able to get them for us. Then, from my experience, I also found that I was able to do certain programmes, you know.

When I went to do my master's degree, there were certain things that I wasn't familiar with, like how to do the real text. To do all those things, I was helped in the librarian" (Participant 21, MD, 17yrs).

In summary, the main responsibilities of the librarian include; assisting with information search from different articles and journals, teaching students how to search and how to do referencing, outsourcing information and materials from other libraries, subscribing to websites or database links, checking with other provinces for additional resources, accessing e-books, teaching students how to execute information search to access literature and critiquing articles, as well as providing access to websites and the relevant links. Some participants said:

"The librarian can access books for us on research that was done, and positive feedback can be given because he has access to the library" (Participant 15, MD, MD, 20yrs).

"Yes, I think the librarian has got a huge role to play because when you get to the library, you'll just give the librarian maybe the topic only and then they need to go into the catalogue to check the books where you can find information on the topic that you have given them so that they will guide you on the books or list of books which you can use for your topic or on the section in the library where you can find such books for a certain module or subject. Yeah, I think, even for journals, if students need to access journals, the librarian could always assist through showing students how to get a journal or how to search for a particular journal that speaks to the subject or topic being researched on" (Participant 16, MD, 6yrs).

Friesen-Storms et al (2017:40) also reported that a librarian can provide support and guidance towards the development of searching and critiquing skills to decide on the best available evidence, therefore collaboration with librarians to teach EBP principles can bring an improvement in an understanding of the EBP concepts (Hung et al 2019:9).

4.4.2.6 Sub-theme: Engaging students with research

Involving nursing students with research activities was stressed by some participants with a view that empowering students with current knowledge enables them to withstand the changes that are taking place in the clinical area. Engaging students with research promote critical thinking, encourages students to become more inquisitive and provides opportunity for a change in their mindset, hence the comment below:

> *"Yes, I usually use research-based information in my teaching. I'm doing that so as to engage the student"* (Participant 01, BD, 13yrs).

> *"I am doing a full-on presentation for the students with all the current trends that are in practice. Then, in turn, this also empowers the students with updated information. We will be preparing them effectively for the clinical practice with all the changes that have taken place. Also, we should give that mindset to the students and challenge them that they must go forward with this inquisitive mind. Students need to keep an open mind, open eyes and ears, and everything should be open to ascertain the gaps and problem areas that need further research"* (Participant 10, MD, 12yrs).

> *"I think, if we have a strategy that would be utilised to ensure that after they have done that research, they have a platform where they can present the findings of their studies and also, they have a way of utilising what they have researched"* (Participant 13, MD, 17yrs).

Students are encouraged to search for other information in addition to the prescribed textbooks, which reduces dependency and restriction to prescribed texts which could be outdated. The participants made the following comments:

> *"I usually emphasise to them that they're supposed to use their own books as prescribed books and also to go to the library and also to use Google Scholar. We have a library that has books from which they are supposed to get the information from, including different other resources"* (Participant 01, BD, 13yrs).

"I used to encourage students to determine whatever current medication was ordered for the clients, and I used to ask them to look it up and do a teaching session with them and I found that they were different, they weren't what was actually taught in the textbooks" (Participant 14, HD, 19yrs).

In doing so, nursing students were able to understand and adopt the EBP process. Nursing students have begun to use EBP principles, for an example, they have developed the skill of identifying gaps and problems that need attention. In agreement with the above statements, Maskey et al (2019:52) and Dewi and Mani (2020:1) stressed the point that exposure to and opportunities created by research activities increase the level of EBP understanding and help nursing students to easily grasp the relevant concepts to improve their knowledge of EBP.

In addition, in the comments below, more participants identified and explained other activities that can increase student engagement with research and the EBP process.

"Even in the modules that we teach, an educator can do research with students to be able to apply evidence-based practice" (Participant 13, MD, 17yrs).

"Since some students in the class get bored, they sleep when the lecturer is does all the talking. So, with this evidence-based approach, students sometimes get to do other tasks in class or in groups, discussing as they look for the information themselves. When they are searching for the information, there are sometimes chances of forgetting something that they saw, or compiled themselves. They can remember something when writing as opposed to the lecturer standing there just singing and singing and singing until the end of the hour" (Participant 16, MD, 6yrs).

In relation to how EBP is defined by STTI, where EBP is referred to as a shared decision-making process combining the experiences of the clinical team, the patient's desired outcomes, and the knowledge gained from understanding the best clinical evidence available (Coleman et al 2018:2), one participant stated that other forms of information can be accessed by doing patient surveys and interviewing them using questionnaires. The participant narrated:

"We need to talk with the patients asking them if they like certain programmes. We can just design a questionnaire whereby we are going to come up with a tool on how we are supposed to ask the patients even if there's no questionnaire but that interview between the patient and the nurse is where the nurses are going to get what is happening because the patient always talks about what is happening. So, they're going to get that information from the patient" (Participant 01, BD, 13yrs).

Larsen (2019:28) encourages the integration of EBP concepts while teaching research, especially among those who are being exposed to nursing research for the first time. Exposure to EBP will assist nursing students in dealing with the negative attitudes associated with the research process, which is a challenge that is stated below.

"I found out that it's difficult for them to understand the research processes because they've got that negative attitude as far as research is concerned because they don't want to do the actual research, they've got that thinking that research is hard or difficult. So, it's difficult for them to adapt to a research practice area" (Participant 08, BD, <1yr).

The participants believed that the integration of EBP requires that nurse educators be students' role models, teaching students research-based information so that learning can be more learner-centred. The participants were quoted saying:

"You are supposed to engage them so that they participate in their own learning" (Participant 01, BD, 13yrs).

"We need to instil that competency in students. In order to instil that skill in our students, educators must live and breathe evidence-based practice" (Participant 03, BD, 29yrs).

Student engagement with EBP activities and allowing them to work on an assignment during clinical practice can open chances for students to experience learning in real situations where guidance is continuously provided by the clinical academics. So, when students experience the impact of EBP in the clinical area, their attitudes towards EBP will become positive. Again, periodic workshops on EBP principles have

a positive impact on research activities, thus stimulating students' interest in EBP (Horntvedt et al 2018:11).

4.4.2.7 Sub-theme: Teaching and learning strategies

To engage students effectively, the participants were asked to share views regarding the appropriate teaching and learning strategies that can be used to effectively facilitate the integration of EBP. The strategies that were suggested by most participants are interactive lecture methods, group discussions, jigsaw puzzle, innovative teaching strategies, role plays, teaching ward rounds, simulation, assignments, tests, case studies, use of scenarios, problem-based learning, blended learning, and digital and virtual learning. The participants did not have the evidence to determine whether all these strategies could really be effective in enhancing the integration of EBP. These had never been tested by the participants as they were just suggestions. However, Hsieh and Chen (2020:8), in a Taiwanese study, identified the flipped classroom as a strategy used by nurse educators to enhance the transmission of EBP knowledge and skills to nursing students and was found to be an effective strategy. Nevertheless, the participants were quoted as saying:

> *"We can do group discussion to enhance interactive learning. We try our best; we don't just apply the lecture method. We have moved a long way from the lecture method and the more involved the students are, the more case presentation you give them, the more case scenarios you expose them to, and the more role plays that you use, they will be integrating the EBP concepts"* (Participant 20, DD, 17yrs).

> *"I use methods like the lecture method, group discussion, and the jigsaw puzzle, but I usually use the group discussion, the lecture method, the assignment, tests and all the stuff"* (Participant 01, BD, 13yrs).

Another participant added that keeping students active during class activities prevents the students from getting bored, thus confirming that group discussion can be very useful in the teaching and learning of EBP and this was affirmed by the participants in the following quotations:

"Since some students get bored while in the class, they end up sleeping when the lecturer does all the talking alone. So, with this evidence-based approach, students have got to do other tasks in class, discussing in groups, looking for information themselves. They will be searching for information and eliminating chances of forgetting something that they have seen, or compiled themselves. They remember something when they are writing as opposed to the lecturer standing there just singing and singing and singing until the end of the hour" (Participant 15, MD, 20yrs).

Other strategies described during interviews were problem-based, blended and digital learning as mentioned in the following quotation:

"I would start with the lecture method that we use as long as it's engaging students, it may be still interactive. Group work is used as well. We can use problem-based and blended-learning strategies even now, which involve digital learning combined with face-to-face learning. So, I think those are the strategies that could work" (Participant 17, DD, 16yrs).

For further reinforcement, the case study method and the use of the scenarios were pointed out as relevant to the teaching and learning process during the integration of EBP as indicated in the quotations cited below:

"If you give them a case study and give them a real scenario that has happened to a real patient in the ward, they will be able to answer the question through remembering the information because they've witnessed it in the clinical area, having physically nursed a patient and carried out all of those nursing interventions" (Participant 20, DD, 17yrs).

"But when we do clinical accompaniment, we try to do a little round as well, you know, something like a teaching ward round, though it is like a nurses' round and try to use the evidence that is presented and determine how they can enhance their practice as that particular practitioner, like a midwife. So, yeah, I think case presentations can be helpful as well" (Participant 20, DD, 17yrs).

Hung et al (2019:9) concurs with the above findings, reiterating the point that students should be allowed to practise EBP in a scenario assignment form during clinical practice. The focus is to engage and motivate students to get involved in their learning. Simulation was also mentioned by Niu et al (2022:6) as a strategy that encourages critical thinking, self-confidence, knowledge and skills acquisition, and demonstrating abilities by nursing students to learn and practise clinical skills without the fear of causing harm to real patients and it is practised in a safe environment where feedback can be provided immediately by the facilitator (Iradukunda & Mayers 2020:2), thus allowing more opportunities to practise EBP principles. In support of this statement, one participant commented on simulation, saying:

> *"Simulation also works like role play. We simulate what the patient does in our skills lab and that can also be very effective"* (Participant 20, DD, 17yrs).

The participants had an understanding that to teach EBP skills, nurse educators need to move away from traditional teaching approaches and adopt new innovative strategies. She had this to say:

> *"There is a lot of empowerments of nurse educators in terms of keeping updated with the most recent trends like innovative teaching strategies"* (Participant 10, MD, 12yrs).

> *"Innovative teaching strategies also guide us in our lesson plans and how to incorporate all of the updates in the new knowledge that has been generated"* (Participant 10, MD, 12yrs).

In the above quotes, the participants indicated that innovative teaching and learning strategies can improve students' learning and skills through different ways of engagements inside and outside the classroom (Eli 2021:91), in addition to the use of digital platforms, learner-centred and interactive approaches. These quotations also confirm the proposal made by Ewers et al (2022:14) that educators should allocate cases for discussion each week using the blackboard as the learning management system. The blackboard learning system is regarded as an innovative strategy where virtual means of teaching and learning are used and centred on students'

achievement. As an online learning strategy, helps to deliver EBP content, allows for collaborative learning and can keep learners engaged with EBP (Raza, Qazi Z, Qazi, W & Ahmed 2022 Application of jigsaw, use of technology and research, role-plays, case studies, problem-based learning and blended learning are all considered innovative teaching and learning strategies.

Brooke (2017:2), Ewers et al (2022:16), Larsen et al (2019:29) and Shahzad (2022:11) stated that exposing students to real experiences in terms of applying EBP, clinical scenarios, EBP role models. These are recommended for use during clinical placements. These strategies help the students to gain skills such as problem identification and appraisal skills for both undergraduate and postgraduate students. In support of these statements, Larsen et al (2019:29) identified IT as the key method of enhancing information literacy that allows access to websites and video resources using mobile devices such as mobile phones to search for information about EBP, indicating that IT can be used as a method of teaching EBP in both classroom and clinical settings.

4.4.3 Theme 3: Significance of integrating EBP into teaching and learning

In 2017, WHO published a guide on how to facilitate EBP in nursing and midwifery in the European region. The guide specified that EBP can bring an improvement in the quality of healthcare to the benefit of patients, nurses and healthcare systems. The document highlighted the crucial global health challenges related to how other countries experienced the crisis of unsafe care, hence the need for policymakers to continue monitoring quality and health safety. This has resulted in the implementation of EBP principles to counteract these challenges. In this way, major gains were noted in the delivery of patient-centred care, improved patient safety, healthcare practices became more effective and efficient, treatment timelines were reduced, thus making healthcare services more equitable than before (http://www.euro.who.int/pubrequest).

The findings of a study conducted by McNett (2021:74) described EBP as a strategy that improves patient outcomes, increases practitioner competency and reduces healthcare costs, resulting in healthcare institutions receiving a good reputation for clinical practice. It is vital that healthcare professionals understand the significance of

EBP to improve the quality of healthcare and patient outcomes (Dang et al 2022), hence the need to incorporate EBP in the training programmes involving nursing students. Four subthemes emerged from the study findings, where the participants described how significant the integration of EBP is in teaching and learning processes and those themes related to nurse educators, nursing students, the nursing profession and patients which are discussed in the next paragraphs.

4.4.3.1 Sub-theme: For the nurse educator

The facilitation of the smooth transition to the adopting and implementation of EBP for nurses depends on nurse educators' knowledge and skills regarding the EBP concept and its integration. Again, nurse educators should use current evidence in their teaching. The participants believed that the integration of EBP into teaching and learning will close the theory-practice gap and increase the level of critical thinking amongst the students, thus removing the burden of teacher dependency in learning situations. They also acknowledged that the integration of EBP will create opportunities for the use of current and most recent information to teach students as mentioned in the following statements:

> *"Yes, I think it is very important for nurse educators to know about EBP, as they are grooming new nurses. We need to have nurses that are critical thinkers, nurses that ask questions around why things are like what they are and how they can be improved"* (Participant 01, BD, 13yrs).

> *"I just think that there is such a need for this evidence-based approach. Everything must be focused because we must teach what is current, relevant and future-oriented and also with regard to the disease pattern that's prevalent and the healthcare needs of our community and society"* (Participant 14, HD, 19yrs).

The next quotation implies that equipping nurse educators with EBP skills allows for the introduction of new ways of doing things, making it possible for them to move away from traditional practices. The participant reported:

"It would mean that we are producing more competent nurses like the calibre of nurses that we have. That means that our programmes are supported scientifically because we are then sure that the thing that we are teaching clinically has been correctly researched for the nurses. Thus, for me it would be of great value if it had to be done in that way" (Participant 06, HD, 1yr).

Moreover, the integration of EBP encourages teaching programmes that are supported by scientific evidence that is current, relevant and future-oriented. EBP educational programmes have been found to have a positive effect on EBP knowledge and skills acquisition by undergraduate nursing students (Cardoso et al 2021:10). Then, integrating EBP into nursing education builds a scientific foundation for the nursing profession in terms of addressing research and practice gaps (Mwiinga-Kalusopa et al 2022:165). The expectation is that nurses should be able to use evidence in clinical practice in the post-graduation period (Ramis et al., 2019:1).

4.4.3.2 Sub-theme: For the student nurse

Empowering nursing students with EBP skills encourages them to develop critical thinking skills, reduces the tendency to rely on prescribed textbooks and prevents stagnation while promoting lifelong learning. Most participants agreed that nurses should have sufficient knowledge about EBP competencies at the completion of training so that they get qualified with a better understanding of EBP principles. In support of this statement, the participants made the following comments:

"Firstly, our students can get the empowerment and the insight into the importance of evidence-based practice because they are the future of the nursing profession" (Participant 10, MD, 12yrs).

"When our diploma students go to the wards, they're going to work together at the same level with the students that have undergone a bachelor's training. So, those people would be applying the principles of evidence-based practice and our students will be left behind. Besides that, for the safety of patient care and in terms of nurses ensuring that they are utilising the most recent evidence-based approaches in terms of nursing care, it is important that they engage with literature" (Participant 17, DD, 16yrs).

"That's going to help them to develop critical thinking and problem-solving skills" (Participant 19, MD, 17yrs).

EBP knowledge and skills allow students to make more reference to the current, updated information from journal articles and are able to base their learning on researched evidence. EBP provides a wide choice of evidence for the nursing student who should choose from the best available evidence to be applied in nursing care plans. Here is how the participants described the importance of EBP for student nurses:

"I think it is very important because many changes are happening, including diseases and all other things that are happening. I think it's a good idea because students have to be able to research and come up with lots of information that the lecturer is sometimes not aware of, but if you have got 30 students and all of them are coming up with current information, we will definitely get more information about different conditions and how to manage them and students will be active and participative" (Participant 18, MD, 18yrs).

Lehane et al (2019:4) emphasised the notion that EBP competencies must be achieved on the completion of the nurse training course so that nurses are able to influence clinical decision-making, use the best current evidence in their practice, value EBP as an important strategy and be confident in applying such practice.

4.4.3.3 Sub-theme: For the nursing profession and practice

The responses from most participants indicated that EBP makes a huge difference in improving practice in the nursing profession. Patient care becomes safer and less expensive with the use of EBP, which makes it a much desirable approach to be implemented. Furthermore, EBP reduces nurses' dependency on the medical profession and encourages more use of scientifically guided practice. The statements cited below capture how the participants responded:

"So the evidence-based practice is essential in all of these collaborations and if we embark on continuous integration of EBP, starting from the classroom and the theory into integrating the theory with the clinical and evidence-based

practice, we are definitely going to look at safer nursing practice; we're going to look at more effective ways of improving nursing practice because it's going to be coming from all the available literature" (Participant 10, MD, 12yrs).

"Because of that, you will find that our nurses won't be just physical nurses but they will be able to do things at the discretion of their mind, rather than saying that a doctor said this or a nurse said that, as they will use their discretion to reduce the legality and the malpractices and negligence that they are experiencing at the hospital" (Participant 15, MD, 20yrs).

Malpractices and negligence within the health institution commonly result in a lot of litigation resulting in financial losses for the health institution. EBP with its emphasis on competent, appropriate care could be a solution to the rising adverse litigation. The following excerpt highlights this.

"We also just have to be cognisant of the current funding problems that we're also having because of the high litigation levels and if we start to be really serious about embracing evidence-based practice, then in the long-term, we are going to be looking at reducing litigation which in turn will be positive for promoting cost-effectiveness. Yeah, those are some of the thoughts that I'm having, looking at the evidence-based practice" (Participant 10, MD, 12yrs).

Moreover, EBP allows for the integration of new information and new practices into the nursing practice, thus broadening the current understanding and knowledge of nursing at large. One participant said:

"I would say that evidence-based practice means getting information on what has been done in terms of research to improve nursing care given to patients. For an example, in olden days, nursing care was based on what was done traditionally and so those things that are done now, are changing things. For example, we used to use a rectal thermometer, which we no longer use today. I believe that change is based on evidence" (Participant 08, BD, <1yr).

Participant 05 also had a similar understanding of how EBP can have a positive contribution towards nursing practice, in saying that:

"It is as valuable as it is; we are actually building the nurses of tomorrow. So, they must know that nursing is a lifelong learning experience so that now these current studies are always practised so that we don't use old things that no longer exist. Even the equipment for some things no longer exists but with the current practice I think it's really valuable" (Participant 05, MD, 18yrs).

During the Florence Nightingale's practice era, the nursing profession utilised researched information and evidence to influence patient care (Dang et al 2022:6). Nightingale is considered a part of those who promoted the concept of providing safe and competent care using sound evidence (Chien 2019:2). However, one participant pointed out the lack of support in practising EBP, although it is important, thus:

"We are not encouraged to have evidence-based practice, in spite of it being very vital, as it will make us very good practitioners" (Participant 15, MD, 20yrs).

Another benefit will be that when EBP integration has been implemented, it will raise the standard of nursing practice and place our country at the international level and here is how one participant felt about our country moving forward:

"I think education is evolving. It is taking another turn and we've got to be in line with other countries, not to be backward. As South Africans or as KZNCN, we are still doing things in the old traditional ways because some students are going overseas or they further their studies in other campuses or in other universities so at least they would have had the knowledge and they would have had experience so it won't be difficult for them" (Participant 16, MD, 6yrs).

The expectation is that nurses should be able to use evidence in clinical practice after graduation (Ramis et al 2019:1). EBP knowledge and skills promote independent functioning of the professional nurses and they become more autonomous by using own discretion in decision-making about patient care. Nurses will be able to face complexities of the work environment and provide the level of nursing care that is equivalent to international standards. Nurses are going to be better informed about the different conditions and how to manage them using the current scientific proven treatment.

4.4.3.4 Sub-theme: For the patient

The ultimate beneficiary of EBP in nursing is the patient. Patient care becomes more efficient and holistic when the EBP approach to nursing care offered to patients is promoted. There is a reduction in the number of days spent in hospitals by patients due to accelerated recovery leading to low cost (McNett 2021:74). Healthcare risks are minimised, resulting in the reduction of morbidity and mortality rates (Alzaatreh et al 2021:6).

> *"Because of the way they will be rendering nursing care, it will improve the knowledge and skills of rendering nursing care and improve the holistic approach that we always talk about, to nurse the patient in totality"* (Participant 02, BD, 14yrs).

> *"Our patients will get the benefit through this whole process of evidence-based practice for safety's sake and if they're receiving efficient and cost-effective nursing care. I think at the end of it, we will be taking it to a very positive place for safe and efficient patient care in terms of costing as well*" (Participant10, MD, 12yrs).

EBP ensures that patient care is not compromised and is based on best current evidence by avoiding use of old methods of care which might compromise patient care in a very bad way. This was a concern from one participant as stated below:

> *"I wouldn't say caring as much because whatever that the professional nurses are practising is based on evidence; however, our patients are compromised because they end up implementing strategies that have been approved a long time ago, whereas there's new information that has come into practice. So, I'll say it is compromised. Their caring is being compromised in that way"* (Participant 08, BD, <1yr).

As mentioned earlier in Chapter two, EBP influences changes to the standardised policies and allow for the implementation of the new guidelines to improve patient outcomes (Okoli 2021: 19-20). Furthermore, patients become more involved in deciding on own treatment, thus encouraging nurse-patient cooperation (McNett 2021:74). To improve patient outcomes on safety, nurses should strive for the use of

sound evidence and to implement current clinical guidelines to cover all areas of nursing care (Okoli 2021: 19-20). It is of utmost importance that we speak to the fact that EBP is patient-centred which the current paradigm of healthcare is.

4.4.4 Theme 4: Suggested strategies to enhance EBP integration in teaching and learning.

Based on the findings of this study, the participants revealed that nurse educators have limited knowledge and skills on the integration of EBP into their teaching. In response to the question asking for suggestions and recommendations on how the College (KZNCN) can support nurse educators in enhancing the integration of EBP, the participants suggested interventions that included skills development, nurse educators staying current and engaging with research activities, looking at reviewing the current curriculum, collaborating with clinical practice and the provision of relevant resources. The next paragraphs discuss the suggested strategies.

4.4.4.1 Sub-theme: Skills development

Study participants acknowledged the lack of relevant skills to EBP integration and recognised the need to empower nurse educators. These skills include IT skills, internet search skills, and article critiquing skills (Friesen-Storms, Beurskens & Bours 2017:407). In addition, suggestions were made on how nurse educators can be trained or coached to develop such skills, and there was mention of workshops, in-service training or short courses involving EBP competencies as stated below:

> *"In-service training of individual personnel and also updating them on the current events that are taking place and the knowledge keep nurse educators updated on current information that is available"* (Participant 04, MD, 25yrs).

> *"If our employer can try and make space available for our development, we would get assisted a lot. This may include exposure, paying for some of the short courses that ought to be done and making the timetables flexible enough to accommodate workshops. Maybe, we can benefit from the flexibility in terms of the class"* (Participant 09, Dip, 10yrs).

"Okay, KZNCN can also do workshops that focus on evidence-based care and workshop the entire academic staff to show them how it can be done and how it can be incorporated and integrated into teaching and learning" (Participant 14, HD, 14yrs).

According to Horntvedt et al. (2018:11), conducting periodic workshops has a positive impact on research activities and stimulates nurse educators' and students' interest in EBP. Other participants mentioned that conducting seminars and symposiums can keep them up-to-date with current information relating to EBP and they made the following statements:

"So, I can update myself but for colleagues that sometimes need those skills, I think we all need to be brought forward and be included in those seminars" (Participant 06, HD, 1yr).

"Maybe should be sent out to go and learn and then come up with the information. I think those are the things that are important to us. Then, we will be able to teach; otherwise, it is currently not clear to us as lecturers as how we will use this method of evidence-based practice in teaching" (Participant 18, MD, 17yrs).

Skills development can also be achieved through the creation of opportunities and the availing of financial resources to support such activities. Training can be conducted within the campuses or institutions by using in-house EBP experts or inviting EBP specialists from universities. University faculties are better equipped with knowledge and skills related to EBP principles. Furthermore, short courses can be facilitated internally in the form of reorientation and shadowing programmes. Most participants agreed with the need to provide short courses or programme and some of them narrated the following about the need for skills development:

"I think internally we could have our own facilitation programmes, like how we facilitate students' learning. We can possibly facilitate our own learning; you know what I mean. We can reorientate ourselves back to how it was done before" (Participant 06, HD, 1yr).

"I do think so and from what I understand, I know that there have been programmes in certain places like the medical school, where people have to actually do a whole module following a community-based education or problem-based programme. So, even that kind of shadowing would be nice" (Participant 21, MD, 17yrs).

Students of today have access to IT equipment which provides easy access to different websites, articles and various research sites. These devices can be used to practise doing exercises on EBP steps (Ewers et al 2022:10). However, nurse educators lack IT skills which are necessary for them to integrate EBP into teaching and learning programmes. In addition to EBP skills, computer literacy skills are essential too, hence the participants recommended the use of EBP experts and IT specialists to regularly empower nurse educators with such skills. Some participants said:

"I think that as lecturers, we still need to have more information on the integration process because we may not have a discussion or have someone coming to teach us on how to teach our students using that method. So, we need to have clear directions and know-how on how to even prepare our lectures to be presented to students and to interact with the students so that we have more understanding of it. Then, we'll be able to assist or help the students to have or get formation from us. I think we still need someone with experience or knowledge on how to teach as lecturers. That way, we would be able to deliver quality education to our students" (Participant 18, MD, 18yrs).

"We must also be taught on computer skills and we must also be taught by someone that has got experience in teaching. That will help us on how to teach using the evidence-based practice. Then we will be able to implement the EBP; otherwise, if all these processes are not available, we will not be able to apply it as it currently stands" (Participant 18, MD, !8yrs).

We need an IT specialist who helps us when we have these problems. This is a person who is going to come and assist us. This is not necessarily a person that is going to do the mechanical work, but one who also does the empowering

part. And I would say it doesn't necessarily have to be an outside kind of training. If you have the resources on campus, you can have on-going training programmes within the campus" (Participant 21, MD, 17yrs).

Previous studies indicate that EBP principles and skills were never taught during nurse educators' basic training. To close this gap, training programmes should be developed to build capacity (D'Souza et al 2021:262). Nurse educators need a sound educational foundation in EBP for them to be able to incorporate EBP concepts into current programmes, hence formal training should be provided for nurse educators (Lehane et al 2019:106). Although some of the nurse educators have been previously exposed to EBP, others still expressed the need for advanced skills and knowledge.

Hung et al (2019:9) and Lehane et al (2019:105-106) proposed several strategies for nurse educators to enhance EBP teaching competencies within the classroom and clinical practice, which supports suggestions brought forward by participants of this study. These strategies include workshops, group activities, short courses, peer mentoring, the use of online resources and involvement in research projects. Organising workshops for nurse educators on the teaching of EBP in the classroom and at the bedside should be encouraged to help provide reorientation and retraining on EBP principles for those who had previously been exposed to training (Hung et al 2019:9). In addition, access to peer mentoring was also suggested as the best method provided by EBP experts to role-model the application of EBP principles. Short professional development courses in EBP and research inquiry should be developed to assist nurse educators with the critiquing skills to critically examine evidence directly related to current clinical issues (Hung et al 2019:9).

4.4.4.2 Sub-theme: Staying current

Staying current means keeping up to date with current information and it is only possible through continuous studying and reading latest articles from journals. Regular reading of current articles is necessary for nurse educators to prepare lessons using the most current data. Belonging to a journal club encourages members to be more active with the reading of articles and during meetings; members can also learn how

to appraise an article for relevance, thus instilling critiquing skills. With regards to staying current, the participants said:

> *"As individual educators we need to teach ourselves to read journals every now and then, especially with regards to the module being taught. Before compiling a lesson plan, I should have read maybe five journals, comparing the information with the prescribed books and finding out what other journals are saying regarding what the book is saying in relation to the current information"* (Participant 02, BD, 14yrs).

> *"To keep updated on knowledge can be enhanced through reading current studies and knowing what is taking place outside there. This will also be helpful"* (Participant 05, MD, 18yrs).

> *"So, there must be a regular learning programme so that the lecturers will be capacitated as well to integrate this into their teaching"* (Participant 12, MD, 12yrs).

Above statements connect very well with a discussion presented by Ilic et al (2020:46) on the use and purpose of journal clubs to keep up to date with current evidence, thus encouraging nurse educators to subscribe to journals and to join journal clubs to remain informed. Having updated knowledge helps to keep abreast with the current information and practice and prevent the use of outdated practices. According to Larsen et al (2019:29), being part of journal clubs help improve skills on locating, critically appraising and reading relevant articles, thus enhancing evidence-based healthcare competencies. EBP knowledge should be promoted through involvement in these journal clubs. One participant supported the use of journal clubs by making the following statement:

> *"We need to join journal clubs where we critique the articles and also if we can have someone who has knowledge on those ways of critiquing documents, that can assist lecturers to have an understanding of how to critique a document and also it will assist us to be able to understand how to go about doing research"* (Participant 13, MD, 17yrs).

Continuous professional development (CPD) is another strategy for ensuring that nurse educators remain current with their practice and keep informed within the profession. The CPD allows for further development and empowerment within the workplace to keep your skills and knowledge up-to-date. This can take place in many ways, including doing short courses, attending workshops, participating in symposiums or conferences. Some participants felt that the furthering of studies was significant and recommended CPD to form part of enhancing EBP skills and knowledge as stated in the following quotes:

> *"I think what I would recommend is, as nurse educators, to be really serious about continuous development, whether it's just a formalised continuous development in terms of upgrading"* (Participant 10, MD, 12yrs).

> *"We should also make it part of the CPD which is coming up. We should make it part of our own CPD targets as a college, ensuring that our nurse educators grow in evidence-based practice, whatever quality management, including all those kinds of targets that we know we have to reach"* (Participant 21, MD, 17yrs).

Mikkonen et al (2018:85) encouraged lifelong learning as it is fundamental to the future of nursing education in terms of withstanding the complexities of the changes occurring within the nursing education system. CPD courses need to include learning about EBP principles since increased EBP understanding should allow for a smooth process of confidently incorporating EBP in nursing education. EBP education should be viewed as an integral part of CPD for nurse educators.

Nurse educators need a sound educational foundation in EBP for them to be able to incorporate EBP concepts into current programmes; hence keeping up to date with current information is a necessity. Nurse educators play an influential role and can review the validity of current practices and to bring possible alternatives in the curriculum and create more opportunities to promote the integration of EBP into the teaching and learning environment.

4.4.4.3 Sub-theme: Engaging with research

Research knowledge and understanding research process form the basis of EBP competencies, meaning that to understand the EBP concepts, research process skills must be acquired first and frequent engagement with research activities provides an opportunity to learn more about other research-related practices like research utilisation, dissemination and EBP. The concept of EBP is often used interchangeably with research without consideration for the differences or similarities between the two. The study participants suggested that to enhance their knowledge on research, nurse educators must engage in research projects and participate during research days. A participant remarked:

> *"It means we need to indulge in research first so that we will be able to go for evidence-based learning*" (Participant 04, MD, 25yrs).

Nurse educators should enrol for higher level degrees that will expose them to research activities as consumers and producers of evidence. Another participant said:

> *"I think it involves studying further, continuing with research and be a role model to other nursing educators so that in South Africa or globally, our research skills are enhanced, and we are able to integrate them into a real practice"* (Participant 08, BD, <1yr).

Different strategies can be implemented to try and encourage nurse educators to participate in and be involved with research activities such as being a member of a journal club and attending workshops on research studies. The following was highlighted:

> *"I mentioned the journal club and the workshops like research days and I don't know how we can assist all educators to be members participating in those research days and also within the campuses. I think it's important for us to have a research day and ensure that each member in the college is part of that research"* (Participant 10, MD, 12yrs).

Sometimes engagement with research for other individuals is not a good thing as it is considered a difficult subject. So, a lot of people do not like research, thus making

EBP even more difficult to apply as indicated by Participant 13 in the following statement:

> *"You find that most of us don't even like research. That is the problem that we are having. So, for us to like research, it's something that we keep on doing and then people will understand how good it is because it works for us as educators"* (Participant 13, MD, 17yrs).

These findings confirm what was reported by Maskey et al (2019:52) in agreement with Dewi and Mani (2020:1) that exposure to and opportunities created by research activities increase the level of EBP understanding and help in making it easy to grasp the relevant concepts to improve knowledge related to EBP. Furthermore, Skela-Savic (2020: 6) supported the incorporation of EBP skills while teaching research as the process of adapting to research activities. Engaging in research activities will ensure that negativity towards research is dealt with effectively, leading to a positive change in the mind set of those nurse educators who fear and hate doing research.

4.4.4.4 Sub-theme: Develop/review the curriculum

The title of this study is centred on the integration of EBP into teaching and learning programmes and that can only succeed if EBP concepts are adopted within the nurse training programme and curriculum. Cardoso et al (2021:10) found that educational programmes created a positive effect in enhancing EBP-related knowledge and skills for undergraduate nursing students. To address the existing theory-practice gap when it comes to integrating EBP into nursing education, a curriculum review is recommended (Mwiinga-Kalusopa et al 2022:165).

In relation to the high demand for the integration of EBP into the nursing curriculum being experienced worldwide, nursing students require proper education and training for them to apply evidence-based changes in clinical practice, hence the importance of introducing EBP into nursing curricula (Papadopoulou et al 2019:30). Other participants proposed the incorporation of the teaching of EBP into the nurse training curriculum and made the following statements:

"I think if we have a strategy on how to utilise that information so that they'll be able to apply it effectively, I think those are other ways that can be utilised and also if it can be incorporated in our programmes" (Participant 05, MD, 18yrs).

"But I would have loved a situation where an evidence-based practice could be given more insight and be added to the curriculum, taking pre-eminence" (Participant 15, MD, 20yrs).

"Above statements are affirmed by Coleman (2018:3) who recommended that positive changes should be affected if the EBP programme must be made an integral part of all nurse training curricula. The integration process should clearly map out a curricular framework and associated benefits for all NEIs at both graduate and undergraduate levels (Ewers et al 2022:12).

4.4.4.5 Sub-theme: Collaboration with clinical practice

Creating and maintaining a good working relationship with clinical staff is vital for the purpose of information sharing. Management of NEIs and clinical nurse managers should ensure that the necessary platforms and opportunities are available to accommodate and include nurse educators during workshops or in-service training programmes. The participants had different views on how collaboration with clinical personnel can be done as quoted below:

"We should take an interest in new ways of doing things and what is current, and we must have a very good relationship with the people in the clinical area so that we know when there are any new techniques and new equipment and developments. That way we will be included and we are given in-service training on how to use them and be aware of them" (Participant 14, HD, 19yrs).

One participant felt that nurse educators need to avail themselves for in-service training and workshops taking place in the clinical setting. This is what she said:

"I feel that we also need to be out, not always at the college, sometimes going out to the clinical settings and seeing new practices and not holding on to the old ways because for me as a young lecturer, I'm still coming fresh from a nursing education institution and sometimes I find the practices here still very

ancient and members don't realise that research was done and evidence was provided to show how we now conduct, for example, urinalysis, you know" (Participant 06, HD, 1yr).

"We can also include clinical staff, the OMs of departments and nurse managers, so that when they have anything that's new and current, they invite us and also make us share information if they cannot invite us, share it with us at least, through electronic means" (Participant 14, HD, 19yrs).

Clinical settings serve as a means to a successful achievement of the EBP integration. Furthermore, the inclusion of EBP activities during the actual clinical practice increases chances in terms of the application of EBP (Lehane et al 2019:106). Collaboration and engagement with other clinical professionals will strengthen process of integrating EBP into the nursing education curriculum. To improve on effective application of EBP, it is suggested that clinical professionals can teach the application of EBP better than nurse educators (Hung et al 2019:4). Consequently, support from healthcare service and other clinicians will assist with capacity building and competency to meet the challenges of providing such training (Lehane et al 2019:107). Galeboe (2024:40) made recommendation of a training programme on EBP to encourage the use of EBP amongst the registered nurse in one South African institution.

4.4.4.6 Sub-theme: Provide resources

The success of any organisation depends on the quality of the available resources. These resources can be in the form of human resources, infrastructural resources, financial resources, equipment, and transport as mentioned by the participants. The findings also included books, software and IT equipment which were described as relevant and important teaching and learning materials or resources. The availability of these resources also depends on the funding and budget of the College and budgetary control is not fully in the hands of the College as it is mostly within the Department of Health. One participant said:

"We don't have resources because we need internet and then the other problem is that we don't have computers. You find that only three people have computers and it's just had intranet; so, you have to go to the library if you want something or you must have your own router, that it's your own money if you need to do something and that's a challenge. Even for our students at times, they face challenges because we lack resources. So that's the challenge that we have and, it's limiting us even if we like to do research" (Participant 13, MD, 17yrs).

The study results showed that KZNCN campuses are not adequately equipped with the necessary resources. Access to resources is not the same for every institution that was visited. Some are better equipped than others and in other campuses nurse educators were sharing resources, which presented challenges to them when the need for use had arisen.

Most of the participants were worried about lack of resources, which has been a long-standing challenge, and this is what one participant said:

"Not exactly; as much as in this Institution is concerned, we just have a challenge of not having the computers. If you are just having the computers, they are just too old. Moreover, there is no internet and we do not even know how we are supposed to do the research" (Participant 01, BD, 13yrs).

The resources identified by the participants as important for research and EBP integration included computers in good working condition for use to access electronic information, personal laptops and fixed projectors for classroom teaching and learning. Fibre network was preferred to other forms of network as it was thought to provide a more reliable connection. Smart boards were also mentioned as they enhanced easier communication with the students and could allow the sharing of information with international academics. The following quotations show how the participants understood the need for resources.

"I think, number one, we must have resources. We must have computers that are working. Those computers must include laptops and we must also be taught

on computer skills and there must be someone experienced in teaching to help us on how to teach using the evidence-based practice. Then, we will be able to implement it. Otherwise, if all these resources are not available, we will not be able to apply it as it currently stands" (Participant 18, MD, 18yrs).

"We need to have a fibre network where we get a more reliable internet line. Lecturers need to have their own laptops, data projectors that are fixed in the classroom and one just has to put a flash drive and then play the video. You can give the scenario and your evidence-based practice becomes much more realistic to integrate in your teaching and learning environment" (Participant 20, DD, 17yrs).

Finances form part of the special resources needed for the success of EBP integration process. The money is used to buy material and maintain expensive equipment as well as the funding of human resource skills development. The following quotations confirm what is said within the existing literature:

"I do also understand from the management point of view, that it is very difficult financially with the budget cuts and constraints" (Participant 20, DD, 17yrs).

"So, we are trying, I must say, and they are trying as well, they give us lots of textbooks but the main things are expensive but the things we really need are expensive" (Participant 20, DD, 17yrs).

Online resources such as **c**omputers and internet access should be available to NEIs and at point of care to allow for easy access to scientific evidence in the form of guidelines, protocols, and peer-reviewed research reports. Some participants said:

"Those are platforms as well where online communication takes place with students and you know, you can post things and have online communication with them and they have access to information" (Participant 20, DD, 17yrs).

"For me to look for information, the resource I need to have is the Wi-Fi and the gadget, which can be a laptop or desktop computer or a smart-phone but the issue is with the internet" (Participant 13, MD, 17yrs).

The success of the EBP integration process also depends on the availability of a fully functional library with a qualified librarian. A fully functioning library should be adequately equipped with working computers, journals that are available on shelves, has unlimited access to the internet, subscribes to the relevant journals and website databases, ability to outsource information, teaching materials and provides access to e-books

> *"I think the library should, first of all, have enough computers and the librarian should make sure that there are journals that are printed and put up on the shelves in the library so that the students will know that there's a section for journals where they can go and look for information and make sure that the journals they look at have the latest information"* (Participant 09, Dip, 10yrs).
>
> *"The library also does not have enough books. There are books but they're not enough. Some editions are old, while other new editions are not there"* (Participant 01, BD, 13yrs).
>
> *"I usually emphasise to them that they're supposed to use their own books as prescribed books and also go to the library and also use Google Scholar to research. We do have a library with the books whereby they are supposed to get information from different sources"* (Participant 01, BD, 13yrs).

Although the challenge with internet connection exists, nurse educators are encouraged to access online libraries. Access to Cochrane Library is free for the citizens of South Africa through the funding from SAMRC. Cochrane Library is a collection of databases that contain different types of high-quality independent evidence to inform policy makers, healthcare services and public towards informed healthcare decision-making (https://southafrica.cochrane.org).

Transport was mentioned by one participant as being useful for the staff to attend workshops taking place outside the campuses and to attend conferences where research findings are discussed. For instance, lack of transport can be a hindrance to the attendance of conferences, symposiums and seminars. Some participants said:

"I think in terms of technology and personal computers, laptops, Wi-Fi, data, and perhaps transport are needed, including attending workshops and symposiums" (Participant 10, MD, 12yrs).

"We lack the resources. I think of material and human resources. There is shortage of staff and people are so busy that they won't even attend to us and do not have time to guide us through this evidence-based practice" (Participant 10, MD, 12yrs).

"It's quite a big challenge regarding technology, but we are getting there. KZNCN has given us some of the things. We are getting there, though we have a big challenge regarding technology" (Participant 10, MD, 12yrs).

Improvements in the infrastructure were suggested in the form of spacious classrooms and libraries to accommodate a greater number of students and to avoid overcrowding and to ensure the promotion of comfortable environment conducive to teaching and learning. It was commented that:

"We need to have advanced technological resources. We need to have good resources in technology, and secondly, we need infrastructure. Sometimes you find that the classes are too small and overcrowded" (Participant 15, MD, 20yrs).

Two participants pointed out the need for the College to develop its own database with dedicated staff to train other staff members and to be used as a platform for sharing information. Here are the comments that they made:

"I think that there is need for maybe on-site training for instance. It would be nice for us to have our own database. So, when we have our own database, we may have a dedicated person to come to do on-site training. You know what I am saying" (Participant 21, MD, 17yrs).

"I would recommend that our employer or the KZNCN as a whole establish academic library or a facility for the academics and for the nurse educators where we can go and touch-base even on our computers. They are very old and there are no eBooks on-line internally for the college where they can see

that so and so is doing a PhD, you're working at what facility then we can touch base with you regarding that. I think we are all disintegrated because we are not linked. So, we need a linkage system with electronic academic resources and educator libraries like other higher education institutions. They must support us as nurse educators as well" (Participant 06, HD, 1yr).

The lack of such resources may impede the functioning of the nursing institution. For this study, the human resource referred to nurse educators who should be responsible for facilitating EBP integration, a librarian to supports EBP processes, an IT specialist to be responsible for empowering other personnel with IT skills and EBP specialists who are regarded as knowledgeable personnel to support EBP. The need for financial support to nursing education institutions forms the basis for the success of the integration of EBP into nursing education (Lehane et al 2019:106). More funding is required to support the training of the faculty, buy IT material, pay for internet connections, buy books for the library and pay for subscriptions to journals, including maintenance of the equipment and infrastructure.

The budgetary constraints mentioned by the participants are connected to what was reported by Skela-Savic et al (2020:2) that EBP training for nurse educators may be costly and recommended that the national office responsible for nursing education should provide the necessary budgetary allocation to purchase and pay for the relevant resources. Lehane et al (2019:106) agreed that the development of EBP guidelines should be financed at national level.

4.5 CONCLUSION

In this chapter the researcher presented, described, interpreted and discussed the four themes identified from the study findings, which are nurse educators' experiences with EBP and the understanding of EBP concepts, facilitating EBP integration, significance of integrating EBP into teaching and learning, and suggested strategies to enhance EBP integration in teaching and learning. The study revealed that nurse educators possess limited and poor EBP-related knowledge and skills, which poses a challenge in the attempts being made to integrate EBP into the teaching and learning processes.

In the next chapter, the researcher proposes and presents a knowledge improvement and EBP integration strategy for nurse educators at KZNCN.

CHAPTER 5

A STRATEGY FOR NURSE EDUCATORS TO ENHANCE INTEGRATION OF EBP INTO TEACHING AND LEARNING AT KZNCN

5.1 INTRODUCTION

This chapter provides detailed information on the formulation of this strategy. Strategy development methodology is explained, the theoretical framework that guides the establishment of the strategy is discussed, a description and the rationale to the proposed strategy is provided, as well as the goal and objectives of the strategy. Table 5.1 represent a strategic action plan displaying each action statement, objectives together with proposed actions towards successful implementation of the strategy. Timelines and responsible persons are also included.

5.2 METHODOLOGY FOLLOWED IN THE DEVELOPMENT OF THE STRATEGY

The word strategy is described in Chapter 1, section 1.5.8 as a roadmap to achieve organizational goals. In this paragraph a strategy development process is briefly explained. Strategy development uses available knowledge and information to direct the strategy, action plans and proposed actions. An effective strategy should provide the essence of the problem, the possible solutions, who should be responsible for implementation of the strategy, provide timelines, budget and formulate the key performance indicators. Finally, it must be communicated to the relevant stakeholder for successful implementation (https://www.marketing91.com/marketing-strategy-tutorials).

Steps in strategy development

Based on the research question, the researcher's interpretation of the reviewed literature, qualitative data collected through participants interviews, and the current study findings, a strategy to support nurse educators with the integration of EBP into teaching and learning at KZNCN was developed. In the context of this study the following steps guided the formulation of this strategy as adapted from Bolisani & Bratianu (2017:240).

Step 1: Problem identification

A previous study conducted at KZNCN on the experiences of nurse educators with the implementation of EBP in teaching and learning, study findings revealed inadequacy in the knowledge of EBP concepts and principles amongst nurse educators and the recommendation was to find means to support nurse educators to improve EBP knowledge and skills (Mthiyane & Habedi 2018), hence the development of this strategy.

Step 2: Collection of information

Information on the state of the organizational environment and stakeholder is collected. A comprehensive literature review in Chapter 2 on studies related to EBP integration indicated that multiple strategies can be used and has been used globally to integrate EBP in nursing education which has been a very successful initiative. In addition, qualitative data was collected using the methods explained in Chapter 3 to explore and describe nurse educators' experiences with EBP integration in teaching and learning. This was followed by extensive data analysis, resulting into four themes and subthemes which are discussed in chapter 4, providing description and interpretation of analysed data, laying the foundation for the formulation of this strategy. Study participants made suggestions and recommendations on the strategic action plan and alternatives to enhance nurse educators' knowledge and understanding of EBP integration into teaching and learning. Finally, the goal and objectives of the strategy were set up and the proposed appropriation plan of action to include within the strategy was decided upon.

Step 3: Validation of the proposed strategy

The proposed strategy was circulated to individual nurse educators who are experienced with relevant highest qualification, employed at KZNCN and who are believed and trusted to have had a better understanding of the study context. These nurse educators were asked to conduct a peer review of the proposed strategy using a questionnaire compiled by the researcher to validate the relevance of the contents, reliability and validity of the proposed strategy to help with improvements of the

content. The questionnaire tool was divided into three sections. Section A requested for the rating of action statements relevance from 1 to 4, section B reviewers were asked to provide honest responses to open-ended questions with added comments. Lastly section C requested for three biographic details on the highest qualification, position/rank and years of experience as a nurse educator (see Annexure Q as a sampled questionnaire).

The questionnaire together with the proposed strategy were sent to the purposively chosen potential reviewers through the email and a total of five nurse educators responded within the week for inclusion into this report. Analysis of these five responses was done and all rated the action statements as 4 equivalents to highly relevant for the proposed strategy, similarly responses and suggestions to open-ended questions were considered for inclusion within the strategy, for an example (see Annexure R).

5.3 THEORETICAL PERSPECTIVE FOR DEVELOPING A STRATEGY

For a successful adoption of EBP integration, nurse education institutions (NEIs) and nurse educators should be the first to recognise the need for the change, hence the use of Roger's Diffusion of Innovation Theory to provide a theoretical perspective in relation to achieving the study's research aim and objectives.

5.3.1 Roger's Diffusion of Innovation Theory

This theory was developed by E.M. Rogers in 1962 to explain how an idea or product gains momentum and spreads through a specific population over time, resulting in people adopting it. Roger defines diffusion as a process in which an innovation is communicated through certain channels overtime among members of a social system. For this study, the researcher interpreted these definition components as follows; innovation (new idea) as EBP integration, communication channels within the education process, time (the period required to adopt the new idea) and the social systems (NEIs and healthcare institutions).

According to Mohammadi et al (2018:26), innovation is an idea, practice or project that is perceived as new by an individual or any other unit of adoption. A communication channel is created when participants in the new project share information to reach a mutual understanding using sources like individuals or institutions as originators of the message to enhance awareness of the new idea. Time is explained as the rate or the pace of adoption of an idea, how long it takes to adopt it, whereas a social system is a set of interrelated units engaged in a joint problem-solving process meant to accomplish a common goal (Mohammadi et al 2018:26).

Once a new idea has been perceived as relevant and fit for adoption, the innovation decision process commences, where advantages and disadvantages of the innovation are discussed so that a decision is made regarding whether the new idea or practice can be accepted or rejected. A similar process was followed in this research study, as the researcher explored literature related to the topic under study and collected information from the key informants who described their experiences and understanding of EBP integration, which is the proposed new practice at KZNCN.

The innovation decision process follows five stages, which are: Knowledge, persuasion, decision, implementation, and confirmation (Mohammadi et al 2018:26). In this study, the researcher chose to take the process as far as the decision stage, with the rest of the stages having to be entered into once the proposed strategy is accepted by the relevant social system, that is, KZNCN. For this study, the researcher looked at the EBP as an idea that needs to be spread through the KZNCN nursing programmes, to determine how it can be diffused amongst the nurse educators over time and to understand the type of adopters are nurse educators.

For the KZNCN to adopt the new practice of integrating EBP into teaching and learning programmes, a strategy designed to facilitate the integration of EBP was developed using the following stages of the innovation decision process.

1. Knowledge stage

During the knowledge stage, EBP awareness is created and a positive culture towards the integration of EBP must be sustained. Opportunities for information sharing should be created through the available resources.

2. Persuasive stage

The persuasive stage is dependent on the participants' attitude towards the innovation, the knowledge shared and the credibility of the individual proposing the change or sharing the information.

3. Decision stage

In the decision stage, the participants in the social system make a choice in relation to either adopting or rejecting the proposed change. If the choice is adoption, the new practice will be accepted as the best course of action to be followed, then innovation process moves to the implementation stage using the suggested strategy.

Furthermore, the period taken to adopt the new practice is determined by the type of adopters nurse educators are for instance, **innovators** are the first people to try an innovation and need less time to adopt the change, while **early adopters** are mostly leaders that may already have information about the proposed idea and are comfortable with adopting the changes. **Early majority** are rarely leaders, but they do adopt new ideas, though they need to see evidence of success first. Then, there are **late majority** who are sceptical of change and only adopt innovation after it has been tried by the majority. Lastly, there are those called l**aggards** who are bound by tradition, very consecutive and highly sceptical of change and hard to convince, and they need to see tangible evidence before they can adopt a change or new idea (Mohammadi 2018:26).

5.4 RATIONALE FOR THIS STRATEGY

The use of EBP in nursing education has the potential to increase awareness for both nurse educators and nursing students and to create an EBP culture for NEIs. Further benefits include the promotion of critical thinking, evidence-based thinking, creation of an active and patient-centred learning that is cost-effective and the fostering of a life-long learning experience for nurses. It is vital that a culture that supports EBP processes is introduced and sustained throughout nursing education and practice. EBP principles should be incorporated into everyday nursing care activities and all decision-making processes involving nursing. Teaching EBP competencies along the

undergraduate nursing curricula should be considered a high priority for nurse training programmes so that future use of EBP is increased.

Another reason is that EBP competencies have the potential to improve nurse educators' self-efficacy and the level of evidence utilisation. According to Bandura's Self-efficacy Theory, which the researcher considered to guide this study, nurse educators should develop confidence and the capacity to fully adopt and integrate EBP into nursing education. Nurse educators' empowerment should happen within a supportive and conducive environment using effective and relevant approaches to the delivery and facilitation of EBP skills as illustrated in Figure 1.1.

Furthermore, there is a need for a positive change in the mindset of nurse educators, especially those in leadership positions so that they believe and recognise EBP competencies as relevant skills for inclusion in the nurse training curriculum. This shift in nurse educators' mindset will foster positive attitudes and motivate nurse educators to increase competency and confidence towards the use of EBP principles in teaching (Chiwaula & Jere 2022:2; Patelarou et al 2020:21). Traditional teaching approaches are no longer favoured and are sometimes considered to be posing a potential threat to safe patient care; hence, the necessity of a shift to the use of integrated innovative teaching strategies recommended by most of the study participants. See the following statement made by one of the participants: *"Innovative teaching strategies also guide us in our lesson plans and how to incorporate all of the updates in the new knowledge that has been generated"* (Participant 10, MD, 12yrs).

Failure to use research evidence in making nursing practice decisions may result in nursing professionals depending only on their own and colleagues' understanding of knowledge and not on scientific, best available evidence to find solutions to challenges affecting the healthcare delivery system. Having acknowledged the fact that nurses are faced with the ever-changing nursing practice due to the complex needs of patients and challenging conditions within the healthcare system, there is need to design an effective educational strategy meant to promote the acquisition of EBP knowledge and its implementation in patient care. For improved clinical practice, more organisations and institutions commend that EBP be part of student nurse training.

5.5 NEED ASSESSMENT FOR THE STRATEGY

Current practice standards for professional nurses require the use of research evidence to provide quality healthcare, to conduct research studies and to disseminate acquired new knowledge through publication (WHO 2016:27). To adhere to these standards, nurse educators have to play a vital role of teaching EBP and research skills at the undergraduate level during basic training for nurses, ensuring that nurses are competent enough to implement research projects and to apply evidence in their practice upon completion of training. Nurse training programmes ought to include teaching and learning outcomes about EBP and research skills within the curriculum (Larsen et al 2019:1).

The existing practice is that KZNCN has a research strategy (2020/2021 to 2021/2022) whose purpose is to strengthen research activities within the College and to ultimately increase research productivity and interest amongst academic staff and nursing students (KZNCN 2020:3). This strategy does not include teaching of EBP skills activities, which is one of the reasons that prompted the researcher to undertake this study so that recommendations for adoption and integration of EBP into teaching and learning programmes are put forward. Based on the findings by Mthiyane and Habedi (2018:5) on the experiences of nurse educators with the implementation of EBP in teaching and learning at KZNCN, nurse educators displayed poor knowledge about EBP skills and principles and had recommended an immediate action plan to mitigate these shortcomings. Findings from this current study reiterated the need to empower nurse educators and create awareness of the need for the integration of EBP, hence the development of this to support nurse educators in facilitating the integration of EBP in teaching and learning activities at KZNCN.

The inclusion of EBP in the nursing curriculum is highly recommended by the study participants so that nurses are adequately skilled and able to evaluate research evidence to implement the changes in the clinical setting accordingly soon after graduating. Empowering nurse educators with appropriate support to facilitate research utilisation and EBP skills is vital to achieve international standards set out by WHO (2016) during basic training (Larsen et al 2019:2) and achieving exit level

outcome (6) of the SANC Education and Training Guidelines for Postgraduate Diploma Programmes. The researcher undertook this study to explore and describe the experiences of nurse educators with the integration of EBP into teaching and learning, reviewed relevant literature, explored current practices at the College and finally, based on the collected information, developed an educational strategy to support nurse educators in enhancing the integration of EBP into teaching and learning programmes. Once the needs assessment was done, the designing of an effective educational strategy commenced.

5.6 DEFINING THE CONCEPT OF STRATEGY

In Chapter One, a strategy was defined as a general plan or set of plans intended to achieve something, especially over a long time (http: collinsdictionary.com accessed 10 September 2021) and for this study, it is the best suggested course of action to enhance the integration of EBP into teaching and learning experiences at KZNCN. Akeke (2019:3) further describes a strategic intervention as a set of sequenced, planned actions or events intended to help an organisation move towards attaining a different and more effective state.

5.7 PURPOSE OF THE STRATEGY

The purpose of the strategy was to develop a document to guide KZNCN personnel to facilitate the process of integrating EBP into the nurse training curriculum or programme and to enhance nurse educators' EBP knowledge and skills.

5.8 THE GOAL FOR DEVELOPING THIS STRATEGY

The goal is to empower nurse educators with relevant EBP knowledge and skills to make EBP an integral part of nursing curriculum at KZNCN in order to facilitate and produce EBP competent nursing practitioners, resulting in improved quality in healthcare delivery.

5.9 STRATEGY OBJECTIVES

- To make curricular adjustments for all programmes to aid integration of EBP into teaching and learning for KZNCN

- To influence relevant stakeholders and curriculum developers to understand the significance of EBP
- To ensure that EBP principles is basic to education and training in all nursing programmes.
- To equip nurse educators with the relevant EBP knowledge and skills in order to advance EBP integration within nursing programmes.
- To provide relevant orientation and training for other relevant personnel.
- To create favourable conditions and a conducive environment for the facilitation of EBP integration.
- To encourage the adoption of EBP principles during classroom and clinical teaching to ensure professional competency.
- To actively bridge the theory-practice gap using EBP integration.
- To create and sustain the culture of research and EBP amongst nurse educators.
- To promote a positive attitude for nurse educators towards the development and adoption of EBP competencies.
- To ensure long-term sustainability of EBP programmes or courses.
- To promote student engagement with research and EBP principles by using the best possible teaching and learning approaches during basic training.

5.10 A STRATEGY ACTION PLAN

ACTION STATEMENT: 1 DEVELOP A CURRICULAR STRATEGIC PLAN

Description: A deliberate and progressive approach is needed to carefully incorporate EBP principles to enhance the teaching and learning needs of students and nurse educators (Wakibi 2019:104). It is important that a curricular strategic plan is designed to strengthen the adoption of EBP integration. The development of the curricular plan should consider organisational culture, capacity and relevant stakeholders in providing guidelines to monitor and evaluate the implementation process to sustain the proposed changes. A curricular strategic planning should take place at the provincial level in alignment with the Department of Health (DoH), (CHE), and (SANC) prescripts as the regulating bodies (Coleman et al 2018:3). This is a cooperative function that requires engagement of all members of the profession at the government level.

Objectives	**Proposed actions**	**Responsibility**	**Timeline**
1.1 To make curricular adjustments for all programmes to aid integration of EBP into teaching and learning for KZNCN. 1.2 To influence relevant stakeholders and	Proposed action should include: • Setting up a task team for curricular adjustments and allocate them specific roles and responsibilities in the process of EBP integration in consultation with the relevant stakeholders such as policymakers, NEIs leadership and nurse educators to (WHO 2017:4).	KZNCN management and curriculum development committee	Ongoing

curriculum developers to understand the significance of EBP. 1.3 To ensure that EBP principles is basic to education and training in all nursing programmes.	• Convene programme and subject committees meant to design curricular activities and to agree on the core EBP competencies. • Develop an appropriate curriculum framework for EBP integration that is aligned to the current curriculum, including the associated benefits for the NEIs at both undergraduate and postgraduate levels (Ewers et al 2022:12). • Use of EBP experts to develop a competency framework to guide nurse educators, managers and EBP stakeholders in the development of content and teaching strategies that incorporate EBP knowledge, skills and attitudes into nursing programmes, as suggested by most countries in Europe (Skela-Savic et al 2020:7; Nalweyiso et al 2025:1). • The curriculum framework should clearly provide a layout of the following; • Clearly state the minimum professional qualifications for nurse educators needed to teach EBP principles, preferably with prerequisites that include research-related concepts, computer literacy and IT skills (Murararaneza, Mtshali & Mukamana 2017:11). • In addition, the framework should consider defining EBP concept, aims and the objectives of implementing EBP,		

	distinguishing between scientific and non-scientific literature, understanding EBP resources, how to manage change and how project presentation is done. • Apply explicit recruitment procedure of competent nurse educators with relevant qualifications, experience, expertise and who have at least published studies, for example, employing nurse educators with qualifications at the level of master's and doctoral degrees. • Determine the level of training when EBP principles can be introduced, whether at first-year level or as a scaffolded programme that spread throughout the specified period of training and allows the teaching of EBP steps to be done at different levels of training (Iradukunda & Mayers 2020:6; Lehane et al 2019:106). • Align EBP activities with specific learning outcomes and competencies for each nursing programme. Learning outcomes related to EBP should be clearly stated in the module guides. For an example, the learning outcome could be planning developing nursing management of a patient who is newly diagnosed with haemorrhoids where students have to indulge into searching literature related to this condition to find		

	the best current practices, consider the patients values and needs and consult with expertise in the discipline. • Describe the content to be taught by building on the research process and EBP steps. The Sicily Statement must be used as a guide to teach EBP, as it sets out the requirements and skills needed to practise in an evidence-based manner. According to the Sicily Consensus Statement (2005), there should be determination of the minimum requirements for the nurse training curriculum which must be grounded in the five-step model of EBP (Larsen et al 2019:2) which is vital for students to learn and master. • Delivering of teaching and learning of EBP competencies can be fully and explicitly integrated into the nursing curriculum with other modules or taught as a standalone course (Skela-Savic et al 2020:6). However, a stand-alone course has been found to be less effective in promoting behavioural and attitudinal change of nurses towards EBP application, hence the integrative approach is preferred (Lehane et al 2019:106). Case reports, seminars, and EBP capacity-building activities should be added to accommodate the teaching of EBP skills and the sharing of research outcomes (Ewers et al 2022:12). Poster presentations are also encouraged during conference		

	meetings to create awareness about EBP principles (Lehane et al 2019: 107). • Promote and infuse teaching of EBP concepts in the clinical modules for bedside EBP learning. Clinical placement is a very important part of the nursing curriculum during which students get exposed to the real experience of how to apply EBP at individual level (Brooke 2017:2). The use of strategies such as such as patient examples, clinical scenarios, EBP role models as champions to lead implementation activities and EBP experts is recommended during clinical placements. Bedside learning is fundamental to the teaching of nursing students as it provides first-hand experience. The experiential service-based learning is very powerful in closing the theory-practice gap regarding the application of EBP (Shahzad et al 2022:11). • Establish a continuous monitoring and evaluation system to assess the effectiveness of EBP integration in the curriculum, evaluation of course outcomes and making necessary adjustments to effect improvements. • Set out periodic curricular reviews and evaluations on a regular basis (Ewers et al 2022:12; Schoonees et al 2017:15).		

ACTION STATEMENT: 2. DEVELOP AND PROVIDE EBP TRAINING PROGRAMMES FOR THE COLLEGE PERSONNEL.

Description: Building capacity for nurse educators is of high priority for the success of the integration of EBP into teaching and learning. EBP requires support and assistance from other professionals, for instance, a librarian to provide support with literature searches and article critiquing skills while the IT specialist may be relevant in empowering nurse educators with the proper use of IT equipment.

Specific objectives	**Proposed actions**	**Responsibility**	**Timeline**
2.1 To equip nurse educators with the relevant EBP knowledge and skills to advance EBP integration within nursing programmes. 2.2 To provide the relevant orientation and training for other relevant personnel.	Thus, the EBP knowledge and skills development plan should form part of this strategy in the following manner; • Conducting skills audit for the college staff to assess the level of knowledge, experience and expertise of nurse educators on research and EBP readiness; this analysis will provide a baseline understanding of the existing knowledge gaps (McGuire, McVicar & Tariq. 2023:2). • Develop and implement an EBP knowledge and skills development plan for the college personnel using multiple techniques; from what was suggested by the study participants, these techniques may include short courses, completion of online EBP modules, completion of an EBP project, workshops, in-service training and can be complimented with attendance of conferences, seminars or symposiums where research studies are discussed.	College management and capacity building committee in collaboration with Human Resource Development office	Ongoing annually

	• Conduct a research course or workshops to assist nurse educators already in employment but have no previous exposure to the research process, if any, to acquire the prerequisite research skills. Research courses should include scientific writing, searching skills, literature review, methodologies and research reporting. Workshops help to provide reorientation and retraining on EBP principles for those who had previously been exposed to training to sustain their knowledge (Hung et al 2019:9). • Decide on the duration of EBP training programmes, which can be either one semester module or broken down into small session, for an example, engaging with one EBP step at a time. It is vital that EBP activities are structured in a way that progressively builds nurse educators knowledge and skills. • Develop a formal mentoring programme where nurse educators can learn from experts and peer support programmes. Make contact with EBP experts within the college and use them as mentors or invite EBP experts from other organisation such as FUNDISA and other universities. • Provide opportunities for continued education and training to upskill other personnel involved in the practice change such as librarians and computer technicians (IT specialists) to enhance		

	their knowledge and their expertise in supporting of nurse educators and nursing students. The involvement of the librarian assists with information discovery, provision of support with the setting up of computer links to the local library database, assisting with systematic reviews and a summary of findings ensuring circulation of valid and reliable research literature within clinical settings and NEIs (Mwiinga-Kalusopa et al 2022:165). • Encourage nurse educators to engage in life-long learning as it is fundamental to the future of nursing education in terms of withstanding the complexities of changes occurring within the nursing education system (Mikkonen et al 2018:85). • Encourage frequent workshops for nurse educators on curriculum development and teaching of EBP in the classroom and at the bedside.		

ACTION STATEMENT: 3 ESTABLISH RELIABLE SYSTEM TO ACCESS INFORMATION RESOURCES.

Discussions: All college campuses have libraries and computer laboratory spaces set up at full capacity with a permanently employed librarian and an intern librarian employed on a 24-month rotational basis. However, evidence from this study indicates inadequate supply and provision of IT resources with limited internet connection, prompting establishment of a reliable information system.

Objectives	Proposed actions	Responsibility	Timeline
3.1 To create favourable conditions and a conducive environment to facilitate the integration of EBP.	This could be achieved by: • Striving to secure adequate funding and resources to assist in actively integrating EBP principles into teaching and learning. Increased funding and budgetary allocation will enable the College to install more internet connection points, secure more scholarly research journal subscriptions and buy more up-to-date books in the form of hard copies and eBooks that can be used as reference materials as suggested by some of the study participants (Coleman 2018:4). • Ensure proper maintenance and upgrading of network points, e-learning facilities, and IT equipment. • Outsourcing of educational programmes on IT to empower nurse educators with IT skills enabling access to online resources and databases to acquire up-to-date knowledge. Establishing competency in information literacy remains important to avoid using general search engines as the preferred source of evidence which is sometimes not completely reliable (Marqukbar et al 2022:93). Knowledge in IT provides more platforms to locate research evidence and to facilitate literature search (Coleman et al 2018:4).	KZNCN management, IT and library services	Ongoing

	• Ensure that Wi-Fi connection is functional, and enough data is available to avoid interruption to internet connection. • Create a library support and access system to ensure that the library is available and accessible to both on-campus and off-campus nurse educators including students by advocating for the extension of library opening times as suggested by Participant 13. • Create a knowledge repository and strengthen database of the College where information is captured, stored and easily available for future referencing. This platform can be used for sharing of information, recording of valuable information insights and experiences; and training of personnel by other dedicated staff. This suggestion was raised participant 06 and 21 in the study. • Encourage utilisation of knowledge management systems available from the government websites, such as the intranet and knowledge hubs where knowledge is stored and can be easily accessed. • Engage private mobile service providers such as cell phone companies for donations in the form of computers, data and etcetera to sustain internet connectivity (Larsen et al (2019:29).		

	• Strengthening working relationships and communication with the provincial and other HEI libraries to allow for interlibrary loan services as suggested by Participant 21.		
ACTION STATEMENT: 4 STRENGTHEN COLLABORATION WITH CLINICAL PRACTICE. **Discussion:** It is crucial that academic institutions maintain a good relationship with clinical practice institutions. Cooperation within this context creates greater opportunities for nursing students to integrate theory and practice into real situations. The application of EBP principles mainly happens in clinical settings where nurses have to make clinical judgements based on the best available evidence. Clinical EBP experts can provide mentoring services to students and can also contribute towards the sharing of the EBP knowledge and skills with nurse educators during clinical visits.			
Objectives	**Proposed actions**	**Responsibility**	**Timeline**
4.1 To encourage the adoption of EBP principles during clinical teaching to ensure professional competency. 4.2 To actively bridge the theory-practice gap using EBP integration.	To strengthen this relationship, the following actions need to take place. • Creating an academic-practice partnership and collaboration with clinical nurse practitioners and clinical experts helps enhance EBP knowledge and skills in alignment with current health practices. • Collaborate and engage with other clinical professionals in open discussions about EBP to stimulate more interest towards EBP skills and strengthens the nursing education process.	College management, nurse educators and clinical stakeholders	Ongoing

	• Develop a collaborative teaching and learning framework with emphasis on shared discussions and group learning activities to help nursing students and educators to gain diverse perspectives on EBP. • Request for support from healthcare service providers and other clinicians to assist with capacity building and competency to eliminate challenges inhibiting the provision of such education (Lehane et al 2019:107). • Make recommendation to healthcare organisations and NEIs to actively participate in collaborative teaching and learning to improve on the EBP knowledge base and patient outcomes. Hung et al (2019:4) suggests that clinical professionals can teach EBP application better than nurse educators. • Encourage healthcare institutions to develop EBP training programmes and conduct training sessions for clinical staff to empower them; including support and supervision of nursing students to become EBP competent practitioners in the future (Lehane et al 2019:107). • Invite clinical experts to provide in-service training and workshops for clinical nurse educators. Updates and workshops that are practice-based and frequently used for information sharing (Lehane et al 2019:107).		

ACTION STATEMENT: 5 STRENGTHEN RESEARCH AND EBP ENGAGEMENT FOR THE NURSE EDUCATORS STAYING CURRENT. **Discussion:** Currently the College provides a good platform for research activities such as research days and research committees in each campus, where nurse educators come together to present and critically discuss research studies conducted by some of nurse educators. Nevertheless, EBP concepts do not form part of such discussions, thus increasing the need for nurse educators to stay current.			
Objectives	**Proposed actions**	**Responsibility**	**Timeline**
5.1 To create and sustain the culture of research and EBP amongst nurse educators. 5.2 To promote a positive attitude for nurse educators towards the development and adoption of EBP competencies.	Therefore, the following actions were suggested from literature reviewed and study participants to: • Hold regular workshops to create awareness about EBP principles amongst the nurse educators to promote and maintain a positive culture of EBP; this is important for nurse educators to remain current and to keep up to date with research–based knowledge. Once nurse educators are fully aware and understand the meaning and importance of EBP in nursing education, it becomes easy for them to firmly incorporate EBP into the teaching and learning process (Coleman et al 2018:3). • Use of effective communication channels such as research days and meetings to disseminate information on the integration of EBP is encouraged. • Motivate nurse educators to participate in research studies either as participants or as researchers for more exposure to	College management	Ongoing annually

	research activities and to engage in research activities through studying further by enrolling for short courses on EBP, attending workshops on EBP, registering for higher degrees with research modules, taking part in webinars, reading journals and to stay updated with latest trends (Maskey et al 2019:52; Horntvedt et al 2018:11). • Encourage nurse educators to utilise research findings and the reading of current articles during preparation of lesson plans so that they get used to the application of the best available scientific evidence (Larsen et al 2019:29). • Arrange for nurse educators to engage in CPD to stay updated with the latest teaching strategies and healthcare advancements; professional development courses in EBP and research inquiry to assist nurse educators to critically examine evidence directly related to current clinical issues. • Insist on maintaining a curious mindset that continuously asks questions in pursuit of new knowledge and understanding with a view to stay current. Increased EBP understanding allows for a smooth process to confidently incorporate EBP into nursing education.		

	• Encourage utilisation of established research committees and journal clubs in each campus to allow for opportunities to practise article review, literature search and critiquing skills. • Provide opportunities for educational sessions in the form of research and EBP projects to practise the application of EBP skills. • Create a monitoring system in the form of documenting all activities nurse educators were engaged in, attendance register for participating nurse educators and topics discussed; these records should be kept as evidence to continued professional development. • Developing a reward system to acknowledge individuals, campuses and programmes that show more engagement with research and EBP as suggested by one of participant.		

ACTION STATEMENT: 6 SEEK ORGANIZATIONAL SUPPORT

Description: Support from the College management and leadership is required and important for the integration of EBP to be successful. The support should be in the form of developed policy guidelines that foster the inclusion of EBP into the curriculum. Policy direction is mostly influenced at the government level, where standards and procedure to be followed are set. As mentioned previously in Chapter 2, organisational support from higher authorities in the NEIs, health services and clinicians to nurse educators which helps nurse educators to develop EBP competencies which is vital in building on the capacity and competencies to meet challenges encountered with EBP teaching and learning (Lehane et al 2019:107).

Objectives	Proposed actions	Responsibility	Timeline
6.1 To ensure long-term sustainability of EBP programmes or courses.	The support should be in the form of: • Organizing a proper, conducive and supportive environment, whether in the clinical or classroom setting, ensuring that these environments are well equipped with fully functional equipment and material to facilitate effective EBP teaching and learning. For example, provisioning of access to internet and availability of IT equipment to practise EBP steps (Ewers et al 2022:10). • Providing financial support to pay for and access the services of experts from external organisations and to provide resources for training programmes; EBP training for nurse educators may be costly, requiring an adequate budget procurement from the national/provincial office of nursing education to purchase and pay for relevant resources (Skela-Savic et al 2020:2). • Ensuring availability of other resources such as physical and human resources which is fundamental to the success of EBP integration into teaching and learning processes (Lehane et al 2019:106). • Requesting for additional funding and motivating for the need of financial support to NEIs; the budget should cover funding for EBP courses and the training of nurse educators,	National Department of health and College management	Ongoing

	procurement of IT materials and library books, the payment of internet connections and journal subscriptions (Skela-Savic 2020:2). • Utilising EBP champions or experts to explain the relevance of EBP across the health professions training programmes. The College should hire these experts. • Promoting a shift or change in the mindset of leadership in nursing education to accept and recognise EBP competencies as relevant skills for inclusion in the nurse training curriculum; the paradigm shift should foster the required positive attitudes and motivate nurse educators to increase competency and confidence towards the use of EBP principles in their teaching programmes (Patelarou et al 2020:21). • Creating awareness to government policymakers and leadership structures about the benefits of EBP to ensure that understanding of EBP in organisations is shared. • Establishing and clearly defining national and local structures to support EBP integration into teaching and learning activities through the employee skills development programmes, proper funding and ensuring that all programmes are monitored and evaluated for effectiveness (D'Souza et al 2021:262).		

	• Providing policy guidelines towards continued professional education in the concept of EBP by developing an EBP educational programme and provision of a good platform for nurse educators to pursue continued professional development. • Setting up standards of achievement on the integration of EBP to measure against the government's DoH vision.		
ACTION STATEMENT: 7 ENCOURAGE STUDENT ENGAGEMENT WITH RESEARCH AND EBP PRINCIPLES. **Description:** The ultimate goal of this strategy is to empower and support nurse educators to facilitate the integration of EBP into the nurse training curriculum so as to instil EBP competencies in nursing students at graduation. Facilitation of EBP learning requires adequate supervision, mentoring, and guidance through preceptorship to enhance learning experiences and thus better prepare nursing students for the complexities of patient care. EBP training can improve nursing students' capacity in providing healthcare and producing EBP competent practitioners.			
Objectives	**Proposed actions**	**Responsibility**	**Timeline**
7.1 To promote student engagement with research and EBP principles by using the best possible teaching and learning	To achieve this goal together with its objectives, the College and Campus management should be: • Creating a conducive learning environment that promotes EBP knowledge and skills acquisition to sustain students' positive attitudes, boosts confidence, and improves student perceptions and capacity to develop EBP concepts; EBP teaching and learning should take place in both classroom and	College and individual campus management through subject committees	Ongoing annually

approaches during basic training.	clinical settings as mentioned earlier. These environments benefit students in different ways. The classroom setting offers nursing students more of cognitive skills, whereas the clinical setting exposes them to experiential work and integrated learning, which enhances students' attitudes and confidence in the application of EBP concepts (Hung et al 2019:2). • Educating nursing students about the benefits and challenges that are experienced with the integration of EBP so that students are able to apply appropriate decision-making strategies with regard to nursing care plans. The application and incorporation of EBP into nurse training is beneficial towards improving patient outcomes; increasing practitioner competence; assisting healthcare institutions to maintain good reputation and reduce cost of health care (McNett 2021:74). • Demonstrating to students how to conduct literature reviews of best available evidence related to the clinical question, guide students on how to critically appraise research studies and to be able to identify trustworthy and reliable evidence; all these are done following the five steps of EBP that include asking the question, accessing the information, appraising the evidence, application of the change and evaluation of the		

	effectiveness and efficiency of the change (Larsen et al 2019:2; Maskey et al 2019:46; Pandya 2019:53). • Helping students to understand the importance of how to translate new knowledge into clinical practice in real situations and to provide quality patient care. The integration of EBP principles into clinical practice encourages students to apply evidence during practice-based experience. • Ensuring the availability and access to research resources and training opportunities for students on how to access resources is critical. Library services must be accessible to students when they need them, for instance, library visiting hours should be flexible enough to accommodate all students. There is need for embedding librarians in the teaching of EBP for nursing students, which is very effective in promoting EBP principles (Larsen et al 2019:29). Nurse educators ought to apply educational intervention strategies that encourage student participation in research and EBP processes using relevant delivery methods. The use of different teaching and learning strategies positively impact the programme outcomes (D'Souza et al 2021:268). Examples of these strategies include the following:		

	• Encourage nurse educators to use more of innovative teaching approaches since these are more effective and student-centred than traditional teaching methods which promote laziness on the part of students and do not allow for active participation. A combination of teaching strategies may be applied to accommodate students' different learning styles and calibre. The flipped classroom teaching approach is an example of innovative approaches that provide more opportunities for critical thinking as it promotes interactive learning (Hsieh & Chen 2020:8). In a flipped classroom, students are assigned cases to prepare and present to other students with the guidance of the teacher. This approach can allow students to practise the application of researched evidence. • Using role modelling where nurse educators demonstrate EBP behaviours in decision-making and forming part of journal clubs, which encourages discussion of articles (Immonen et al 2022:6). • Introduce interactive integrative teaching and learning approaches that bring classroom and clinical teaching together, such as unfolding case studies, subject-centred classroom, problem-based learning, fostering discussions,		

	using concept mapping and simulation to enhance EBP knowledge and skills. Interactive learning ensures that students engage with EBP and exposed to better learning opportunities (Mwiinga-Kalusopa et al 2022:166). • Develop appropriate evaluation methods that allow for effective evaluation of students' EBP competencies in the form of formative and summative assessments by formulating appropriate evaluation tools to effectively monitor and evaluate efficiency of both instructional methods and related learning outcomes (Ewers et al 2022:12; Schoones et al 2017:15). • Frequently request feedback from students to plan for quality improvements when the need arises.		

5.11 CONCLUSION

This chapter has provided strategic interventions that help to support nurse educators in enhancing the integration of EBP into teaching and learning programmes. These interventions are entirely based on the facilitation of EBP integration, covering curriculum changes, nurse educators EBP knowledge and skills, resources, collaboration with clinical stakeholders, engagement of students and organisational support. A theoretical perspective to guide the adoption of the changes was discussed, needs assessment was done and the rationale for developing the intervention strategy was presented. Finally, EBP training programmes have been found to be effective in improving nurse educators' knowledge, attitudes, practice and competencies. It is recommended that the suggested strategies are evaluated continuously for effectiveness and the iterative improvements made. The researcher believes that if the strategy is put into action, it will empower nurse educators to easily and confidently facilitate the integration of EBP into their teaching programmes.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter presents a summary of the study, conclusions drawn from the findings of the study, a discussion of the study's limitations, and recommendations regarding the integration of EBP into teaching and learning programmes at KZNCN. The chapter also confirms the way in which the research questions have been answered and how research objectives were achieved. It further provides a summary of the integration strategy that was developed to support nurse educators in their integration of EBP into teaching and learning activities.

6.2 SUMMARY OF THE STUDY`

The study followed a qualitative research design in describing and exploring the experiences of nurse educators with the integration of EBP into teaching and learning programmes. Data gathering was guided by the study's research questions and objectives. A non-probability, purposive and snowball sampling technique was used to obtain a sample of 21 nurse educators selected from the four nursing campuses of KZNCN located in Amajuba, Ethekwini and Ugu districts of KZN province, South Africa.

Individual face-to-face interviews were conducted using a grand-tour question supported by supplementary questions. All the interviews were recorded using a digital voice recorder. Collaizis' data analysis approach was used to analyse data. Nurse educators' experiences and understandings of EBP were presented, interpreted and discussed. All the relevant ethical principles were observed. The trustworthiness (validity) of data was checked and ensured through applying Lincoln and Gubas' framework criteria of credibility, transferability, dependability, and confirmability.

Chapter one presented the research overview, background of the study, research question and objectives, theoretical framework underpinning the study, the proposed research methods, and relevant ethical issues. Qualitative studies with relevant

literature were critically reviewed in Chapter Two. In Chapter Three presented the research methodology used for this study. Chapter Four presented data analysis, description, interpretation, and discussion of findings. Chapter Five presented the strategy for nurse educators and lastly, Chapter Six outlined the summary of the study, conclusions, study limitations, and suggested recommendations to facilitate the integration of EBP into the nursing education curriculum.

6.3 CONCLUSIONS

Following data analysis of verbatim transcripts of individual interviews, four themes with specific subthemes emerged from nurse educators' description of their experiences and understanding of the integration of EBP into teaching and learning. These are summarised as follows:

6.3.1 Theme 1: Nurse educators' experiences with EBP integration and understanding of EBP concepts

Here, this theme provides a summary of all the participants' experiences. The participants demonstrated minimal or no experience with EBP integration in their teaching; however, they shared more of their teaching experiences in relation to facilitating research processes and research utilisation in general. Regarding the participants' understanding of and knowledge about the EBP concept and principles, the findings generally indicated that these were poor and full of uncertainty, with some participants having had no idea of what was asked. In the context of this study, KZNCN transitioned in the year 2020 from the legacy programmes into the new nursing programmes, firstly R.171 and later R.174. For an example, moving away from R.425 curriculum, which taught more of the research process and less of the EBP principles. Although, the purpose of the R.171 programme alluded that the diplomate should be able to apply evidence-based nursing practice based on research (SANC R171 Qualification Framework 2014:1), teaching of EBP is not explicit within KZNCN R171 curriculum as Participant 17 (DD, 16yrs) responded by making the following statement: "*Currently, we having the new programs that we are teaching. And the R171 program does not include research at all. So as far as the new qualification, same thing applies*

to R1497, so as far as those new qualifications there is no exposure at all or even understanding of the basic concepts related to evidence-based practice".

Nevertheless, the college will commence with R.174 in 2025 where teaching and learning on EBP principles is explicitly mentioned guided by the SANC R.174 Qualification Framework 2014:2 under the Nursing Act 33 of 2005. Therefore, the conclusion based on the study finding is that the lack of and poor understanding of the basic EBP concepts and principles is due to lack of exposure to EBP activities which is not evident within the R.171 current curriculum which does not have research and EBP components in the syllabus.

Sub-themes

- Limited and absence of experience
- Understanding EBP concepts and its integration

6.3.2 Theme 2: Facilitating EBP integration

The participants acknowledged the poor knowledge they had and could foresee challenges in the pursuit of the integration of EBP in the teaching and learning programmes. To successfully facilitate the integration of EBP, nurse education institutions (NEIs) must mitigate such hindrances through creating a positive atmosphere characterised by positive staff attitudes, motivation and an increase in nurse educators' knowledge and skills. In addition, access to information and the support of the librarian are necessity impute in the application of EBP, with the availability of relevant resources being paramount. Adequate time is also an important factor that ought to be considered for effective preparation and use of appropriate teaching and learning methods take place when engaging students. Facilitation was discussed under the following seven subthemes:

Sub-themes

- Attitudes and motivation
- Adequate knowledge and skills
- Time management

- Access to information
- Role of the librarian
- Engaging students with research
- Teaching and learning strategies

6.3.3 Theme 3: Significance of integrating EBP into teaching and learning

The participants could also acknowledge the significance of the integration of EBP into the nursing curriculum. This was discussed in accordance with the following subthemes*.*

Sub-themes

- For the nurse educator
- For the student
- For the nursing profession and practice
- For the patient

6.3.4 Theme 4: Suggested strategies to enhance EBP integration

Based on the recommendations and suggestions provided by the participants to enhance the integration of EBP and the support given to nurse educators, the researcher grouped these suggested strategies into six subthemes.

Sub-themes

- Skills development
- Staying current
- Engaging with research
- Develop/review the curriculum
- Collaboration with clinical practice
- Provide resources

6.4 RECOMMENDATIONS

Factors that may sometimes hinder the integration of EBP into the nursing education system are identified by Salminen et al (2021:2), Lehane et al (2019:4) and Patelarou et al (2020:2) as:

- Legislation where there is lack of clear guidelines from government and national policy on how to acquire EBP competencies
- Organisational culture, economic situations and healthcare demands that do not support the integration of EBP
- Curriculum structures where the curriculum framework lacks some form teaching and learning philosophies
- Insufficient EBP knowledge and skills amongst nurse educators due to lack of the necessary support systems together with poor information literacy skills and resources have also been regarded as key challenges by Horntvedt et al (2018:9).

The researcher highlighted recommendations emanating from the study findings and literature reviewed in Chapter 2. These recommendations should be put forward to KZNCN or any other NEI to sustain the integration of EBP within the nurse training programme and these are:

6.4.1 Recommendations to national legislation

National competency standards for most undergraduate and postgraduate programmes require the use of research and EBP to promote quality outcomes in patient care (SANC 2005). Nursing professionals have the responsibility to comply with these standards and to practise accordingly to make sound healthcare decisions. Therefore, it is recommended that:

- SANC, as a regulatory body, should ensure that the professional standards and statutory requirements are amended within the nursing legislation, by integrating EBP into teaching and learning as the core competency for every curriculum in any NEI conducting nurse training programmes.

- Establish and design EBP training programmes suitable for nurse educators to enhance the transmission of EBP knowledge and skills to nursing students.

- Engagement of stakeholders such as policy makers, curriculum developers, health professionals and patients in EBP education so that they make significant contributions towards the advancement of the teaching and application of EBP in clinical care settings (Lehane et al 2019:3).

- Benchmarking with other countries, for an example, European countries that have developed an EBP e-Toolkit called Teaching and Learning Open Innovative Toolkit for the Nursing European Curriculum to enhance the teaching and learning of EBP in nursing education in Europe (Patelarou et al 2020:1).

6.4.2 Recommendation on the changes in organisational support and culture

The challenge faced by the nursing education organisation in relation to the integration of EBP is the resistance to change, lack of motivation where nurse educators lack the will to adopt new practices and prefer to hold on to the status quo. According to WHO (2016), nurse educators' mandate, as change agents for EBP, is to mentor evidence-based nursing through appropriate teaching and learning activities. Lack of organisational support limits access to financial resources needed to fund the procurement of IT materials like computers; payment of subscription fees to journals and conference attendances, which can negatively affect nurse educators' ability to access evidence including poor internet connectivity. Change is not always accepted by all and can bring a lot of controversies; hence the following recommendations have been proffered to get support and to change organisational culture:

- A supportive environment should be created using EBP mentors, development of EBP strategies and the involvement of experts in EBP. These EBP mentors and experts should be invited by the NEIs to come and workshop nurse educators on EBP-related principles, knowledge and skills.

- DoH and NEIs should provide nurse educators with opportunities to develop and empower themselves through computer skills which are needed to access internet-based evidence.

- Having interest in a particular area of research, getting involved in scientific activities, and getting adequate support from managers and other health professionals enhance nurses' confidence and motivation in the application of EBP. Nursing students should be able to access high quality research evidence and EBP teaching should adhere to easy-to-understand methods.

6.4.3 Recommendation for curriculum changes

Nursing education programmes face the challenge of the curriculum that is devoid of EBP teaching, learning and clinical application. Some nursing academic programmes have not developed a curriculum that explicitly teaches EBP principles (Hung et al 2019:1; Skela-Savic et al 2020:1). Any effort directed towards the integration of EBP is met with ambiguity regarding the actual content to be taught, teaching strategies to be used, learning outcomes to be expected, the appropriate time to introduce EBP principles and the process of integrating EBP into professional courses. Hence the following recommendations have been made:

- There is need for a paradigm shift towards a positive attitude for nurse educators responsible for curriculum reviews. The current curriculum should be reviewed to include EBP teaching and learning competencies.

- Effective incorporation of the necessary EBP knowledge, skills and attitudes into healthcare professions education programme is vital.

- There is need to plan and commit time to introduce new content and changes to the existing curriculum. For instance, the time allocated to theory and practical content needs to be restructured to allow for use of EBP and self-directed learning.

- 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.

6.4.4 Recommendations to empower nurse educators with EBP knowledge and skills

The study revealed that nurse educators had positive attitudes towards EBP implementation; however, they demonstrated lack of knowledge and skills in the integration of EBP into teaching and learning programmes. Furthermore, nurse educators cannot be expected to teach what they do not understand, 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).

To arm nurse educators with relevant knowledge and skills, it is recommended that:

- DoH and NEIs should provide formal training to nurse educators on EBP competencies. In addition, NEIs must also provide frequent in-service training for nurse educators on the EBP competencies, to keep them updated.

- Nurse educators must be encouraged to attend workshops and conferences for them to keep abreast of 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 as suggested in the strategy for nurse educators in Chapter 5.

- DoH and NEIs should employ highly qualified nurse educators in possession of master's or doctoral qualifications. Such personnel have a better understanding of EBP, and are experienced in teaching students how to conduct research, utilise researched evidence, and implement EBP. This calibre of nurse educators is better equipped to become good role models to student nurses.

6.4.5 Recommendations to clinical teaching and learning

The gap between research-generated evidence, clinical nursing practice and education continues to pose a challenge. In clinical practice, some healthcare professionals believe that EBP is a prescriptive and rigid concept, thus limiting professional autonomy. Nursing students end up developing negative attitudes due to an unsupportive environment and resistance to the utilisation of research evidence from clinical staff and managers. Many registered nurses from clinical practice lack an understanding of what EBP is and how to use it in their daily practice, resulting in them failing to provide appropriate supervision to students. Then, it is recommended that:

- The nursing curriculum should incorporate EBP as a theoretical and practical component to promote effective application of EBP.

- Make the integration of EBP into nursing education should be made a priority for nursing students to understand how EBP can contribute to a successful delivery of quality healthcare and the meeting of the health needs of modern society.

- Students get the opportunity to be involved with the application of EBP to allow for the promotion and adoption of EBP in clinical practice.

- Qualification contributes positively to the application of EBP. To enhance nurses' confidence, there is need for nurses to acquire proper education and training on EBP skills, hence the integration of EBP into learning, teaching, and practice programmes (Papadopoulou et al., 2019:30).

6.4.6 Recommendations to deal with clinical and academic staff shortages

The challenges identified by Mwiinga-Kalusopa et al (2022:165) and Skela-Savic et al (2020:1) regarding the teaching of EBP principles are shortage of clinical staff needed for student support in clinical settings and the lack of academic and clinical staff knowledgeable in teaching EBP to students. This shortage has been due to insufficient

training, leading to the curriculum being poorly aligned with the process of applying EBP principles. However, it is suggested that:

- The recruitment of more knowledgeable staff to deal with staff shortages and employment of qualified nursing research consultants to provide in-service training and support to available staff should be encouraged (Dewi & Mani 2020:1).

- The recruitment of more confident clinical staff and skill reorientation of the available staff to grow positive attitude towards EBP and involving them in clinical application of EBP concepts is recommended (Mwiinga-Kalusopa et al 2022:165).

6.4.7 Recommendations regarding the provision relevant resources

Non-availability of training resources and poor infrastructure hinder the support that should be provided to the integration of EBP into the curriculum. Interruptions to internet connection also create disruptions, resulting in delays and an increase in the time needed to complete planned internet search sessions (Lehane et al 2019:4). Other challenges experienced by students during their learning experiences are caused by lack of understanding of information literacy, difficulty in locating and translating research, thus fuelling students' dependency on the librarian and their lecturers for help (Horntvedt et al 2018:11). It was also reported that large class sizes and lecture-style settings did not support students' engagement in discussions and interactions with lecturers, thus encouraging lesser student involvement in their learning (Ewers et al 2022:15).

Therefore, it is recommended that:

- NEIs should invest in infrastructure and the provision of appropriate resources as the best approach to be adopted to build EBP competencies for use and application by nursing professionals.

- In their annual budget planning, NEIs should make provision for the relevant resources so that nurse educators and student nurses do not struggle to access research-based evidence.

- NEIs should apply for sponsorship from private companies who should assist with donations towards the provision of resources. This can reduce the spending of limited public funds.

- NEIs should motivate for the extension of library hours by at least two to four hours. Currently, the library hours at the College stretch from 07H00 to 16H00.

6.4.8 Recommendations for future research

The integration of EBP into teaching and learning programmes at KZNCN appeared to be an uncommon practice. The responses of the nurse educators who participated in the study indicated that EBP is seemingly a difficult topic to understand. In addition, there is a dearth of literature on a similar topic in the South African context, suggesting that more research is needed in relation to EBP competencies in South Africa.

Furthermore, the researcher recommends that further research studies be undertaken on the following topics:

- 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.

- 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 South Africa.

It is further recommended that:

- A similar study should be conducted at any other NEIs offering different nursing programmes as nurse educators' experiences might differ in another context.

- More research is required to determine the most effective way as well as the duration of delivering EBP training to the nursing students.

6.5 CONTRIBUTION OF THE STUDY

Nurse educators equip student nurses with skills that enable them 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 patient outcomes and healthcare costs. The integration of EBP into teaching and learning will ensure that nursing students qualify with adequate knowledge and skills to practise EBP at the completion of their training. The study has also provided vital information for the strategic plan on integration of EBP into teaching and learning, to support nurse educators. This contribution adds value to the scholarship of teaching and learning in nursing education.

Findings of the study will contribute more towards the creation of awareness for NEIs, government and relevant stakeholders about the importance integrating EBP into the nursing profession. The integration strategy developed for nurse educators is crucial in empowering clinical and academic staff in acquiring EBP competencies so that they are able to transmit this knowledge to nursing students. Also, this strategy will make meaningful progress and substantial contribution towards addressing lack of knowledge and skills amongst the nurse educators. Again, the suggested recommendations will assist in averting the factors that may hinder the integration of EBP into teaching and learning processes.

6.6 LIMITATIONS OF THE STUDY

Qualitative data was only collected from and limited to nurse educators who worked for a public institution, KZNCN in South Africa. The study context limits generalising the study findings to all nurse educators, to private NEIs like universities but allows for transferability to other districts, provinces or even the national context. The literature

review process failed to identify enough relevant literature from South Africa and African countries within the searched database and websites. A scoping review would have worked better to explore and provide the extent for studies on EBP integration into nursing education in Africa as it seemed that there is paucity of related studies within the continent. The researcher had difficulty in locating studies that could bring contrast against findings of this study.

6.7 CONCLUDING REMARKS

The purpose of this study was to explore and describe the integration of EBP into teaching and learning programmes for nurse educators at KZNCN to develop a strategy to support nurse educators and to put forward recommendations for the inclusion of the teaching and learning of EBP skills in the nurse training curriculum. The developed strategy is to assist nurse educators to acquire EBP knowledge and skills to better facilitate integration of EBP into their teaching programmes. The suggested strategy and the proffered recommendations are meant to create a culture of EBP within the nursing profession and education. Eventually, the study aim was achieved; the research questions were answered and the set objectives were also successfully achieved.

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ANNEXURE A

UNISA university of south africa

COLLEGE OF HUMAN SCIENCES RESEARCH ETHICS REVIEW COMMITTEE

25 July 2022

NHREC Registration # :
Rec-240816-052
CREC Reference # :
33504636_CREC_CHS_2022

Dear MRS GLORIA NOZIPHO MTHIYANE

Decision:
Ethics Approval from 25 July 2022 to 25 July 2027

Researcher(s): Name: Mrs GN Mthiyane
Contact details: 33504636@mylife.unisa.ac.za
Supervisor(s): Name: Prof. T. Makua
Contact details: makuatp@unisa.ac.za

Title: INTEGRATION OF EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING: A STRATEGY FOR NURSE EDUCATORS.
Degree Purpose: PhD Nursing

Thank you for the application for research ethics clearance by the Unisa College of Human Science Ethics Committee. Ethics approval is granted for five years.

The *medium risk application was reviewed by* College of Human Sciences Research Ethics Committee, in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions 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 should be communicated in writing to the College Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the

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confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. 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. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No fieldwork activities may continue after the expiry date **(25 July 2027).** Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **33504636_CREC_CHS_2022** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

Signature:

Prof. KB Khan
CHS Research Ethics Committee Chairperson
Email: khankb@unisa.ac.za
Tel: (012) 429 8210

Signature: PP

Prof K. Masemola
Executive Dean: CHS
E-mail: masemk@unisa.ac.za
Tel: (012) 429 2298

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ANNEXURE B

UNISA university of south africa

03 Powell Road
Bisley
Pietermaritzburg
3201

Date: 02 June 2023

The College Principal: Dr SZ Mthembu
KwaZulu-Natal College of Nursing
1 Hyslop Road, Townhill
Pietermaritzburg
3201

Dear Madam

RE: REQUEST FOR PERMISSION TO CONDUCT THE STUDY

I, Gloria Nozipho Mthiyane, a student currently registered with the University of South Africa for PhD degree in Nursing Science, together with Thuladi Makua, a professor in the Department of Health request permission to conduct a study at your institution. The study is titled "**Integration of Evidence-Based Practice (EBP) in Teaching And Learning: A Strategy for Nurse Educators.**"

The aim of the study is to explore integration of EBP skills into teaching and learning at KwaZulu-Natal College of Nursing (KZNCN) with the aim of making curriculum recommendations and developing a strategy for nurse educators as an intervention to enhance teaching and learning of EBP skills. The integration of EBP in teaching and learning will ensure that both undergraduate and postgraduate nursing students qualify with adequate knowledge and skills of EBP at completion of training.

This is a qualitative research study and your institution has been selected because it fits well with the proposed research setting. The proposed campuses will be from Amajuba, Ethekwini and Ugu district under KZNCN within the province of KwaZulu-Natal, one campus per districts. Ethekwini district has four campuses but two will selected according to availability and convenience for the campus. Purposive sampling is the planned method of recruiting nurse educators as participants based on the inclusion criteria. Once permission is granted through the principal of KZNCN, campus principals and approval from KwaZulu-Natal Provincial Health Research Committee is

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received, recruited nurse educators will be informed about the study, then asked to volunteer for participation.

Participants will be requested to sign an informed consent forms after getting informed about the study. Adherence to the principle of autonomy, justice, beneficence, privacy, confidentiality, anonymity, and scientific integrity of the research will be ensured and maintained throughout the study. Prior arrangements will made with campus principals and through participants' permission, focus groups of five to seven participants will be assembled for the 45 minutes discussion sessions. There will be a grand tour question asked which will be supported by follow up type of questions where necessary.

The benefits of this study include increase knowledge base for nurse educators and to enhance teaching and learning of EBP skills thus contributing to improved quality health care. Nursing education institutions can also utilize the findings during curriculum development and review.

Identified potential risks are discomfort on the participants due to the presence of unfamiliar company, and inconvenience caused by disturbance to normal work schedule during the process of interview. Currently there is a potential the risk of covid19 infection transmission globally. Precautions will be enforced for the potential risks and covid 19 protocols should be observed.

Feedback procedure will entail access to a copy of completed report in the form of a thesis or article, accessed through publishing journal, Unisa repository and KwaZulu-Natal health department website.

Approval has been granted by the Unisa College of Human Sciences Research Ethics Review Committee. Please find attached copy of ethical clearance certificate and the proposal. Samples of participant consent, data collection tool and participants information sheet are also included.

Thank you.

Yours sincerely

Gloria Nozipho Mthiyane
Student Researcher
Contact details (0721015660 or 033 392 7586)

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ANNEXURE-C

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:
KwaZulu-Natal College of Nursing

Physical Address: 1 Hyslop Road , Townhill, Pietermaritzburg 3200
Postal Address: Private Bag X 9069 Pietermaritzburg 3200
Tel: 033 9404092 Email: sangeetha.maharaj@kznhealth.gov.za
www.kznhealth.gov.za

Reference: Mrs. S. Maharaj
Date: 03/08/2023

Principal Investigator: Gloria Mthiyane Mthiyane
UNISA
Ref No. 33504636_CREC_CHS_2022

RE: REQUEST FOR GATE-KEEPER APPROVAL TO CONDUCT RESEARCH AT THE KWAZULU-NATAL COLLEGE OF NURSING

TITLE: "Integration of Evidence-Based Practice (EPB) in Teaching and Learning: A Strategy for Nurse Educators"

Dear Ms Mthiyane

I have the pleasure in informing you that **Gate Keeper** permission has been granted to you to conduct research at the KZN College of Nursing.

Data Collection site(s):- Addington, Madadeni, Prince Mshiyeni Memorial, Port Shepstone, King Edward and RK Khan Campuses

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. Kindly adhere to all COVID 19 protocols of the institution
3. This research can only commence once you have received approval from the Provincial Health Research Committee in the KZN Department of Health.
4. Gate keeper permission is therefore granted for you to conduct this research at the above identified campuses after consultation with the Campus Principals.
5. The KwaZulu-Natal College and its NEI's will not be providing you with any resources for this research.
6. You will be expected to provide feedback on your findings to the KwaZulu-Natal College of Nursing.

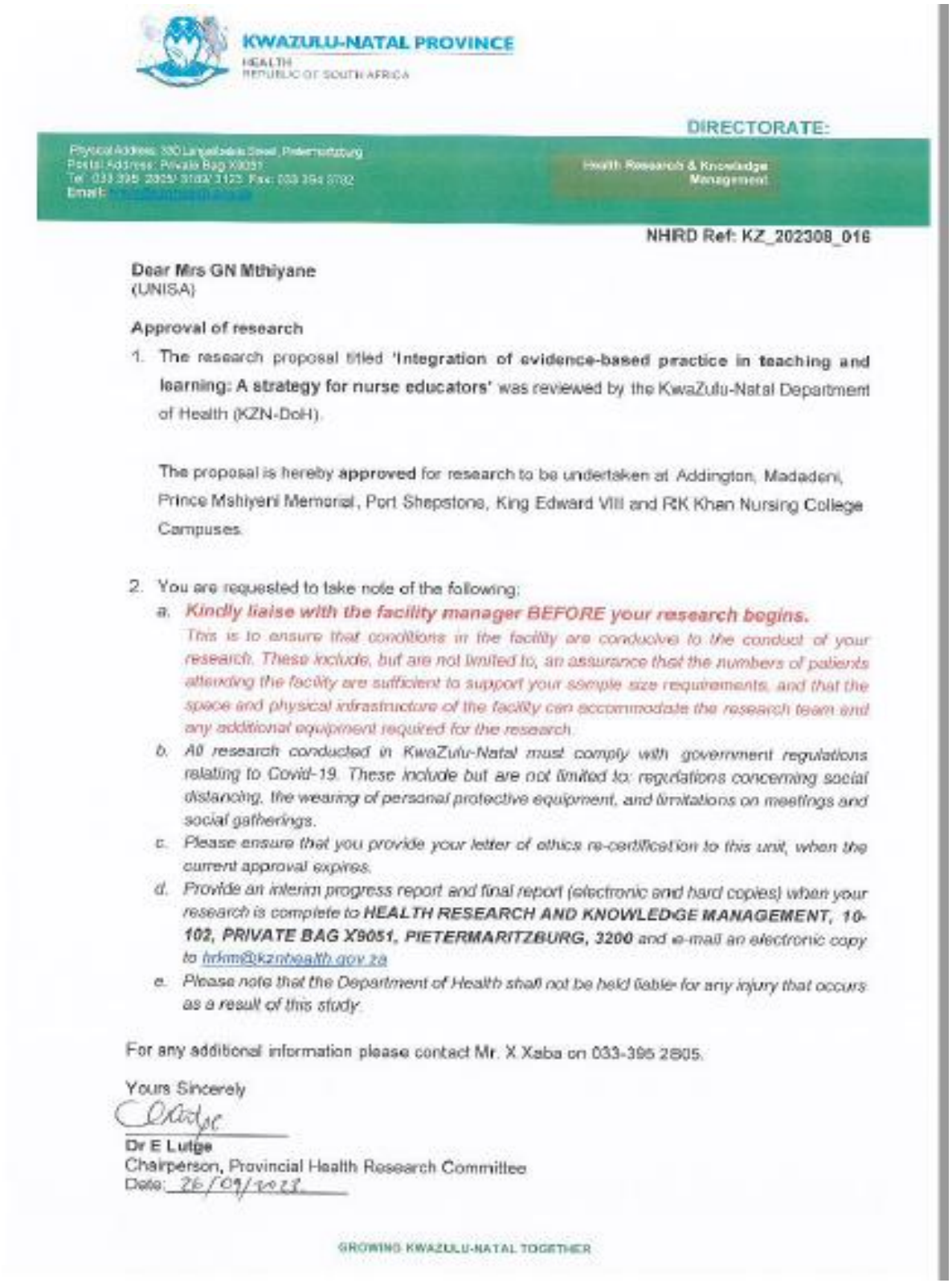
Thank You

DRS SZ MTHEMBU
PRINCIPAL: KZN COLLEGE OF NURSING

DATE: 03/08/2023

GROWING KWAZULU-NATAL TOGETHER

ANNEXURE D



KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:
Health Research & Knowledge Management

NHRD Ref: KZ_202308_016

Dear Mrs GN Mthiyane
(UNISA)

Approval of research

1. The research proposal titled **'Integration of evidence-based practice in teaching and learning: A strategy for nurse educators'** was reviewed by the KwaZulu-Natal Department of Health (KZN-DoH).

   The proposal is hereby **approved** for research to be undertaken at Addington, Madadeni, Prince Mshiyeni Memorial, Port Shepstone, King Edward VIII and RK Khan Nursing College Campuses.

2. You are requested to take note of the following:
   a. ***Kindly liaise with the facility manager BEFORE your research begins.***
      This is to ensure that conditions in the facility are conducive to the conduct of your research. These include, but are not limited to, an assurance that the numbers of patients attending the facility are sufficient to support your sample size requirements, and that the space and physical infrastructure of the facility can accommodate the research team and any additional equipment required for the research.
   b. *All research conducted in KwaZulu-Natal must comply with government regulations relating to Covid-19. These include but are not limited to: regulations concerning social distancing, the wearing of personal protective equipment, and limitations on meetings and social gatherings.*
   c. *Please ensure that you provide your letter of ethics re-certification to this unit, when the current approval expires.*
   d. *Provide an interim progress report and final report (electronic and hard copies) when your research is complete to* ***HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200*** *and e-mail an electronic copy to hrkm@kznhealth.gov.za*
   e. *Please note that the Department of Health shall not be held liable for any injury that occurs as a result of this study.*

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

Yours Sincerely

Dr E Lutge
Chairperson, Provincial Health Research Committee
Date: 26/09/2023

GROWING KWAZULU-NATAL TOGETHER

ANNEXURE E

UNISA university of south africa

REQUEST TO PARTICIPATE IN THE STUDY

Research Title: **Integration of evidence-based practice in teaching and learning: A strategy for nurse educators.**

Researcher: **Gloria Nozipho Mthiyane**

(33504636)

Ethics clearance reference number: Rec-240816-052

Research permission reference number: 33504636_CREC_CHS_2022

Date:

Dear Prospective Participant

My name is Gloria Nozipho Mthiyane and I am doing research with Thuledi Makau, a professor, in the Department of Health Studies towards a PhD degree in Nursing Science at the University of South Africa. We are inviting you to participate in a study entitled "Integration of Evidence-Based Practice (EBP) in Teaching and Learning: A Strategy for Nurse Educators".

I am conducting this research to explore and describe integration of EBP skills in teaching and learning for nurse educators at KwaZulu-Natal College of Nursing with the aim of making recommendations and developing a strategic intervention to enhance teaching and learning of EBP skills.

You are invited to participate in this study because you are a nurse educator working for the KwaZulu-Natal College of Nursing involved in classroom and clinical teaching; therefore have met the inclusion criteria of the study. Your experience and expertise contribution is of utmost importance for this study. Gatekeeper Permission has been granted by the principal of KZNCN, Dr SZ Mthembu, including the research approval received from Department of Health Research Ethical Committee and the campus principal of your institution where you are currently working.

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PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

The study involves audio taping of face to face interviews. There will be a grand tour question asked which will be supported by follow up type of probing questions where necessary. The duration of the interview is estimated to last for about 45 minutes to an hour for each group of participants. Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. The consent form will be signed by both the participants and the researcher before the commencement of the interview. You are free to withdraw at any time and without giving a reason.

Although you will not benefit directly from the study, the findings of the study will contribute to increased knowledge base for the nursing profession and enhance teaching and learning of EBP skills for the nurse educators, thus contributing to improved quality health care.

Identified potential risks for this study are discomfort due to the presence of unfamiliar faces, inconvenience caused by disturbance to normal work schedule during the process of interview and currently there is also potential the risk of covid-19 infection transmission globally because of human contact. Therefore participants will enter into confidentiality agreements and covid 19 protocols will be observed.

You have the right to insist that your name not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research OR your name will not be recorded anywhere and no one will be able to connect you to the answers you give. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, on any publications, or other research reporting methods such as conference proceedings.

If the transcriber and external coder are used and have access to the data, they are to sign a confidentiality agreement which will be submitted to the Research Ethics Review Committee for consideration. Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Review Committee. Otherwise, records that identify you

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will be available only to people working on the study, unless you give permission for other people to see the records.

The researcher will ensure that during publishing of reports or articles, participants' identity remain anonymous and pseudo names or codes will be used to provide privacy. Hard copies of your answers will be stored by the researcher for a minimum period of five years in a locked safe cupboard at the researcher's house for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. If the need arise to destroy the stored information , hard copies will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

Participating in this study does not have any financial rewards or payments and there are no potential costs anticipated by the researcher. This study has received written approval from the Research Ethics Review Committee of the College of Human Sciences Research Ethics Committee, Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

If you would like to be informed of the final research findings or should you require any further information or want to contact the researcher about any aspect of this study, please contact Gloria Nozipho Mthiyane on 0721015660 or 0333927586 during office hours and or gn-mthiyane@hotmail.com. The findings will be accessible from 2025. Please do not use home telephone numbers. Departmental and/or mobile phone numbers are acceptable. Should you have concerns about the way in which the research has been conducted, you may contact Professor Thuledi Makua at 012 429 6754 or email: makuatp@unisa ac.za. Contact the research ethics chairperson of the CREC, Dr KJ Malesa, maleskj@unisa.ac.za, 012 429 6054 if you have any ethical concerns.

Thank you for taking time to read this information sheet. If you are willing to participate in this study, kindly complete the consent form below.

Kind regards

Gloria Nozipho Mthiyane
Researcher

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ANNEXURE F

UNISA university of south africa

CONSENT TO PARTICIPATE IN THE STUDY

Research title: Integration of evidence-based practice in teaching and learning: A strategy for nurse educators

Researcher: Mthiyane Gloria Nozipho

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the semi structured interview.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname…… (please print)

Participant Signature……..Date……

Researcher's Name & Surname: **Gloria Nozipho Mthiyane**

Researcher's signature……..Date……

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ANNEXURE G

UNISA university of south africa

INTERVIEW GUIDE

Interview Topic: **Integration of Evidence-Based Practice in Teaching and Learning: A Strategy for Nurse Educators.**

Time of interview: start…… finish……

Date:

Place:

Interviewer:

Interviewee code:

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 questions

As a nurse educator, could you describe your experiences with integration of EBP in teaching and learning at KZNCN?

Probing questions

- What does integration of EBP in teaching and learning mean?
- What content should be included in EBP teaching and learning?
- Why is integration of EBP in teaching and learning important to nurse educators?
- What are the strategies that can be implemented to support nurse educators with integration of EBP in teaching and learning?
- What value, if any, has been derived from these strategies?
- What recommendations can be made to enhance integration of EBP in teaching and learning at KZNCN?

Closing the session

Thank you for your participation in this study.

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ANNEXURE H

UNISA university of south africa

3 Powell Road

Bisley, Pietermaritzburg

3201

Date: 13 October 2023

The Principal – Mrs NNT Ndlela

Port Shepstone Nursing Campus

P/Bag X719

Port Shepstone

4240

nokuthula.ndlela@kznhealth.gov.za

REQUEST FOR PERMISSION TO CONDUCT THE STUDY AT PORT SHEPSTONE NURSING CAMPUS.

Dear Campus Principal

I, Gloria Nozipho Mthiyane, a student currently registered with the University of South Africa for PhD degree in Nursing Science, together with Thuledi Makua, a professor in the Department of Health request permission to conduct a study at your institution. The study entitled "**Integration of Evidence-Based Practice (EBP) in Teaching And Learning: A Strategy for Nurse Educators - Kwazulu-Natal College of Nursing (KZNCN)**".

This study has received written approval from the Research Ethics Review Committee of the College of Human Sciences Research Ethics Committee, Unisa. Gatekeeper's permission has been granted by the principal of KZNCN, Dr SZ Mthembu, including the research approval received from Department of Health Research Ethical Committee. Copies of this documents are attached.

The aim of the study is to explore integration of EBP skills in teaching and learning for nurse educators at KwaZulu-Natal College of Nursing with the aim of making

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recommendations and developing a strategic intervention to enhance teaching and learning of EBP skills.

Your institution has been selected because it fits well with the proposed research setting. The study will entail conducting one on one interviews with nurse educators at each campus within their work environment. The interview process will be audio recorded with the permission of the participants and the duration is expected to be 45 minutes to an hour. There will be a grand tour question asked which will be supported by follow up type of questions where necessary. Prior arrangements will made with participants through scheduled appointments.

The benefits of this study include increase knowledge base for nurse educators and to enhance teaching and learning of EBP skills thus contributing to improved quality health care. Nursing education institutions can also utilize the findings during curriculum development and review.

Identified potential risks are discomfort due to the presence of unfamiliar company, inconvenience caused by disturbance to normal work schedule during the process of interview. Currently there is a potential the risk of covid19 infection transmission globally. Precautions will be enforced for the potential risks and covid 19 protocols will be observed.

Feedback procedure will entail access to a copy of completed report in the form of a thesis or article, accessed through publishing journal, Unisa repository and KwaZulu-Natal health department website.

Yours sincerely

(Signature)

Gloria Nozipho Mthiyane

Student Researcher

ANNEXURE I

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

137 Marine Drive, Shelly Beach, 4265
Private Bag X719, Port Shepstone, 4240
Tel: 039-3155322 Fax: 039-3155325 Email: mkuthula.ndlela@kznhealth.gov.za
www.kznhealth.gov.za

KWAZULU-NATAL COLLEGE OF NURSING
PORT SHEPSTONE NURSING CAMPUS

Reference: Data Collection
Enquiries: N.T Ndlela
Date: 24.01.2024

Attention: Mrs Gloria N. Mthiyane

SUBJECT: REQUEST FOR PERMISSION TO CONDUCT RESEARCH FROM PORT SHEPSTONE CAMPUS

Receipt of letters of approval from the KZN College of Nursing and UNISA for you to conduct a research on **"integration of Evideace- Based Practice (EBP) in Teaching and Learning: A Strategy for Nurse Educators"** is hereby acknowledged.

Permission is hereby granted for you to conduct your study at Port Shepstone Campus on the 13th of February 2024. Kindly let us know should there be a change from this date. Please adhere to the conditions stated by the KwaZulu-Natal College of Nursing.

Best wishes

Ms N.T Ndlela
(Campus Principal)

Date: 24/01/2024

Fighting Disease, Fighting Poverty, Giving Hope

ANNEXURE J

UNISA | university of south africa

3 Powell Road

Bisley, Pietermaritzburg

3201

Date: 13 October 2023

The Principal – Mrs J. Reddy

RK Khan Nursing Campus

P/Bag X004

Chatsworth

4240

jaya.reddy@kznhealth.gov.za

REQUEST FOR PERMISSION TO CONDUCT THE STUDY AT RK KHAN NURSING CAMPUS.

Dear Campus Principal

I, Gloria Nozipho Mthiyane, a student currently registered with the University of South Africa for PhD degree in Nursing Science, together with Thuledi Makua, a professor in the Department of Health request permission to conduct a study at your institution. The study entitled "**Integration of Evidence-Based Practice (EBP) in Teaching And Learning: A Strategy for Nurse Educators - Kwazulu-Natal College of Nursing (KZNCN)**".

This study has received written approval from the Research Ethics Review Committee of the College of Human Sciences Research Ethics Committee, Unisa. Gatekeeper's permission has been granted by the principal of KZNCN, Dr SZ Mthembu, including the research approval received from Department of Health Research Ethical Committee. Copies of this documents are attached.

The aim of the study is to explore integration of EBP skills in teaching and learning for nurse educators at KwaZulu-Natal College of Nursing with the aim of making

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recommendations and developing a strategic intervention to enhance teaching and learning of EBP skills.

Your institution has been selected because it fits well with the proposed research setting. The study will entail conducting one on one interviews with nurse educators at each campus within their work environment. The interview process will be audio recorded with the permission of the participants and the duration is expected to be 45 minutes to an hour. There will be a grand tour question asked which will be supported by follow up type of questions where necessary. Prior arrangements will made with participants through scheduled appointments.

The benefits of this study include increase knowledge base for nurse educators and to enhance teaching and learning of EBP skills thus contributing to improved quality health care. Nursing education institutions can also utilize the findings during curriculum development and review.

Identified potential risks are discomfort due to the presence of unfamiliar company, inconvenience caused by disturbance to normal work schedule during the process of interview. Currently there is a potential the risk of covid19 infection transmission globally. Precautions will be enforced for the potential risks and covid 19 protocols will be observed.

Feedback procedure will entail access to a copy of completed report in the form of a thesis or article, accessed through publishing journal, Unisa repository and KwaZulu-Natal health department website.

Yours sincerely

(Signature)

Gloria Nozipho Mthiyane

Student Researcher

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ANNEXURE K

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:

Postal Address : R. K. Khan Circle, Chatsworth, 4032
Physical Address: R. K. Khan Campus, Private Bag x 024, Chatsworth, 4030
Tel: (031) 469 6187 Fax: (031) 401 5228 Email address:
www.kznhealth.gov.za

KwaZulu Natal College of Nursing
R. K. Khan Campus

Enquiries: Mrs. J. Reddy
Date: 29 February 2024

Principal Investigator: Gloria Nozipho Mthiyane
University of South Africa
Student No: 33504636

COURSE: Phd

Re: REQUEST FOR GATE-KEEPER APPROVAL TO CONDUCT RESEARCH AT R.K KHAN NURSING CAMPUS

TITLE: INTEGRATION OF EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING: A STRATEGY FOR NURSE EDUCATORS

Dear Mrs. G. N. Mthiyane

I have pleasure in informing you that the Gate Keepers permission has been granted to you as per the above request by the Principal – R.K Khan Nursing Campus.

Date collection site: R.K Khan Nursing Campus – 29 February 2024

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, KwaZulu Natal College of Nursing and full approval from University of Natal.
3. R.K Khan Nursing Campus will not be providing you with any resources for this research.
4. You will be expected to provide feedback on your findings (a copy of your thesis) to the Principal – R.K Khan Nursing Campus.

Thank you
Reddy
Mrs. J. Reddy
Campus Principal

GROWING KWAZULU-NATAL TOGETHER

ANNEXURE L

UNISA university of south africa

3 Powell Road

Bisley, Pietermaritzburg

3201

Date: 13 October 2023

The Principal – Mrs JN Mthembu

Madadeni Nursing Campus

P/Bag X6642

Newcastle

2940

nomvelo.mthembu@kznhealth.gov.za

REQUEST FOR PERMISSION TO CONDUCT THE STUDY AT MADADENI NURSING CAMPUS.

Dear Campus Principal

I, Gloria Nozipho Mthiyane, a student currently registered with the University of South Africa for PhD degree in Nursing Science, together with Thuledi Makua, a professor in the Department of Health request permission to conduct a study at your institution. The study entitled "**Integration of Evidence-Based Practice (EBP) in Teaching And Learning: A Strategy for Nurse Educators - Kwazulu-Natal College of Nursing (KZNCN)**".

This study has received written approval from the Research Ethics Review Committee of the College of Human Sciences Research Ethics Committee, Unisa. Gatekeeper's permission has been granted by the principal of KZNCN, Dr SZ Mthembu, including the research approval received from Department of Health Research Ethical Committee. Copies of this documents are attached.

The aim of the study is to explore integration of EBP skills in teaching and learning for nurse educators at KwaZulu-Natal College of Nursing with the aim of making

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recommendations and developing a strategic intervention to enhance teaching and learning of EBP skills.

Your institution has been selected because it fits well with the proposed research setting. The study will entail conducting one on one interviews with nurse educators at each campus within their work environment. The interview process will be audio recorded with the permission of the participants and the duration is expected to be 45 minutes to an hour. There will be a grand tour question asked which will be supported by follow up type of questions where necessary. Prior arrangements will made with participants through scheduled appointments.

The benefits of this study include increase knowledge base for nurse educators and to enhance teaching and learning of EBP skills thus contributing to improved quality health care. Nursing education institutions can also utilize the findings during curriculum development and review.

Identified potential risks are discomfort due to the presence of unfamiliar company, inconvenience caused by disturbance to normal work schedule during the process of interview. Currently there is a potential the risk of covid19 infection transmission globally. Precautions will be enforced for the potential risks and covid 19 protocols will be observed.

Feedback procedure will entail access to a copy of completed report in the form of a thesis or article, accessed through publishing journal, Unisa repository and KwaZulu-Natal health department website.

Yours sincerely

(Signature)

Gloria Nozipho Mthiyane

Student Researcher

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ANNEXURE M

UNISA university of south africa

3 Powell Road

Bisley, Pietermaritzburg

3201

Date: 13 October 2023

The Principal – Mrs R. Bridgemohan

Prince Mshiyeni Nursing Campus

P/Bag X07

4060

rozana.bridgemohan@kznhealth.gov.za

REQUEST FOR PERMISSION TO CONDUCT THE STUDY AT PRINCE MSHIYENI NURSING CAMPUS.

Dear Campus Principal

I, Gloria Nozipho Mthiyane, a student currently registered with the University of South Africa for PhD degree in Nursing Science, together with Thuledi Makua, a professor in the Department of Health request permission to conduct a study at your institution. The study entitled "**Integration of Evidence-Based Practice (EBP) in Teaching And Learning: A Strategy for Nurse Educators - Kwazulu-Natal College of Nursing (KZNCN)**".

This study has received written approval from the Research Ethics Review Committee of the College of Human Sciences Research Ethics Committee, Unisa. Gatekeeper's permission has been granted by the principal of KZNCN, Dr SZ Mthembu, including the research approval received from Department of Health Research Ethical Committee. Copies of this documents are attached.

The aim of the study is to explore integration of EBP skills in teaching and learning for nurse educators at KwaZulu-Natal College of Nursing with the aim of making

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recommendations and developing a strategic intervention to enhance teaching and learning of EBP skills.

Your institution has been selected because it fits well with the proposed research setting. The study will entail conducting one on one interviews with nurse educators at each campus within their work environment. The interview process will be audio recorded with the permission of the participants and the duration is expected to be 45 minutes to an hour. There will be a grand tour question asked which will be supported by follow up type of questions where necessary. Prior arrangements will made with participants through scheduled appointments.

The benefits of this study include increase knowledge base for nurse educators and to enhance teaching and learning of EBP skills thus contributing to improved quality health care. Nursing education institutions can also utilize the findings during curriculum development and review.

Identified potential risks are discomfort due to the presence of unfamiliar company, inconvenience caused by disturbance to normal work schedule during the process of interview. Currently there is a potential the risk of covid19 infection transmission globally. Precautions will be enforced for the potential risks and covid 19 protocols will be observed.

Feedback procedure will entail access to a copy of completed report in the form of a thesis or article, accessed through publishing journal, Unisa repository and KwaZulu-Natal health department website.

Yours sincerely

..... (Signature)

Gloria Nozipho Mthiyane

Student Researcher

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ANNEXURE N

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

KWAZULU-NATAL COLLEGE OF NURSING
PRINCE MSHIYENI MEMORIAL CAMPUS
Physical Address: [redacted] Highway, Durban, 4000
Physical Address: Private Bag X10, [redacted], 4060
Tel: +27(031) 907 8513/ 8514 Fax: +27(031) 906 7772 Email: Roziena.Bridgemohan@kznhealth.gov.za
www.kznhealth.gov.za

Directorate: PRINCIPAL OFFICE

REFERENCE. Mrs Bridgemohan
Date: 20.02.2024

Principal Investigator
G.N Mthiyane
Student number: 33504636

RE: GATE KEEPER PERMISSION TO CONDUCT RESEARCH AT PRINCE MSHIYENI MEMORIAL CAMPUS

TITLE/TOPIC: INTEGRATION OF EVIDENCE-BASED PRACTICE IN TEACHING AND LEARNING: A STRATEGY FOR NURSE EDUCATORS.

Dear Ms Mthiyane

I have a pleasure in informing you that permission has been granted to you as per above request by the campus principal.
Gate keeper permission is therefore granted to you to conduct research at Prince Mshiyeni Memorial Campus on the 27th 02. 2024, provided that disruption of teaching and learning will be avoided at the time of data collection. You will be expected to provide feedback on your findings to the campus to contribute to future positive academic capacity building.

Thank You
Dr Z. P Zwane (Campus Research Coordinator)

Signature

ANNEXURE O

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:
Physical Address: Private Bag X6642, NEWCASTLE, 2940
Physical Address: Dr Nelson Mandela Rd, Section2, Majuba FET College, MADADENI, 2951
Tel: 034-3144431/35/45/ 3144617 Email: nomvelo.mthembu@kznhealth.gov.za
www.kznhealth.gov.za

KWAZULU-NATAL COLLEGE OF NU
MADADENI CAMPUS

Enquiries: Mrs. J.N Mthembu
Contact No. 034 3144431

24 October 2024

Attention To: Mrs. G.N Mthiyane

Dear Mrs. Mthiyane

Matter refers to: **RE GRANTING OF PERMISSION TO CONDUCT RESEARCH AT MADADENI CAMPUS.**

Kindly be informed that your letter of request is acknowledged and the permission is granted to conduct research and satisfied with the documents provided on the research to be undertaken and hoping the results and recommendations will be shared with the campus.

Kind regards

.....
J.N Mthembu (Mrs.)
Campus Principal- Madadeni

KWAZULU-NATAL COLLEGE OF NURSING
MADADENI CAMPUS
2023 -10- 24
KZN DEPARTMENT OF HEALTH
KZN UMNYANGO WEZEMPILO

ANNEXURE-P

01 September 2024

To Whom It May Concern,

Re: Editor's Letter

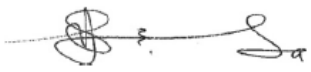
Integration of evidence-based practice in teaching and learning: A strategy for nurse educators

Below is the scope considered during language editing of the above titled doctoral thesis:

- Grammar check
- Sentence construction
- Spelling check
- Punctuation
- In-text referencing
- Formatting/document layout

As a professional editor, I pledge that the above aspects of the thesis were, to the best of my knowledge, meticulously and correctly done at the time the work was sent to the candidate. However, I am not responsible for any corrections that were made after the editing process was finalised.

Yours faithfully,



Kemist Shumba (PhD)

PhD in Health Promotion: University of KwaZulu-Natal [UKZN]
Master of Social Science in Health Promotion (*cum laude*): UKZN
Bachelor of Social Science Honours in Cultural & Media Studies: UKZN
Postgraduate Certificate in Education: Great Zimbabwe University
Bachelor of Arts (English): University of Zimbabwe

ANNEXURE Q

PEER REVIEW QUESTIONNAIRE

I am the PhD student at the University of South Africa and currently completing my research study entitled “Integration of evidence-based practice in teaching and learning: A strategy for nurse educators, KwaZulu-Natal College of Nursing, South Africa.” I have attached the copy of the strategy that I have developed which provides more details about my project.

I would like to ask for your expert service as the trusted and experienced nurse educator, to be one of the reviewers of the proposed strategy for validation purposes. Your comments and suggestions would be of great help to improve the contents, reliability and validity of this strategy. Section A of the review is based on the relevance of the planned actions on the strategy in relation to its goal and objectives, and section B request for your responses to the open-ended question asked. Lastly, section C request for your biographic profile. Thank you for your participation.

SECTION A

Kindly use the following rating by placing a cross in the space under your rating.

Degree of relevance

1 = not relevant

2 = somewhat relevant

3 = quite relevant

4 = highly relevant

ACTION STATEMENTS OF THE STRATEGY	1	2	3	4
1. Develop a strategic curricular plan				
2. Develop and provide EBP training programmes for the college personnel				
3. Establish a reliable system to access information resources				
4. Strengthen collaboration with clinical practice				
5. Strengthen research and EBP engagement for the nurse educators staying current				
6. Seek organizational support				

7. Encourage student engagement with research and EBP principles				

SECTION B

Kindly provide your honest response and comments to the following questions.

OPEN -ENDED QUESTIONS	COMMENTS
1. How effective do you think this strategy will be in achieving its goal?	
2. What are thoughts on the identified target audience?	
3. Is the strategy appropriate for the situation?	
4. How can I improve the design of the strategy?	
5. What are the strengths and weaknesses of this strategy?	
6. What are your initial thoughts on this strategy?	
7. From your experience, what are the biggest challenges you foresee with this, and how might I mitigate them?	
8. In your opinion, what are the most promising aspects of the strategy?	
9. Are there any blind spots you think I might be missing?	
10. What are some alternative perspectives or approaches I should consider?	

SECTION

Validator's Biographic Profile

Highest qualification	Position/Rank	Years of experience in nursing education

ANNEXURE R

COMPLETED SAMPLE

SECTION A

Kindly use the following rating by placing a cross in the space under your rating.

Degree of relevance

1 = not relevant

2 = somewhat relevant

3 = quite relevant

4 = highly relevant

STRATEGIC PLANNED ACTIONS	1	2	3	4
8. Develop a strategic curricular plan				x
9. Develop and provide EBP training programmes for the college personnel				x
10. Establish a reliable system to access information resources				x
11. Strengthen collaboration with clinical practice				x
12. Strengthen research and EBP engagement for the nurse educators staying current				x
13. Seek organizational support				x
14. Encourage student engagement with research and EBP principles				x

SECTION B

Kindly provide your honest response and comments to the following questions.

OPEN -ENDED QUESTIONS	COMMENTS
11. How effective do you think this strategy will be in achieving its goal?	This strategy has clear, relevant, measurable and realistic goals thus making it effective in achieving its goals.
12. What are thoughts on the identified target audience?	The target audience is appropriate. They are all key role players who will ultimately be unskilled on EBP. Their experience with nursing education and training will allow them to give valuable input. It's best to have they're buy in because they will be the end users of EBP.
13. Is the strategy appropriate for the situation?	Yes, as it creates students to be more involved in their learning and also

	teaches critical thinking as they will develop as enquiring mind.
14. How can I improve the design of the strategy?	If possible, to allocate timeframes for some of the actions even if it is estimations.
15. What are the strengths and weaknesses of this strategy?	Strengths The strategy will enhance the curricular content being in relevant content. It will allow students to learn in real time settings and give more meaning to content learnt. Allows for correlation of theory to practice. Lecturers also will understand the clinical changes as they occur reinforcing the fact that clinical practice is dynamic and ongoing research brings change constantly. Weakness You would need finances to train educators and finances for technology Input from politicians make be a lengthy process due to bureaucracy. Some educators may be resistant to change in their methods of teaching.
16. What are your initial thoughts on this strategy?	It valid and needed as clinical practice and education must evolve (There must be evidence behind what we teach and how we practice. Technology can increase understanding esp. on conditions that are not always seen.
17. From your experience, what are the biggest challenges you foresee with this, and how might I mitigate them?	I think the cost for reviewing the curricular and getting a cohort of stakeholders to come together to change curricular. This is because you need all your stakeholders and people are generally busy and not always available. Best way to mitigate this would be to develop a proposal and send them to key stakeholders e.g. College Principal, Political leaders, Hospital Managers, University researchers, academics and senior students.

	This can be followed by a workshop/seminars and then virtual meeting.
18. In your opinion, what are the most promising aspects of the strategy?	This strategy will ultimately improve the quality of patient care. The way of teaching and learning will become innovative. Students will learn more about research and won't be scared of doing research post qualification.
19. Are there any blind spots you think I might be missing?	Nil
20. What are some alternative perspectives or approaches I should consider?	Maybe consider a train the trainer programme where few lecturers/academics can be work-shopped and then they can train other staff in their own institution. Once senior students are equipped there can be a mentor mentee programme.

SECTION C

Validator's Biographic Profile

Highest qualification	Position/Rank	Years of experience in nursing education
PhD in Health Sciences	Lecturer/Quality Assurance Officer	19