

Research and evidence use in experiential learning: perspectives and experiences of undergraduate nursing students.

JOHNSON, N.

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Research and evidence use in experiential learning
- perspectives and experiences of undergraduate
nursing students

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Abstract

Globally, for a number of years research and evidence - based practice (EBP) have become essential concepts in the provision of healthcare and as such have become more strongly reflected in professional codes and educational standards. While there have been considerable efforts and developments in terms of the translation and implementation of research and evidence into practice (through for example the emergence of clinical guidelines), equally, there has been a growing body of literature which reports on the challenges that nursing faces in implementing research and evidence in practice. Concomitant with the development of research and EBP in nursing, educational providers of preregistration nursing education have developed and evaluated a range of educational approaches to support learning for preregistration nursing students with reports of variable impact upon knowledge and understanding as well as attitudes toward such subjects within curricula. While this is important there is little research which explores the perceptions and experiences of students from the perspective of learning about research and EBP in the practice placement setting.

The aim of this study was to explore the perceptions and experiences of final stage preregistration nursing students studying at Higher Education Institutions (HEI) in the United Kingdom to learning about research and EBP in the context of the clinical placement elements of their programme. The study adopted a qualitative approach guided by grounded theory method with unstructured focus group and individual interviews used as a means of collecting data. The chosen method was informed by the outcomes of two scoping reviews which were undertaken from 2014 – 2016 exploring educational approaches to teaching research and EBP. Adopting a methodological framework, the scoping reviews sought to clarify working definitions as well as determining the conceptual boundaries of the topic. The scoping reviews revealed a range of educational approaches which resulted in varying levels of impact in terms of enhancing student knowledge, attitudes and perceptions toward research and EBP. However a key challenge in teaching research and evidence based practice is that students struggle to see the relevance of research and EBP for nursing practice. Additionally, the reviews enabled an exploration and examination of the extent, range and type of prior research activity around the broader topic area. While the scoping reviews demonstrated a global consensus that research and EBP are critical topics in undergraduate preregistration nursing education, they also highlight the challenges of providing appropriate, meaningful and effective approaches to teaching and learning. Teaching and learning about research and EBP in preregistration nursing education is multifaceted and

at times complex, influenced not only by pedagogical approaches but also the known and reported barriers to research and EBP use in the real world of practice

Ethical approval was granted by the respective ethics committee at each HEI. The sample comprised one focus group and two individual in depth interviews with a total of six students representing the fields of mental health and adult nursing. The interviews varied in duration from 25 minutes to 75 minutes. The interviews were transcribed verbatim and data were analysed using coding techniques drawn from Straussian grounded theory to enable the identification of themes. While data did not enable the development of an emergent theory, four themes were identified - "experiencing practice", "the role of the professional nurse", "power and authority in practice" and "education". Students were able to identify and articulate learning in the HEI and recognise the importance of research and EBP, however the experience of practice placements made learning challenging reflecting the reported challenges from other studies as well as the tensions of bridging the gap between learning in the context of HEI and the placement environment.

The study presents a conceptual model representing the differentiation between learning in an HEI and learning in clinical practice placement from the perspectives of undergraduate nursing students. The model represents a dynamic overview, emphasising the transient nature of learning in practice and the differing relationships that students have as learner between practice and HEI. This differentiation is perceived as "different worlds". The conceptualisation of learning about research and EBP in practice placement experiences from the perspective of student nurses presents a need to re-articulate the relationship between HEIs and practice placement providers to ensure that students are supported and provided with opportunities to engage with evidence in practice. There is also a need to connect a culture of learning in the spirit of research and EBP in the classroom with a practice placement environment which considers the needs of a new generation of learner as well as considering the nature and purpose of experiential learning around contemporary health and social care policy and the standards of professional, statutory, regulatory bodies.

Keywords: Nurse Education; undergraduate; students; research and evidence - based practice; experiential learning; experience.

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Chapter One: Introduction

1.1 Introduction

This research study aimed to explore the perceptions and experiences of preregistration nursing students to learning about and applying research and EBP in the clinical practice placement elements of Nursing and Midwifery Council (NMC) approved programmes in the United Kingdom (UK). The purpose was to provide an understanding of the lived experiences of final year preregistration nursing students as well as the meaning they attached to the factors impacting upon their learning. The outcomes of this study sought to further assist educationalists both in HEIs as well as educationalists in clinical practice placements in understanding and enhancing approaches to learning which serve to enable students to understand the connection between learning situated in their HEI and to supportively apply research and EBP in practice placement settings. This introductory chapter will provide a background to the emergence and development of EBP since the mid - 1990s, its importance in the context of professional nursing practice and also its relevance to the requirements and standards of NMC approved preregistration nursing programmes in the UK. As the researcher is also a nurse educator the relationship between the researcher and the study is contextualised and recognition of prior professional roles and assumptions about the topic provided.

EBP has become an international concept reflecting the implementation of approaches to healthcare provision which seek to combine patient preferences and values with the expertise and knowledge of clinicians to provide positive patient outcomes, minimise variations in practice and promote cost effectiveness (Melynk et al. 2010; Tilson et al. 2011; Melynk et al. 2012). Originally referred to as evidence - based medicine, the roots of basing care on best available research can be traced to the 1970s and the work of Archie Cochrane in recognising the importance of randomised control trials in informing procedures and practices which were proven to be most effective rather than those which were based on the personal preferences of physicians (MacKey and Bassendowski 2017). The provision of optimal standards of care are now expected from policy makers, healthcare providers, professional bodies, patients and service users themselves and as such to achieve this, healthcare professionals are required to be familiar with new developments in their practice area, maintain a currency of knowledge to be confident that they are providing care and interventions which seek to promote positive patient outcomes and protect individuals from ineffective or harmful approaches (Young et al. 2014).

However, despite the drive to provide clinically effective, patient centred and safe approaches to healthcare, there exists a need to understand why nurses may still base their decision making on ritualistic thinking and other sources and this is reflected in the level of research activity related to this concern (Häggman - Laitila, Mattila and Melender 2016).

Over recent decades and drawn from initial definitions of evidence - based medicine, internationally it has been recognised that evidence - based approaches to healthcare are a critical competency for all healthcare practitioners including nurses (Young et al. 2014). This is exemplified in the International Council of Nurses (ICN) Code of Ethics for Nurses (2012) and reflected in national regulatory codes e.g. NMC Professional standards of practice and behaviour for nurses, midwives and nursing associates which states that individuals must always “practise in line with best available evidence” (NMC 2018, p9). The World Health Organisation (WHO) in the publication “Facilitating evidence - based practice in nursing and midwifery in the WHO European Region” (WHO 2017) further emphasise this and in highlighting the role that nurses and midwives have in ensuring “effective, efficient, accessible, acceptable, patient centred and equitable and safe health care services” where both professions are central to the achievement of EBP“, particularly in standardising and aligning health care practices with evidence at the point of care” (WHO 2017, p1). The need to provide clinically effective, safe and patient centred care is also reflected in national health policy. For example, in Scotland in recent years, the Health Care Quality Strategy for NHS Scotland (Scottish Government 2010) and A National Clinical Strategy for Scotland (Scottish Government 2016). To support healthcare organisations and healthcare professionals in implementing EBP at the point of care, there has also been a growing emergence of bodies which systematically review and provide evidence informed recommendations in a range of healthcare areas and topics. This ranges from guidance and recommendations related to the prevention and management of specific conditions, the provision of social care for adults and children as well as informing the development of wider integrative, inter - professional services and interventions which promote health and wellbeing in society and communities. Examples include the Scottish Intercollegiate Guidelines Network (SIGN), National Institute for Health and Clinical Excellence (NICE), Cochrane in the UK and international organisations such as the Joanna Briggs Institute (JBI), all of which provide a central repository of resources, reviews and guidelines enabling the public, government, healthcare organisations, healthcare staff, clinicians, educational providers and in the context of this thesis, students, to access to up to date, high quality evidence. While the rapid growth of clinical guidelines has been instrumental in changing practice, having these pragmatic resources is also seen as enabling access to research evidence, overcoming some of the reported barriers including

time to search and locate evidence as well challenges of interpreting and understanding research evidence. Despite this a reported gap exists between such evidence and the implementation in practice (Williams, Perillo and Brown 2015).

Equally, there have been a number of high - profile public enquiries as a result of failures in standards of care in healthcare services. One such example at Mid Staffordshire NHS Foundation Trust and the subsequent Frances Report (Mid Staffordshire NHS Foundation Trust Public Enquiry 2013) emphasised the importance of education, leadership and organisational culture in ensuring that care is patient centred, safe and effective. There have also been national concerns raised about the state of the modern UK nursing profession which led to a Royal College of Nursing (RCN) commissioned report to review the “health” of preregistration nurse education. The Willis Report, Quality with compassion - the future of nursing education (RCN 2012), stated that the requirements to ensure EBP was at the heart of nursing education had not been fully met and that developing nurses to be able to question practice and to be able to apply EBP skills were critical to improved patient outcomes. The report also emphasised that research must not be viewed as an option in preregistration nursing curricula but an integral part of the education process. In many ways the Willis Report highlighted that the aspirations of The Briggs Report in 1972 (Department of Health and Social Security (DHSS) 1972), Project 2000 (United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) 1986) and subsequent NMC standards (NMC 2004) relating to a new education which emphasised the importance of research and EBP had not been fully realised.

The original tenets of evidence - based medicine, as defined by Sackett et al. (1996, p5) as the “conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients” have been adopted by healthcare professions including nursing e.g. “evidence - based nursing” and culminating in EBP. The seminal definition provided by Sackett et al. (1996) is an important one to consider as it implies that evidence - based approaches to care are not solely directed by the outputs of research but that research evidence is utilised in conjunction with clinical expertise and patient values when implementing decisions regarding care i.e. research forms one part of the evidence in the EBP process. The definition reflects the importance of combining the outcomes of research and evidence with the values and preferences of individuals emphasising the need for patient centred, safe and effective practice and thus necessitating higher order thinking skills on behalf of healthcare professionals (MacKey and Bassendowski 2017). It is argued here that a failure to acknowledge individual patient values, preferences and needs may result in EBP running the risk of becoming nothing more than a dogmatic, ‘tick box’ approach to healthcare.

The Briggs Report in 1972 (DHSS 1972) heralded the first point in time where nurse education was formally tasked with the integration of research in the educational preparation of registered nurses in the UK. Since the publication of the Briggs report in 1972, research in nursing has been shaped and influenced by a number of factors including the requirements and standards of professional, regulatory, statutory bodies as well as policy makers (MacCreddie and McMahon 2008). In the years following the publication of the Briggs Report there were considerable efforts made to enhance research in nursing (Mulhall, Le May and Alexander 2000). Although integrated into preregistration nursing curricula since the early 1980s, the development and integration of research and EBP skills in preregistration nurse education were further progressed when the UKCC published Project 2000: a new preparation for practice in 1986 (UKCC 1986), placing emphasis on students becoming a “knowledgeable doer” rather than the task focused apprenticeship style training which had predominated to that point. Subsequent publications of NMC standards for preregistration nursing education in 2004 (Standards of proficiency for preregistration nursing education, NMC 2004), 2010 (Standards for preregistration nursing education, NMC 2010) and more recently in 2018 (Realising professionalism: Standards for education and training, NMC 2018a) all make reference to the need for nurses to have relevant knowledge and skills relating to research and EBP at the point of registration and as aforementioned, the NMC Code (NMC 2018) outlines the expectations of registrants.

1.2 EBP and research utilisation

The terms “EBP” and “research utilisation” can sometimes be used interchangeably however it is important to define these concepts. Research utilisation has been defined in a number of ways. Estabrooks (2003) defined research utilisation as a sub-category of EBP referring to the process by which specific research knowledge is implemented directly into practice. Nutley, Walter and Davies (2007) helpfully provide insights into the different ways in which research can or could be used through the exploration of several research use typologies leading to the distinction of research use as *instrumental*, referring to the direct use of research in practice or *conceptual* or indirect use of research which influences knowledge, attitudes, understanding or ways of thinking i.e. conceptual use of research may be less observable but no less important than instrumental. Instrumental use for example may be evidenced in research which directly informs the basis of prescribing practices or the selection of technologies e.g. particular wound dressing types to promote optimal patient outcomes. Conceptual use may be evidenced in the way that engagement in research and evidence promotes new understanding about concepts, theories or facilitate knowledge and understanding. It is equally

important that both preregistration and post registration nurses understand the basic concepts of nursing research but also the key steps and skills in the EBP process as espoused by Dawes et al. (2005) (and subject to trials of teaching effectiveness since the 1990s) i.e. 1) formulation of an answerable clinical question; 2) systematic retrieval of evidence; 3) appraisal of evidence; 4) consideration of implementation of outcomes in practice and 5) evaluation of impact. Nurses therefore have a crucial role in not only implementing care based on best available evidence but also in developing and implementing research evidence and to be able to do this, nurses must have competency and knowledge of the principles of EBP (Melynk and Fineout - Overholt 2015).

The realisation of EBP in clinical practice is directly related to education programmes which implement curricula that enable attainment of relevant competencies (Lehane et al. 2019). Providers of nursing education to both pre and post registration nurses are therefore in a critical position to support the learning and development of such knowledge and competence. This however is not straightforward. There are a number of factors that may impact on effective outcomes to teaching and learning about research and EBP, ensuring both students and professional nurses develop and maintain positive attitudes toward research and EBP as well as, critically, the ability to be able to integrate knowledge into clinical practice. These factors are discussed in more depth within Chapter 2 of this thesis and include pedagogical approaches to teaching and learning as well as attitudes toward research.

1.3 Barriers to EBP

While the importance of EBP in practice is well reported, equally relevant in the context of this study is a body of literature that has been published throughout the EBP era which demonstrates that the translation of evidence into practice is not straightforward with reported barriers cited, including nurses having a lack of time to implement EBP and a lack of autonomy to take clinical decisions (Thompson et al. 2005; Brown et al. 2008; Koehn and Lehman 2008; Kajermo et al. 2010; Majid et al. 2011; Heaslip, Hewitt - Taylor and Rowe 2012; Williams, Perillo and Brown 2015). In a scoping review of the literature exploring the factors of organisational culture which serve as barriers to the implementation of EBP, Williams, Perillo and Brown (2015) further identify workload and limited protected time to engage in EBP, influence of staff and/or managers who do not support EBP, lack of access and availability of resources to enable EBP, as well as organisational cultures of ritualistic practice and resistance to change. Irrespective of such study findings, there is also evidence which reports that nurses hold positive attitudes toward EBP recognising its relevance and importance (Melynk et al. 2008; Saunders and Vehviläinen - Julkunen 2016).

Consideration of such barriers identified in environments at the point of delivery of care has important implications for the education of preregistration nurses in the UK where 50% of learning is situated in clinical practice where students are active participants of nursing and multi professional healthcare teams. If barriers exist then opportunities for nursing students to learn about research and EBP may be limited. The key factors in overcoming barriers and facilitating an EBP culture in the healthcare context (where the term context in its simplest form refers to the physical environment or setting where individuals receive healthcare (McCormack et al 2002)) are leadership (Rycroft - Malone 2004; Sandstrom et al. 2011), characteristics of the organisation (Sandstrom et al. 2011) and characteristics of the organisational culture (Sandstrom et al. 2011). Of particular importance in terms of the implementation of research and evidence in practice is the aforementioned influence of organisational leadership and culture (Grant, Stuhlmacher and Bonte - Eley 2012). This is demonstrated by Bostrom et al. (2009) in relation to the perspectives of newly qualified nursing graduates all of whom undertook courses where research and EBP were key components in their curriculum. Bostrom et al. (2009) found that an undesirable organisational culture was disempowering in terms of enabling research and evidence use.

In stating this and based upon the researcher's professional experience and opinion, further barriers may exist in terms of the gap between the philosophy and principles of contemporary educational programmes and preregistration nursing curricula with a nursing workforce (many of whom support student learning in clinical practice) which was not subject to such education. The implementation or translation of knowledge about research and EBP in the clinical setting does not only require learning related to key concepts and skills of EBP but should include an understanding of leadership and facilitation of change frameworks e.g. the Promoting Action on Research Implementation (PARIHS) framework (Rycroft - Malone 2004) published to guide implementation (Kitson et al. 1998; Stetler et al. 2011; Rycroft - Malone et al. 2013; Harvey and Kitson 2016). It is argued in this thesis that if professionals in health and social care organisations and learning environments in which preregistration student nurses learn are not equipped with relevant skills in EBP, leadership, change management and harbour positive attitudes toward EBP as well as having access to resources, then classroom based learning about EBP for students will be a meaningless experience and the nursing profession risks losing these critical graduate attributes in newly registered nurses.

1.4 EBP and Preregistration Nurse Education

It is important to discuss key significant developments in preregistration nurse education since the

Briggs Report in 1972 to provide contextualisation of the move from a traditional apprenticeship style training model to one where nurse education has been integrated into HEIs in the 1990s and the requirement for preregistration programme awards to be a minimum of a degree outcome. Since the 1980s and the advent of Project 2000 (UKCC 1986) knowledge and skills related to research and EBP have been key competencies in preregistration nurse education in the UK. Therefore, educational providers have and still play an important role in not only developing relevant knowledge and skills related to research and EBP but also therefore as a result of the educational approach taken, the attitudes of graduate nurses toward research and EBP. The NMC Standards for preregistration nursing education (NMC 2010) reflected changing patterns of care, new developments, priorities and expectations in healthcare. In meeting these standards, students would be equipped to address present and future challenges, improve health and enhance the quality of care through the adoption of a range of roles e.g. in education, practice, leadership and research. With an emphasis upon driving up quality of care as future responsible and accountable registrants for person centred and evidence - based care, the move to an all degree preregistration education outcome was seen as maximising the skills and attributes required of professional nurses in the future.

In specific relation to research and EBP, the NMC (2010) emphasises the need for the public to be assured that all new nurses will “act to safeguard the public, and be responsible and accountable for safe, person centred, evidence - based nursing practice” (NMC 2010, p5). Additionally, references within each of the generic standards for competence for each of the four domains of practice cite the need for new nurses to be able to provide safe, effective, evidence-based care as well as “create and maximise opportunities to improve services” (NMC 2010, p20). Likewise, the new NMC Standards for nursing education (Realising professionalism: Standards for education and training: Part 1 NMC 2018a, p6) refer to the need for a learning culture which, “support opportunities for research collaboration and evidence - based improvement in education and service provision”. Within the “Future nurse: Standards of proficiency for registered nurses” (NMC 2018b), numerous references are made across the seven platforms and proficiencies therein for nurses to ensure individualised, patient centred, evidence - based practise. The NMC Standards are, however, not detailed or prescriptive but rather reflect statements of aspiration on behalf of the NMC and thus the realisation of their implementation is left to individual HEIs and their placement provider partners. It could be argued that although this provides flexibility for collaborative and innovative approaches to teaching and learning, this equally may result in variation in the interpretation and implementation of standards in preregistration nurse curricula. Thus, NMC approved programmes cannot be compared like for like in pedagogical

approaches, assessment or emphasis upon particular subjects or topic areas. There may be fluctuations and variations not only in the way HEIs design curricula to include learning about research and EBP but also in level of content and the skills of teachers and assessors both in the educational and clinical setting.

Although discussed in more depth in Chapter 2, research and evidence to date would suggest that, internationally, educational providers of preregistration nursing programmes have developed a range of approaches to teaching and learning research and EBP. While many appear to follow the recommendations from the two Sicily consensus statements on EBP which identify the core competencies, knowledge and skills required to translate EBP into practice and a curriculum framework which presents the minimum requirement of educating healthcare professionals in EBP (Dawes et al. 2005; Tilson et al. 2011), some evidence would also seem to indicate that closer collaborations and partnership approaches are being taken between academic and clinical teaching contexts (Upton et al. 2015). Many studies and evidence presented across two literature reviews in Chapter 2 focus on the evaluation of educational interventions in the classroom with less reporting evaluation of educational interventions situated in practice. Fewer, if any, take an open approach to exploring the experiences of students to learning and applying knowledge of research and EBP in their clinical practice placements without exploring this in the context of a specific educational intervention. There is a paucity of research which explores whether learning relating to the use, adoption, implementation and barriers to research and EBP are consistent across such teaching contexts.

Furthermore, if it is unclear as to how variable such factors are across clinical teaching contexts, equally worthy of mention again is the fact, that in publishing their standards for preregistration nursing education, the NMC (NMC 2010; NMC 2018a, b) make generic statements of standards that curricula must evidence and students meet. Thus, educational providers will inevitably take differing interpretations of such statements and adopt differing approaches to teaching and learning exacerbating a further likelihood of inconsistencies across curricula and thus the level of knowledge, skills, confidence and attitudes new graduates in the professional nursing workforce have. The potential challenges in teaching research and EBP as well as the reported barriers to research use and EBP implementation in practice cited earlier in this chapter therefore served to inform the researcher's interests for this thesis.

1.5 Position of the researcher

The researcher is an experienced academic member of staff at a school of nursing and midwifery in Scotland. The researcher has held a number of positions within the school over a twenty-one-year period including lecturer, personal tutor, course leader, programme leader and Head of Undergraduate

Studies. Within this latter role, the researcher had strategic responsibility for all aspects of nursing and midwifery undergraduate, preregistration course provision including practice learning and in a current role as an Academic Strategic Lead the researcher continues to have this responsibility. The researcher fully acknowledges a close relationship and vested interest in preregistration nurse education and participates in local and national groups and committees which continue to inform future developments in preregistration nurse education. The researcher's professional career and roles have therefore informed research and scholarly interests' overtime, culminating in this study. The researcher would argue that this growing portfolio of scholarship and teaching provides justification in part for this study, given that it is situated within the context of a professional doctorate compared to a traditional PhD with the outcomes of this study seeking to directly inform educational approaches. The researcher is well sensitised to a range of related topic areas and this is something that the researcher is open and transparent to share. The researcher makes no claim to come into this study without prior insights and this position informed the researcher decisions regarding the method and methodology adopted in this study.

In the researcher's former role as a lecturer, primary interests in teaching and learning in nurse education were situated in research and EBP incorporating information literacy skills. As a result of prior scholarly activity as well as the initial literature review presented in Chapter 2, the researcher felt that there was a relative paucity of literature on effective and meaningful approaches to teaching and learning research and EBP in preregistration nurse education at the commencement of this Doctorate programme in 2012. This was in respect that studies were either stand - alone single intervention evaluations, pre - post education intervention evaluations or a small number of studies which the researcher co - authored which explored student nurses' attitudes to EBP and/or research (Ireland et al. 2009; Johnson et al. 2010). There were, at the commencement of this Doctorate, few studies which addressed the issue of learning about research and EBP in the context of the clinical setting. The researcher's interest at the start of this programme was to further explore pedagogic approaches to teaching and learning about research and EBP in preregistration nurse education with an aim to provide conclusions and recommendations which would inform approaches within HEIs. This thesis emerged from a body of scholarly work and research which the researcher collaborated on between 2006 and 2010 leading to a number of professional publications. These related to a range of areas but all of which focused on research and EBP, either in the context of teaching and learning (Ireland et al 2009; Johnson et al 2010) or to the implementation of EBP, impact of EBP or models to guide implementation (Wimpenny et al. 2008, Wilkinson, Johnson and Wimpenny 2010, Johnson and Wimpenny 2011).

Having engaged in scholarly writing related to approaches to teaching and learning in the classroom, the researcher's interests focused here upon experiential learning and in particular the ways in which preregistration nursing students learn about and are supported in applying research and EBP during the practice placement elements of their course which comprise fifty percent of the total course contact time. This reflected the importance placed upon ensuring that learning not only occurred in classroom but also translated into practice.

1.6 Overview of thesis

This thesis presents the results of a research study which proposed to adopt a grounded theory approach to explore the perceptions and experiences of preregistration student nurses to learning about EBP in the context of their practice placement elements in an NMC approved programme. Chapter 2 provides a review of literature on approaches to teaching and learning in preregistration nursing education which also encompasses a review of available literature on student nurse attitudes to research and EBP. The review of literature is presented in two phases, 2012-2014 and a further scoping review which was conducted in 2016 prior to undertaking data collection in the field. The strategy and methods adopted in each phase are discussed and the chapter concludes with key recommendations pertaining to the rationale for this research study including the primary research question as well as the study aims and objectives. The position of the literature review in grounded theory is also considered and critical perspectives from the literature on this research methodology drawn upon, to defend and justify the approach proposed in this study.

Chapter 3 presents justification and discussion of the research method and methodology proposed in the study including ethical considerations prior to conducting this study. As the study proposed to use grounded theory, discussion is provided to the theoretical basis for the chosen research methodology as well its situation within the emergence of differing perspectives on grounded theory since the publication of *The Discovery of Grounded Theory* in 1967 (Glaser and Strauss 1967). Chapter 4 presents the findings from the study under key themes and utilises verbatim extracts from focus group and individual interviews to further support these themes as well as demonstrating trustworthiness in data analysis (Shenton 2004).

Chapter 5 presents a critical discussion of the research findings in the context of extant literature. The chapter is structured according to the themes that were identified from analysis of data. In chapter 6, the thesis discusses the relevance of the study findings to practice, providing a critical discussion of the conceptual model emerging from the research. While it is claimed that the study did not provide an over-arching emergent theory, this chapter also provides discussion which relates the study findings to key theoretical frameworks highlighted with the scoping reviews presented in chapter 2. In chapter

7, the thesis provides a synopsis of the main findings and presents conclusions and recommendations that should be considered in terms of further research and approaches to teaching and learning. This therefore presents the impact of the study outcomes upon the researcher's professional practice. This chapter also considers personal reflections on the Doctoral journey as well as the limitations of the study.

Chapter Two: Literature Review

2.1 Introduction

This chapter presents the findings from a two - phase literature review which explored and reviewed key areas of research activity to date in relation to research and EBP in preregistration nurse education. The purpose of a literature review is to inform the research question (s), scoping and reporting the results of previous studies as well as guiding the selection of an appropriate method and methodology. As Dunne (2011) argues, the case for the literature review, irrespective of the research methodology adopted, is in enabling the articulation of the research question as well as the justification for the study and providing a broad contextualisation of the study. It is stressed that the literature review here is intended for the purposes identified by Dunne (2011) and more in - depth engagement with literature is presented in chapters 5 and 6.

At the outset of the professional doctorate journey, the researcher's interests related to the impact of educational approaches to teaching and learning as well as student attitudes. As such, an initial literature review was undertaken in 2014 to review literature reporting approaches to teaching and learning as well as reviewing research and evidence reporting on the attitudes and perceptions of preregistration nursing students toward research and EBP (this literature review is hereafter referred to as the phase 1 literature review). In the course of developing this thesis and progressing through the Doctorate programme a second scoping review was undertaken in 2016 (hereafter referred to as the phase 2 literature review) This second scoping review was important to identify any new or additional research studies/reviews which had been published since the phase 1 literature review and prior to collection of data in this study. For the duration of the study and since the initial completion of the phase 2 review relevant new literature which emerged thereafter was incorporated where this was deemed appropriate. Since the start of the Doctorate programme, the literature related to research and EBP in preregistration nursing education has increased in volume with further studies and reviews exploring and evaluating pedagogical approaches as well as the knowledge and attitudes of preregistration student nurses. With the publication of the NMC Standards for preregistration nursing education (NMC 2010) in the UK and subsequent implementation of curricula based on these standards from 2013 onwards, it was felt that it was important to capture any literature that may provide insights into pedagogical approaches or indeed how HEIs were addressing the new standards and how these impacted upon nursing student's attitudes. The results for the phase 1 literature review (n=32) are presented in this chapter along with the results for the phase 2 literature review (n=27). Combined,

the phase 1 and phase 2 literature reviews included literature published from 1998 - 2019 and a total of 59 results were obtained.

2.2 Perspectives on the literature review in grounded theory

As the study proposed to adopt grounded theory, more in - depth discussion upon divergence in grounded theory methodology is provided in chapter 3 but here the researcher stops to provide reflection on the use of extant literature in grounded theory. This is presented using a brief historical contextualisation of the development of the methodology since the publication of *The Discovery of Grounded Theory* in 1967 (Glaser and Strauss 1967). Within grounded theory methodology, the use of extant literature has become a continued point of debate and indeed presents as a controversial and discordant issue (Dunne 2011). While over the years the question of where extant literature can be situated in grounded theory has moved to one of when to use literature rather than if, it is worth detailing the emergence of divisive positions since the publication by Glaser and Strauss in 1967 (see Table 1).

In response to positivist ideology dominance in social sciences in the 1960's to the criticisms cast toward qualitative research (Charmaz 2006) as well as a perceived lack of methodological guidelines in qualitative enquiry (Dunne 2011), grounded theory sought to provide researchers with an approach which would enable the development of theories related to social process, embedded in the raw data. Grounded theory involves unique methodological aspects e.g. constant comparative analysis and theoretical sampling (Birks and Mills 2002). Following divergence of thought i.e Glaser's evolution of classic grounded theory (Glaser 1978), and Strauss and Corbin's emergent grounded theory (Strauss and Corbin 1990) both of which are considered as post positivist, further constructivist approaches by Charmaz (2000) and Ramalho et al. (2015) have been published. The origins of classic grounded theory posit a strategy of ignoring the extant literature prior to data collection to allow categories to emerge freely from empirical data unaffected by existing theoretical frameworks and any related hypothesis (Dey 2007). In classic grounded theory Glaser and Strauss argued that any detailed review of literature prior to primary data collection would impact upon the stages of data collection, data analysis and theory development. Therefore, to engage in a literature review prior to data collection and analysis would have the risk of any resultant theory not being truly grounded in the data but contaminated by knowledge gained from other theories. Emergent grounded theory as espoused by Strauss and Corbin (1998) advocates the review of relevant literature as an inevitable result of the researcher's interest or prior experience in the topic area. Strauss and Corbin (1990) argue that engagement with literature early in study design enables the researcher to stimulate research questions as well as develop theoretical sensitivity around the topic area. In a third approach, constructivist grounded theory

(Charmaz 2000) proposes that the researcher must focus on prioritisation of data in the generation of any resultant theory however existing knowledge, including a literature review, should not be disregarded but engaged with analytically.

Ideology	Use of extant literature prior to primary data collection	Justification
Glaser and Strauss - classical	Extant literature not used	Contaminates data collection, data analysis and theory development. The researcher overcomes prior ideation which may be influenced by extant literature and therefore undermines theory development grounded from empirical data.
Strauss and Corbin - evolved	Extant literature reviewed but no requirement to review all literature in the subject area	Extant literature can sensitise the research and acts as a primer for theoretical sampling
Charmaz - constructivist	Acknowledges that the literature review should be delayed but focuses on an expectation of a literature review in the research	Extant literature can assist the researcher in clarifying ideas

Table 1: Location of the literature review in grounded theory

2.3 Review of literature

The review of the literature is therefore presented in two parts which are reflective of two distinct periods in this Doctorate journey. Following this, conclusions are drawn from the review of the literature. One key factor in determining the purpose of the literature review in this study were the requirements of the Doctorate programme i.e. literature was presented when developing the research proposal prior to transfer to the research phase as well as the pragmatic requirements of ethics

committees to which ethical approval was requested, including a justification for the study itself (Dunne 2011).

2.3.1 Phase 1 literature review

This initial review of literature, served to lead the researcher to a point where a research proposal could be submitted and assessed (including a verbal examination which took place in September 2014). The researcher deemed it important to include this here as it provides insight into prior knowledge, pre - existing perceptions, reflective of assumptions previously made about research and EBP.

The phase 1 literature review in this chapter is presented around two key areas which emerged from an initial broad review of research undertaken to this topic.

The key areas presented have been categorised into the following two themes:

1. Educational approaches to teaching and learning research and EBP;
2. Attitudes of nursing students toward research and EBP.

A scoping review approach was deemed appropriate as there was no clear and focused research question at the early stage in the research process. Scoping reviews help to clarify working definitions and the conceptual boundaries of a topic as well as setting research agendas (Tricco et al. 2016). While it is acknowledged that there is a plethora of terms used to describe review approaches, Arksey and O' Malley (2005) contend that all share similar core characteristics if not names i.e. searching, collating, appraising and presenting the research evidence. In the context of this research study, scoping reviews were undertaken to "examine the extent, range and nature of research activity mapping fields of study where it is difficult to visualise the range of material available" (Arksey and O' Malley 2005, p21). There would appear to be general agreement on the main purpose of the scoping review in that it enables a comprehensive overview of the existing evidence base regardless of quality (Arksey and O' Malley 2005; Colquhoun et al. 2014; Peters et al. 2015). To enhance the methodological rigour of the review process and the reliability of the outcomes (Centre for Reviews and Dissemination 2009) a framework was considered to guide this phase of the review. The methodological framework recommended by Arksey and O' Malley (2005) was adapted for the purpose of identifying all relevant literature. The framework includes the following stages:

1. Identify the research question – defining the study population, interventions or outcomes and then setting parameters based on the initial results generated;

2. Identification of relevant studies – as comprehensively as possible ascertaining primary studies and reviews;
3. Study selection – inclusion and exclusion criteria are developed once familiarity with the literature has been established;
4. Charting the data – adopting a narrative or descriptive approach;
5. Collating, summarising and reporting the results – emphasis on the development of a thematic framework or analytic framework rather than evaluating the quality of the evidence;
6. Consultation – an optional step, although recommended, so that contributors to the consultation process may recommend additional references about potential studies to include.

In the context of this study this was a helpful and appropriate framework to adopt which provided a broad overview on extant literature and to sensitise the researcher to what had been published to date to the topic of interest.

An adaptation of this framework was utilised. The final step “consultation” was not applied to inform and validate the literature search findings (although recommended by Arksey and O’ Malley 2005, it is described in terms of being an “additional, parallel element” p23) and this is acknowledged as a potential limitation of the review. However, to address the issue of quality in the scoping review, inclusion criteria were applied in terms of literature being derived from primary sources and peer reviewed articles.

2.3.2 Method – literature review phase 1

For this initial phase 1 review a range of databases were used. These included CINAHL (within which the databases ERIC and Medline were selected), Science Direct, Zetoc, OVID. These databases were deemed to be the most appropriate in terms of being health related and/or educationally orientated. In addition, a review of the reference lists of relevant articles identified through the databases was undertaken to ensure no sources were omitted. This process, termed “snowballing” (Sayers 2007) is a useful approach to identify further sources which may have been missed in the initial database search.

Wohlin and Prikladnicki (2013) discuss this as a process whereby sources located through database searches are reviewed in terms of their reference list and titles of potential relevance that have not already been found are further reviewed by abstract or abstract/full text to determine if that source should be included. The process is repeated until no new papers are identified through a review of the references lists and the abstract and /or full text of the sources listed. One potential limitation of this literature review which is acknowledged within the period of the phase 1 review is that reverse

snowballing was not undertaken by, for example, setting up citation alerts on online the databases selected. Alerts were however created in the data bases searched and this combined with iterative snowballing provided moderate assurance that no/few key sources of relevance had been omitted.

The inclusion criteria applied in the search were: publication period 1998 - 2012 as this was deemed to capture and reflect the integration of research and EBP in education programmes since the implementation of Project 2000 in the UK as well as the growing prominence of research and EBP in global healthcare strategies since the 1990s. The period would also capture the move to preregistration nurse education being provided in HEIs rather than traditional colleges of nursing and midwifery as well as the implementation of programmes based upon the 2004 NMC Standards in UK HEIs. Further inclusion criteria were: written in English language; international (given the international commonalities in teaching and learning related to research and EBP); peer reviewed publications. Exclusions were applied to non - nursing related sources as the specific area of interest here was preregistration nursing education. For this purpose, post registration nurse education was also excluded.

The search terms applied were:

- a) Students AND perceptions AND research
- b) Nurs* AND education AND research AND evidence - based practice
- c) Nurs* AND students AND evidence - based practice
- d) Students AND Nurs* AND attitudes AND research
- e) Students AND nurs* AND research AND practice.

An initial search using Science Direct as a key educational database yielded 2339 results. Further exclusions were applied limiting results to “preregistration nursing students”, “nurse education” and “student” using the then Science Direct limits function. Filters were however then expanded to include global perspectives as the yield in terms of UK publications was very small. Primary sources utilising both quantitative and qualitative research approaches were included as both were deemed relevant in identifying appropriate literature. In addition to this, non - research based publication results were reviewed for relevance and quality (in terms of being published in peer reviewed publications). In applying these filters, 330 sources were identified as being of relevance. The results were further limited to include primary journals only, as the researcher was specifically interested at this stage, in ascertaining where peer - reviewed published activity was located in relation to the primary interest. Limiting the search to primary journals and by reviewing the title and abstracts of the results led to there being a total of 28 articles selected.

Further searches were undertaken using the same search term combinations in CINAHL where the filters applied at that time within the database were: Peer reviewed, Linked Full Text, English Language, and Special Interest - Nurse Education. As a result of this search and excluding duplicates identified via Science Direct, a further 2 papers were found. A further search using OVID and applying the same criteria yielded 2 more papers once duplicates were removed. Further searches using the other databases resulted in no new papers, nor did a review of the reference lists from the papers located from all databases. Final full text review of the papers sourced resulted in a total of 32 articles being included. Review of this evidence revealed there to be two key themes in terms of areas of research focus. These were research studies related to educational approaches promoting knowledge and understanding linked to research and EBP (n=24) and research studies related to student nurse's knowledge, attitudes and perceptions of research and EBP (n=8). Of the 32 articles included in the phase 1 literature review 11 were UK based, 13 were from the USA, 2 Australian and 1 from each China, Norway, Finland and Sweden. The phase 1 literature review stages are illustrated in the flow diagram in figure 1.

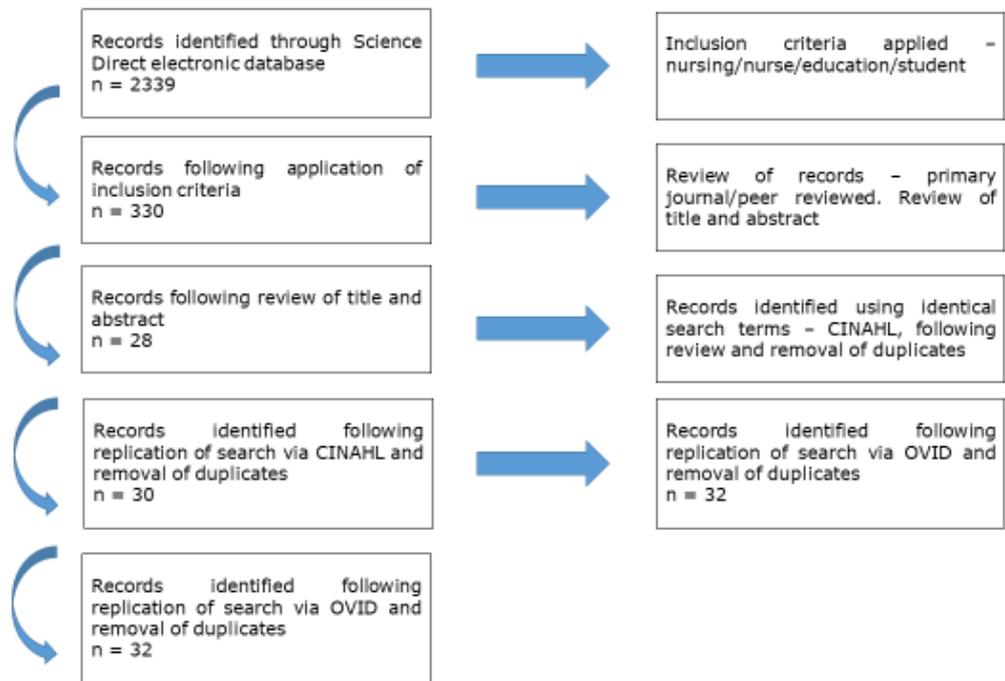


Figure 1: Flow diagram of study selection – phase 1 literature review

2.3.3 Results – phase 1 literature review

The results of the phase 1 literature review are presented in appendix 1. At this stage, the initial literature review highlighted a perceived paucity of UK literature exploring teaching and learning of research and EBP, surprising given the emphasis placed on this through the drive toward EBP since the early 1990s. This was also surprising given the importance placed upon the need for preregistration nursing students to acquire skills and knowledge in this subject area, for example the Quality Assurance Agency (QAA) Guidelines (QAA 2008) and the NMC Standards for preregistration nursing education (NMC 2004). From the results of the search, ten sources were considered to address research and EBP in the context of practice placement learning (Jack, Roberts and Wilson 2003; Killeen and Barnfather 2005; Mattila and Eriksson 2007; Stone and Rowles 2007; Schmidt and Brown 2007; Morris and Maynard 2008; Gray 2010; Cronje and Moch 2010; Moch and Cronje 2010; Moch, Cronje and Branson 2010). The remainder either explored student attitudes toward research and EBP or the effectiveness of educational interventions from the perspective of learning in an educational institution i.e. within the classroom or online.

Theme 1 - Educational strategies to promote knowledge and understanding related to research and evidence-based practice

On reviewing the 24 results which were aligned with this theme, it was noted that there were further distinctive features observed in terms of reported approaches to teaching and learning which were then organised and themed according to Healey's Curriculum Design model (Healey 2005 cited in Jenkins, Healey and Zetter 2007, p32). The framework identifies four key approaches to teaching and learning - research led, research orientated, research based, research tutored. The majority of the papers reported approaches to learning utilising either research orientated or research - based approaches with fewer reporting research tutored and none reporting research led initiatives. For example:

Research led – approaches which focus upon the student learning about research which is reflective of key School/Faculty research interests and thus heavily biased toward information transmission (no papers in the initial review were deemed to be mapped against this approach).

Research orientated – here the focus of the approach is the research process and the acquisition of relevant skills and attributes i.e. approaches which facilitate understanding of the way in which knowledge is produced (Jack, Roberts and Wilson 2003; Morris and Maynard 2008; McCurry and Martins 2010; Johnson et al. 2010; Cronje and Moch 2010; Graue et al. 2010; Callaghan et al. 2011).

Research based – the curriculum in this approach is based upon enquiry led learning. Here the student learns about research by becoming an active researcher and thus the approach is weighted less toward the direct transmission of knowledge by the tutor (Callister et al. 2005; Killeen and Barnfather 2005; Mattila and Eriksson 2007; Schmidt and Brown 2007; Irvine et al. 2008; Gray 2010).

Research tutored – with this approach, the curriculum is focused upon learning related to core skills such as academic writing, information literacy, problem solving and critical thinking (Shorten, Wallace and Crookes 2001; Moore and Hart 2004; Carlisle and Ibbotson 2005; Desjardins et al. 2005; Kim et al. 2008).

Of the papers reviewed in this theme, only eight sources were not reporting original research but were however published in peer reviewed journals (Jack, Roberts and Wilson 2003; Moore and Hart 2004; Callister et al. 2005; Killeen and Barnfather 2005; Schmidt and Brown 2007; Cronje and Moch 2010; Moch, Cronje and Branson 2010; Johnson et al 2010). The remaining papers were reports of original research adopting either quantitative (Shorten, Wallace and Crookes 2001; Mattila, Koivisto and Häggman - Laitila 2005; Desjardins et al. 2005; Mattila and Eriksson 2005; Morris and Maynard 2008; Kim et al. 2008; Graue et al. 2010; Gray 2010; McCurry and Martins 2010; Strickland, Gray and Hill

2012), qualitative (Stone and Rowles 2007; Callaghan et al. 2011) or mixed methods approaches (Carlisle and Ibbotson 2005; Irvine et al. 2008; Moch and Cronje 2010; Mulhall, Le May and Alexander 2000).

Non-researched based papers presented discussion/reviews around a variety of methods adopted within nurse education programmes aimed toward enhancing learning, and/or awareness and attitudes amongst nursing students to research and EBP. These methods ranged from the use of technology in enhancing research and EBP knowledge (Moore and Hart 2004; Johnson et al. 2010; Strickland, Gray and Hill 2012) and the use of enquiry - based learning in developing key graduate skills related to EBP (Callister et al. 2005; Killeen and Barnfather 2005; Schmidt and Brown 2007; Moch and Cronje 2010; Cronje and Moch 2010). Whilst these papers provided anecdotal evidence of impact, none were validated by research and only five papers explored the development of joint initiatives between education and practice in enhancing research and EBP knowledge, skills and use (Jack, Roberts and Wilson 2003; Killeen and Barnfather 2005; Schmidt and Brown 2007; Moch, Cronje and Branson 2010, Cronje and Moch 2010) which the papers focusing upon educational approaches did not.

The research studies reported evaluations of curriculum approaches tailored to facilitate learning of research and EBP as well as key information literacy skills (Mulhall, Le May and Alexander 2000; Shorten, Wallace and Crookes 2001; Carlisle and Ibbotson 2005; Desjardins et al. 2005; Mattila, Koivisto and Häggman – Laitila 2005; Graue et al. 2010). Two studies explored the use of web - based resources in enhancing research-teaching linkages (Callaghan et al. 2011; Strickland, Gray and Hill 2012). Two studies (Matilla and Eriksson 2007; Stone and Rowles 2007) explored the factors which supported the learning of research and EBP in clinical practice.

Although samples adopted in the studies exploring the impact of educational interventions in the classroom were comparable to UK student nurses, limitations could be made to the relatively small sample sizes obtained in some of these studies (Ax and Kincade 2001; Morris and Maynard 2008; Ireland et al. 2009) as well as nation specific contextualisation of educational provision and health care services. Within these studies, the approaches evaluated were deemed as traditional in nature e.g. traditional didactic approaches including lectures, workshops and tutorials and the studies did not allude to any evidence as to the sustained use of knowledge by students and translation into practice placement elements of the programmes. Likewise, the two papers investigating the use of web - based resources (Callaghan et al. 2011; Strickland, Gray and Hill 2012) do provide some evidence of impact upon knowledge and understanding but do not report on impact in practice placements. Furthermore,

both studies are subject to poor response rates within the questionnaire surveys adopted and neither provides substantiation that the outcomes could be generalised.

In ten studies (Jack, Roberts and Wilson 2003; Killeen and Barnfather 2005; Mattila and Eriksson 2007; Stone and Rowles 2007; Schmidt and Brown 2007; Morris and Maynard 2008; Gray 2010; Cronje and Moch 2010; Moch and Cronje 2010; Moch, Cronje and Branson 2010) investigating the enhancement of learning of research concepts in clinical practice, albeit one with a limitation of sample size (Stone and Rowles 2007), evidence suggests the integration of academic study around research and EBP and its translation to practice not only enhances student awareness of practice linkages but also has dual effect in assisting understanding and awareness by registered nurses. For example, in Morris and Maynard's (2008) study, the researchers aimed to explore the impact of an EBP cycle introduced during a final year practice placement experience. The cycle included collaboration between students, their mentors and academic tutors over four meetings whereby the identification of patient issues and a journal club were facilitated. Although the results are limited to three nursing students via the completion of a pre and post text questionnaire, the approach did demonstrate modest improvements in student knowledge and skills however students reported significant challenges in having access to online resources and time during the placement to undertake their assignments.

Prior to this study, Mattila and Eriksson (2007) had also explored the effectiveness of a practice placement situated assignment, in which students presented a research article of relevance to the clinical setting to their peers and mentors. Findings from a post assignment questionnaire completed by 50 students (response rate 63%) indicated that the process enhanced the students understanding of research concepts as well as promoting discussion around approaches to enhance patient care. While students expressed that the assignment had enhanced their learning, it was also suggested that in future the assignment is based and drawn on clinical questions based in the context of practice by practice. Both studies provide some evidence of the potential for formalised practice - based activities or assignments related to practice learning and EBP for nursing students and a means to potentially bridge the gap between theory and practice.

Such initiatives serve to potentially enhance the involvement of professional nurses in research utilisation projects and the use of the student as a catalyst for informing staff at a variety of levels within organisations.

Theme 2 - Student nurses, knowledge, attitudes and perceptions of research and evidence - based practice.

Eight papers were included within this theme (all of which were empirical research studies) which provided insight into student nurses, knowledge, attitudes and perceptions of research and EBP and the impact of educational input and approaches to curricula design (Ax and Kincaid 2001; Veeramah 2004; Day et al. 2005; Brown et al. 2008; Ireland et al. 2009; Waters et al. 2009; Florin et al. 2011; Zhang et al. 2012). All papers explored the notion of student nurses perceptions of research from a variety of viewpoints e.g. usefulness, implementation and training (Ax and Kincaid 2001), utilisation post - graduation (Veeramah 2004), beliefs about nursing (Day et al. 2005), predictors of knowledge, attitudes and future use (Brown et al. 2009), effects of educational approach upon knowledge and attitude (Ireland et al. 2009; Zhang et al. 2012), preparedness for evidence - based practice (Waters et al. 2009) and research utilisation and capability beliefs (Florin et al. 2011).

It is clear from the literature that knowledge and attitudes toward research and EBP are inextricably linked. Educational approaches are pivotal in shaping attitudes and beliefs and this is borne out in a study by Zhang et al. (2012) where curricula emphasis upon teaching and learning about research and EBP along with blended approaches to learning resulted in significant improvement in EBP knowledge, attitudes, beliefs and behaviours of undergraduate preregistration nursing students. However, post educational intervention scores in this study demonstrate that there existed a considerable gap between knowledge and practice. Ireland et al. (2009) earlier corroborated the impact of blended learning in nurse education in enhancing knowledge and appreciation of EBP. Again, like Zhang et al. (2012), research conducted by Ireland et al has limitations, not only in terms of limited sample size and response rates, but in predicting EBP use in practice in the longer term. These studies therefore could only be considered to demonstrate short - term impact. Such findings do however demonstrate development and improvement in the way that educational providers facilitate learning in this subject area. For example, Ax and Kincaid (2001) earlier reported resistance to research within the curricula amongst nursing students and whilst it is acknowledged that further research is required to be undertaken to explore current attitudes and beliefs, studies such as Zhang et al. and Ireland et al. provide sound bites of evidence that nursing education programmes are responding to the need to re-evaluate the way in which research and EBP are embedded with the curricula. More evidence of the need to explore the sustained use of research and EBP by nursing students is provided by Veeramah (2004) where a cross - sectional study of newly qualified nurses reported that their programme of education had improved critical appraisal skills, attitudes, search skills and research use. However, a significant number of respondents reported challenges in terms of lack of time to read and access

research and an array of other perceived barriers e.g. lack of autonomy, pressure to conform to organisational norms, lack of support from managers and from their inter-professional team.

Evidence from the literature does present evidence of impact at conceptual level amongst nursing students in terms of knowledge and attitudes gained through classroom - based learning, however there is also contradictory evidence of their ability to utilise research instrumentally due to barriers within organisational environments. This may be seen to raise a question of how can educational and health service providers achieve a culture whereby research and EBP is an integral part of student experiential learning and sustained beyond registration as a professional nurse? In considering this question, there must also be cognisance toward the evolving beliefs student nurses harbour about nursing and professional knowledge as they progress through their programme.

Day et al. (2005) argue that the occupational socialisation of student nurses, whereby the individual moves from lay perspectives of nursing to recognition of the professional role, is ultimately influenced by the values and norms of educational providers, through educational intervention and through practical experiences of nursing. Further support for this is provided by Brown et al. (2010) where predictors of future knowledge, attitudes and use of EBP are not based on academic level of achievement or educational inputs alone, but rather are based upon the facilitation of confidence in clinical decision making and preparation in the clinical setting. Thus, this argument would support the notion that classroom - based learning alone does not provide significant predictions of future EBP use but that this must be complimented by learning in the practice setting. Florin et al. (2011) support this in stating, in their findings of a cross sectional survey of Swedish University nursing students, that although education is essential in enhancing nurses' ability to understand and utilise EBP, it is imperative that there is an appropriate culture and level of support for students in clinical education so as to prevent disconnection between that which is learned in the classroom and application in the practice setting.

In a study by Waters et al. (2009) exploring current knowledge and attitudes toward EBP by both pre and post registration nurses, undergraduate nurses were found to have high confidence in research skills however, although registered nurses had a positive attitude toward EBP many had poor levels of competence in skills related to EBP attributable to era of initial nurse education and in some cases recall of what had been learned. This highlights another important issue in the need to address the apparent disconnect between education and practice - the need for organisations to support existing staff in developing EBP related skills and engagement in practice change. Existing staff in this sense may include mentors responsible for the learning that takes place in practice as well as ensuring appropriate support and assessment of the student nurse.

What appears to be clear from this initial review is that little research had focused upon the issue of research and EBP and its relevance/application in the practice placement experience from the perspective of the learner. While many of the studies and reports discussed as part of the phase 1 literature review provide useful insights to pedagogical approaches and exploration of student attitudes, those which evaluate the impacts of educational interventions are based on single or pre - post - test evaluation of what are very specific educational methods. Measuring the impact of educational interventions on knowledge, understanding or attitudes is essential and the dissemination of such studies serves to influence educational approaches or encourage reflection. However, what appear to be lacking are insights into the lived and actual experiences of preregistration student nurses in what constitutes 50% of their programme in the UK - clinical practice learning. No studies in this literature review appear to explore the daily reality of learning about research and EBP in the clinical setting. Most research to date would appear to adopt cross sectional survey methods which do not explore the relationship and dynamics of nurse education programmes and experiential learning from the perspective of the learner. As such tentative research questions could be considered based upon this apparent gap and as such would seek to inform educational approaches to strengthen the ways in which undergraduate student nurses identify research/evidence - practice linkages.

2.3.4 Phase 2 Literature review

The results of the phase 2 literature review are presented in appendix 2. Following the oral examination of the researcher's initial research proposal and transfer to the research stage of the Doctorate it was considered important to conduct a further review of the literature to build upon the literature reviewed in phase 1 as well as to capture any additional publications related to the areas of interests. It was decided that this would be presented as a second phase literature review to distinguish this as a separate stage and also to provide transparency in how the overall review of extant literature was approached.

This phase 2 literature review also adopted the framework for scoping studies promoted by Arskey and O' Malley (2005). The justification for this approach is provided earlier in this chapter however the value of a scoping review is realised when there has not to date, been any extensive or comprehensive review of the literature or literature to date is of variable nature in terms of primary research aims or methods (Khalil et al. 2016). This contention resonated with the outcomes of the initial literature review where quantitative, qualitative and mixed methods studies were reported as well as non - research based peer reviewed articles and thus informed the approach taken in this second phase. As Pham et al. (2014) report there is methodological variation in published scoping reviews as well as some discrepancies in the taxonomy between the term scoping and the terms review, studies,

literature reviews and scoping exercises and as such recommend that the term scoping review should be adopted. For the purpose of this phase, the term scoping review is used. Irrespective of nomenclature, a scoping review should apply a clear and unambiguous process.

2.3.5 Method – literature review phase 2

As aforementioned with the exception of the final step “consultation”, in accordance with Arksey and O’ Malley’s (2005) scoping review guidance, reference was made to the researcher’s review questions set out in the phase 1 literature review to provide consistency in phase 2. The steps applied in this scoping review included confirmation of the review question, search for relevant studies, study identification, recording and mapping the data, collating and presenting the results. The review questions remained as:

- a) What approaches to teaching and learning exist to promote knowledge and understanding of research and EBP in undergraduate student nurses?
- b) What attitudes and perceptions do undergraduate students have to research and EBP?

For this second phase literature review, with the exception of inclusion criteria for the period of publication, the same methods and review criteria were applied to that applied in the phase 1 literature review (refer to section 2.3.2) and again a broad range of databases were used that had relevance to healthcare related and educational literature. This again included CINAHL, ERIC, MEDLINE, Science Direct, Zetoc, and OVID. The setting of initial inclusion criteria (2012 - 2016) aimed to ensure that any papers missed in the original search would be picked up here and second, this time period was set to reflect the implementation of the NMC Standards for preregistration nursing education in 2010 and the assumption that there was a growing body of research in nurse education that explored aspects of the impact of the implementation of these standards including that of students learning about research and EBP in the curriculum. Through alerts, this phase 2 literature review continued to identify published relevant literature throughout the data collection and data analysis stages to ensure the researcher remained sensitive to published research. In addition, a snowballing review of the reference lists of those articles identified was undertaken to ensure no sources were omitted. As recommended by Khalil et al. (2016) and in further developing the Arksey and O’ Malley (2005) framework, inclusion criteria for the search included criteria related to the participants (in this case preregistration nursing students), criteria relating to the main focus of the review. Therefore, the same methods were applied in phase 2 as phase 1, both in terms of using a consistent framework for the two parts and to provide consistency and transparency.

Search terms applied were:

- a) Students AND perceptions AND research
- b) Nurs* AND education AND research AND evidence - based practice
- c) Nurs* AND students AND evidence - based practice
- d) Students AND Nurs* AND attitudes AND research
- e) Students AND nurs* AND research AND practice.

As with the phase 1 review and in consideration of the international drive and focus on preregistration student nursing programmes being inclusive of learning about research and EBP (Dawes et al. 2005; ICN 2012) the search was expanded to include international perspectives from English language sources.

2.3.6 Results – phase 2 literature review

The search of databases using the criteria described initially yielded a total of 1485 results from across all databases and in this phase the results were screened by title and if deemed to be of potential relevance exported to Refworks© where folders were prepared to assist in the management of data. The results from database searches were then screened by title and abstract for relevance which reduced the number of results further to 31 (via title and abstract screen, studies were excluded if not related to the review questions, were non - research - based studies/non - peer reviewed articles or were duplicates). The 31 studies identified were then reviewed by reading the full text of the paper - this resulted in the further exclusion of 12 papers (a further 4 duplicates were identified at this stage and 8 were deemed to be non - research based/non - peer reviewed or not related to the review questions) leaving 19 results. Any new sources identified via alerts were reviewed by title and likewise exported (new sources were identified, reviewed and incorporated into the results up to early 2019). On further review of full text, a further 8 papers met the inclusion criteria for inclusion in the review.

As a result of this review 27 studies were included. Figure 2 illustrates the stages of the phase 2 literature review. A total of 27 papers met the inclusion criteria for review and of these 14 focused on studies relating to the theme “Student nurses, knowledge, attitudes and perceptions of research and evidence - based practice” (Foresman et al. 2012; Smith-Strøm et al. 2012; Wong et al. 2013; Llasus, Angosta and Clark 2014; Ashktorab et al. 2015; Leach, Hofmeyer and Bobridge 2015; Brooke, Hvalic – Touzery and Skela - Savic 2015; Andre, Aune and Braend 2016; Gercek, Okursoy and Alp Dal 2016; Ryan 2016; Reid et al. 2017; Blackman and Giles 2017; Al Qadire 2019; Tumala and Alsheri 2019).

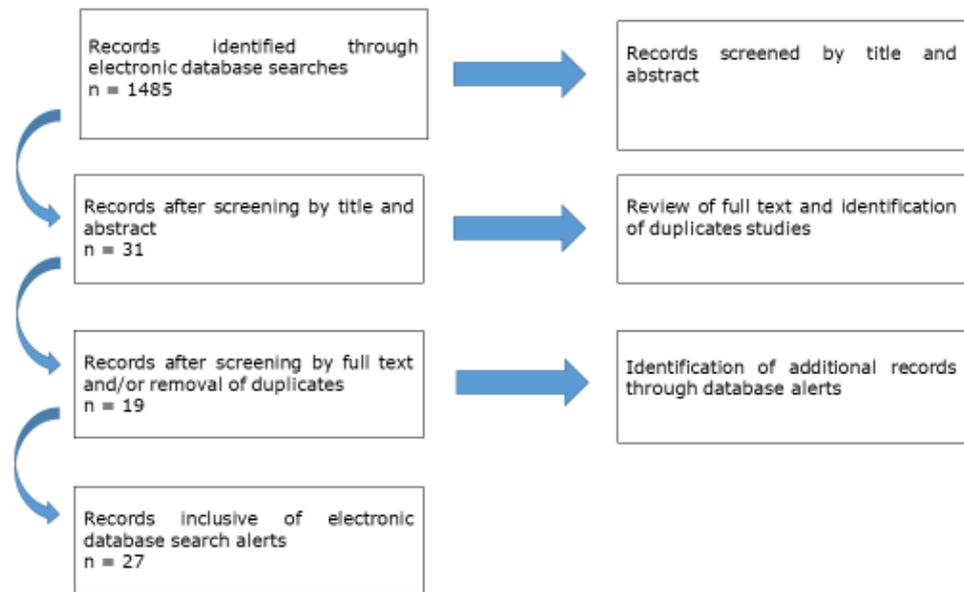


Figure 2: Flow diagram of study selection – phase 2 literature review

Thirteen papers either reviewed or performed research related to the theme “Educational strategies to promote knowledge and understanding related to research and evidence-based practice” (Badger, Daly and Clifford 2012; Christie, Hamill and Power 2012; Finotto et al. 2013; Mattila et al. 2013; Laaksonen et al. 2013; Aglen 2016; Davidson and Candy 2016; Malik, McKenna and Griffiths 2016; Ruzafa – Martinez et al 2016; Fiset, Graham and Davies 2017; Keib et al. 2017; Scurlock – Evans et al. 2017; Horntvedt et al. 2018). Interestingly, there appeared to be more papers which explored students knowledge, attitudes and perceptions as opposed to studies reviewing or researching pedagogical approaches to teaching and learning research and EBP. Of those papers in the latter theme, most organised according to Healey’s Curriculum Design model (Healey 2005 cited in Jenkins, Healey and Zetter 2007, p32) fitted to approaches that were either research orientated (Finotto et al. 2013; Davidson and Candy 2016; Aglen 2016; Ruzafa - Martinez et al. 2016) or research based (Laaksonen et al. 2013; Mattila et al. 2013; Horntvedt et al. 2018) or a combination of both (Ruzafa - Martinez et al. 2016; Aglen 2016; Fiset, Graham and Davies 2017). Only four papers were based on research related to either practice based educational approaches to learning research and EBP (Laaksonen et al. 2013) or the exploration of student’s knowledge, attitudes and perceptions of EBP in the context of clinical practice (Smith-Strøm et al. 2012; Andre, Aune and Braend 2016; Reid et al. 2017). Of the 27 papers, seventeen were quantitative research, four adopted qualitative methods and there were six reviews. Appendix 2 presents the results of the phase 2 literature review

Across the 27 studies located in this review nine were formative descriptive evaluations using a variety of methods (five surveys and four studies which adopted qualitative methods). These studies sought to explore competence of students through self - reported questionnaire survey (Al Qadire 2018; Tumala and Alshehri 2019), self - reported EBP efficacy in senior students (Blackman and Giles 2017), student evaluation of collaborative journal clubs (Laaksonen et al. 2013), the extent of EBP use and implementation of EBP by newly graduated students (Llasus, Angosta and Clark 2014), use of journal club as a method for learning (Mattila et al. 2013), student nurses perceptions of the importance of research and EBP (Brooke, Hvalic - Touzery and Skela - Savic 2015), student nurses awareness and attitudes toward research and EBP (Gercek, Okursoy and Alp Dal 2016; Tumala and Alshehri 2019) while one used documentary analysis to evaluate the content of preregistration nursing curricula (Badger, Daly and Clifford 2012). One further study deemed relevant sought to explore the approaches and processes undertaken by nursing academics when incorporating EBP into nursing curricula (Malik, McKenna and Griffiths 2016). The remaining studies reported on evaluations of educational interventions tailored to explore and/or enhance undergraduate nursing student's knowledge and understanding of research and EBP (some incorporating reported barriers and facilitators related to EBP use).

Interestingly the search yielded six reviews, perhaps indicative of a growing body of literature since the phase 1 review, one scoping review seeking to review studies focused upon student's use of evidence in clinical education (Fiset, Graham and Davies 2017), one integrative review exploring nursing student's attitudes and use of research and EBP (Ryan 2016), maximising nursing students learning about research for EBP (Christie et al. 2012), strategies for teaching EBP in preregistration nursing education (Horntvedt et al. 2018), the effect size of knowledge, attitudes and behaviours following EBP training (Wong et al. 2013) and finally a literature review which aimed to review pedagogical approaches to teach nursing students EBP at Bachelor degree level (Aglen 2016). Of the remaining nine studies, four adopted a pre/post - test survey evaluating the impact of educational interventions (Davidson and Candy 2016; Keib et al. 2017; Leach, Hofmeyer and Bobridge 2015; Reid et al. 2017), one adopted a longitudinal approach measuring the impact of two different educational approaches on knowledge and beliefs (Scurlock - Evans et al. 2017), one quasi - experimental study explored the impact of educational intervention (EBP course) upon level of EBP competence (Ruzafa - Martinez et al. 2016), one utilised a questionnaire survey to ascertain nursing students intentions to utilise research one year post graduation (Foresman et al. 2012), one was a questionnaire survey investigating the impact of a three - year EBP "laboratory" (which translated as a three - year curricula theme) (Finotto et al. 2013) while the final study explored the impact of student active participation in live research projects upon attitudinal change, knowledge and how EBP can inform practice (Andre, Aune and

Braend 2016). All of the reported studies were led by educationalists in nurse education and while these are helpful a limitation of each (bar the three reviews) is that of evaluation of a single intervention in most cases situated with a differing educational context and within differing healthcare systems as borne out by the regional variation of the studies included.

It would appear from the literature reviewed in this phase 2 scoping review that there continues to be reported challenges in overcoming persistent barriers related to teaching and learning research and EBP in undergraduate nurse education programmes. A number of papers demonstrate that irrespective of educational intervention, preregistration nursing students struggle to see the relevance of research to practice (Aglen 2016), lack evidence of EBP in action in practice (Brooke, Hvalic – Touzery and Skela - Savic 2015), demonstrate low scores for knowledge post EBP education (Ashktorab et al 2015; Al Qadire 2019), experience poor attitudes toward research and EBP as well as those of clinical and educational staff (Ryan 2016; Fiset, Graham and Davies 2017) and indeed indicate low intention to use research in clinical practice (Foresman et al. 2012). In stating this there are examples of interventions which may have the potential to overcome such challenges e.g. participation in practice based projects (Andre, Aune and Braend 2016), impact of witnessing EBP in practice (Blackman and Giles 2017), innovative approaches to learning e.g. gamification (Davidson and Candy 2016), partnership approaches to learning between academics and practitioners (Fiset, Graham and Davies 2017) as well as projects and assignments which are grounded in actual clinical issues experienced by the student (Laaksonen et al. 2013). Indeed, it would seem from the literature reviewed that approaches that are situated during clinical practice learning or are developed in collaboration appear to have most impact on learning but also crucially in enabling students to see the relevance and application of EBP (Smith-Strøm et al. 2012; Christie, Hamill and Power 2012; Laaksonen et al. 2013; Andre, Aune and Braend 2016; Fiset, Graham and Davies 2017).

While there is evidence that students have positive attitudes toward research and EBP from a conceptual perspective (Tumala and Alshehri 2019; Ryan 2016) there is also evidence that students face further barriers in terms of lacking the necessary knowledge and skills for EBP; lacking support either from their educational institution or practice (Fiset, Graham and Davies 2017). While a number of research studies report on the effectiveness of educational approaches in addressing barriers through innovative approaches to teaching and learning (Finotto et al. 2013, Davidson and Candy 2016, Andre, Aune and Braend 2016), few if any provide robust evidence that such approaches serve to enable the translation EBP into practice either as a student or as a newly graduated nurse.

This concern is discussed by Aglen (2016) in the findings from a systematic review of pedagogical strategies to teach bachelor students EBP. While pedagogical interventions include approaches to

assist students in learning about the research process, Aglen states that information literacy is seen as the key competence required by students in learning EBP and has been for decades. However, the approaches to teaching and learning (even when evaluated by students positively) fail to acknowledge the need for students to be supported in their cognitive development to understand knowledge transfer and the relevance of theory to practice (Aglen 2016). Preregistration nursing students remain challenged when understanding the relevance of research to practice, expecting tutors, mentors, professional nurses and other healthcare professionals to provide answers to clinical questions making them consumers of knowledge rather than active participants and potential creators, a scenario further amplified through millennial styles of learner (Aglen 2016). Students struggle to see research activity as part of the clinical nurse role and furthermore have limited opportunities for access to or experiences with researchers or educators among clinical nurses. This barrier is emphasised further in the outcomes of the scoping review by Fiset, Graham and Davies (2017) where while a number of approaches provided evidence of facilitating learning and positive attitudes toward research and EBP e.g. courses leading to improved knowledge and understanding, students reported barriers to research and EBP use as negative attitudes, clinical nurse resistance to the use of research and EBP and lack of time for EBP.

Of the studies aiming to evaluate the impact of educational interventions, most demonstrate improvements in student knowledge and understanding following courses/modules focused upon research and EBP. Scurlock - Evans et al. (2017) found that there was no differentiation in embedded and non - embedded approaches to teaching and learning in a longitudinal study comprising a convenience sample of fifty - six preregistration nursing students. Using the Student Evidence - Based Practice Questionnaire (S-EBPQ) (Upton, Scurlock - Evans and Upton 2016) with students at the end of years 1, 2 and 3, the researchers found significant improvement to frequency of use, knowledge and skills of retrieval of EBP and knowledge and skills of application of EBP in both approaches with no significant changes in student attitudes across the three - year period. Likewise, the studies by Leach, Hofmeyer and Bobridge (2015), Ruzafa - Martínez et al (2016), Reid et al. (2017) and Keib et al. (2017) all report on improvements in knowledge and understanding as a result of educational interventions in a range of approaches. There are however ranging levels of ambiguity as to whether such educational interventions have impact on significant improvement in knowledge and skills in the sense of understanding EBP in the context of their practice learning experience or whether the significant improvement does or could reflect on students having greater ability to experience and apply EBP knowledge and skills in the clinical practice placement setting.

2.3.7 Summary and conclusions

Much of the literature reported in phase 2 and like many of the studies discussed in the phase 1 literature review all concur in their introductory sections for nursing to be based on best available evidence to ensure the best clinical outcomes for patients and service users. Likewise, there would appear to be global consensus amongst providers of undergraduate/preregistration nurse education that inclusion of teaching and learning related to research and EBP is critical in enabling future professionals to have the necessary knowledge and skills in research and EBP both in terms of delivery of care or direct engagement in empirical research studies. The vast majority of studies in both the initial and second phase of review has been undertaken by educational providers seeking to evaluate educational interventions either via quantitative pre-post - test surveys, quasi experimental studies or qualitatively through focus group interviews. None of the studies reviewed appear to research the development of professionals who are not only research and EBP literate but who are also concurrently equipped with the relevant attributes of leadership skills necessary to prepare professionals for implementation, quality improvement or service improvement projects which have EBP at their heart.

There is a dearth of published studies which explore what occurs beyond graduation/professional registration and the continuation of the application of research and EBP skills as registered professionals. As Cordova et al. (2008, p242) comment, both senior students and newly graduated novice nurses need to be able to “evaluate clinical situations and identify important clinical problems that, when improved, may change practice”. Cordova et al. (2008, p242) also state that “Conversely, expert nurses have skills in forming pertinent questions but may have limited knowledge, confidence, and/or time to locate the evidence and apply it to practice over time.” The challenges of providing appropriate, meaningful and effective approaches to teaching and learning about research and EBP in preregistration nurse education are therefore multifaceted and complex. These are informed not only by particular pedagogical approaches to teaching and learning in preregistration nursing programmes but also from an appreciation of the wider barriers and facilitators to research and EBP in the real world of professional practice. Further challenges ensue in ensuring that graduate newly qualified nurses continue to be able to use and apply evidence in practice throughout their professional careers either through independent use or as part of teams working together to improve services for patients and service users.

Considering the literature reviewed, a gap exists in terms of exploring the experiences and perspectives of preregistration student nurses to learning and applying EBP in clinical practice settings. While there is a body of literature evaluating educational interventions using validated tools, none explore the lived experiences of these students from the emic perspective to develop an exploratory and explanatory

insight into the social processes that may be impacting on learning and/or attitudes. While education is vital to develop the critical skills of EBP in future generations of professional nurses, education is lost if the translation of that learning does not result in implementation in the reality of practice.

Chapter Three: Methodology and methods

3.1 Introduction

This chapter outlines the methodology and methods applied to address the aims and objectives of this study. The study aimed to explore the experiences and perceptions of preregistration nursing students to knowledge and understanding of research and EBP in the context of the practice placement aspects of their programme of study (considered here as experiential learning). The intended purpose of undertaking this study was two - fold:

- a) To understand preregistration student nurse's experiences of learning about and applying research and EBP during their practice placements;
- b) To inform understanding related to the development of pragmatic and meaningful approaches to teaching and learning research and EBP in preregistration nursing curricula.

The researcher's impact targets were considered to be academic and clinical educators in better understanding the factors and/or processes influencing learning about research and EBP in clinical placements as well as researcher's being enabled to explore conclusions and recommendations from this study through further research.

Prior to discussing the methodology and methods adopted for this study, it is important to state that the need for a careful consideration of the practicalities of undertaking a grounded theory research study were explored and identified at the initial stage of commencing this study. This involved reading relevant texts reporting on the philosophy and methods reported since the publication of *The Discovery of Grounded Theory* in 1967 (Glaser and Strauss 1967) which reflect the development of this methodology through the emergence of three key schools of thought, Glaserian, Straussian and the more recent constructivist approach of Charmaz (McCann and Clark 2004). This included reflections upon the potential implications of shared characteristics of theoretical sampling and the potential for the need to collect differing sources of data from a range of locations.

The grounded theory techniques applied in the study were initially intended as theoretical sampling, constant comparative analysis and the analysis of data collected using the analytical techniques described by Strauss and Corbin (1998). Theoretical sampling was intended to enable the researcher to reach a point of theoretical saturation. While limitations relating to sample size compromised the researcher's ability to do so, as Strauss and Corbin (1998) recognise, grounded theory techniques can

lead to meaningful outcomes in terms of useful insights and descriptions without necessarily building theory. For the purposes of trustworthiness, transparency and to provide a clear audit trail of decision making related to method and methodology the researcher presents a comprehensive account of the early readings, personal beliefs and assumptions as well as the emergent philosophical position which informed the methods adopted in this study.

While Glaserian approaches to grounded theory are characterised by the researcher entering the field without a specific research question or hypothesis, Strauss and Corbin's more pragmatic approach states that the research question should be narrow and act to define the boundaries of the research (Birks and Mills 2011). Within this study the researcher was required to demonstrate the research questions as part of both Doctoral programme assessment and the requirements of ethical approval committees located within the institutions where initial purposeful sampling was intended. The researcher strived to ensure that the research questions were sufficiently broad taking a position between that of Glaser and Strauss and Corbin to allow for flexibility and to state such questions in "terms that reflect a problem - centred perspective of those experiencing or living the phenomenon to be studied" (Birks and Mills 2011, p21). The key research questions were:

- a) How do preregistration student nurses learn about research and evidence - based practice in the context of practice placement elements of their programme of study;
- b) What is the meaning that preregistration student nurses attach to influences upon the acquisition of knowledge and understanding of research and evidence-based practice within clinical practice placements?

With these research questions in mind, it was firstly important to establish which paradigm and methodology was best placed to address the study aims. As Welford, Murphy and Casey (2011) state, this can be challenging for researchers given the varying ways in which paradigms are categorised in the literature as well as conflicting definitions. This is discussed later in this chapter in 3.3.

The chapter firstly returns to the initial point of planning and designing the study and considers and discusses the philosophical perspectives in both quantitative and qualitative research before outlining the philosophical position taken in this study and the justification for the chosen methodology.

Following this, the chapter presents in depth, detailed justification of the specific methods selected to address the aims and objectives of the study. The specific methods discussed include sampling and participant recruitment to the study, ethical considerations and ethical approval for the study, data collection (focus group and individual interviews), data analysis as well as the protocols applied to

address trustworthiness. The study presented challenges related to recruitment and thus limitations related to this are discussed in chapter

3.2 Research design – philosophical and methodological considerations.

Research design comprises four interrelated elements – epistemology, theory, methodology and method (Salmons 2012). Dodd (2008) outlines how these four elements interact and inform one another: epistemology informs theory, theory informs methodology which in turn determines which methods are adopted by the researcher. There are a number of ways in which researchers can investigate or explore a given research problem. The distinct nature of the research question will influence the manner in which a study is designed and carried out. However, the research and the research question will also be influenced by the research paradigm which reflects the researcher's beliefs and philosophical assumptions. Welford, Murphy and Casey (2011, p38) define paradigms as "sets of practices and beliefs characterised by ontological, epistemological and methodological differences in their approach to research and contribution to knowledge". According to Creswell (2014) ontology questions reality, the real world and how reality is understood. Epistemology refers to what can be known, how knowledge is created and how we learn about the world we live in (Creswell 2014). Methodology according to Welford, Murphy and Casey (2011) questions how researchers plan to find out what they believe can be known. It is critical that the researcher is explicit in detailing their ontological, epistemological and methodological position at the outset. All should complement one another.

Parahoo (2014) describes a continuum of paradigms whereby positivist/post - positivist focusing upon objective research (quantitative methods) are situated opposite to a constructionist/interpretivist paradigm (related to qualitative research). Kelly, Dowling and Millar (2018) identify four dominant research paradigms – positivism/post - positivism, constructivism, interpretivism and pragmatism. Each paradigm is characterised by its ontological and epistemological perspective as well as methodological approaches. When planning to undertake a research study it is firstly critical that the researcher reflects upon their own beliefs and assumptions to establish their paradigm and thereafter which methodology is best suited to answer the research question (Welford, Murphy and Casey 2011). This is particularly important where grounded theory or the principles of grounded theory have been adopted due to the three main iterations of this approach over time. This is discussed later in this chapter. Prior to this, methodologies for undertaking research are discussed.

3.2.1 Quantitative research

Quantitative research draws from a positivist paradigm (Maltby et al. 2010), and as such is concerned with the objectivity of truth. Quantitative research adopts scientific and systematic methods to investigate phenomena or the relationships existing between phenomena (Maltby et al. 2010). Quantitative research is therefore appropriate where the researcher is evaluating an intervention or seeking to describe the perspectives of specific groups in society and thus answers question of how many, how much or the relationship between variables and thus adopts an objective, deductive (testing hypothesis or theories) approach which aims to generalise the research findings to larger groups (Creswell 2013). The ontology of this positivist approach therefore postulates that the world in which we live is real, objective, ordered and that reality is influenced by natural universal laws and mechanisms (Creswell 2014). The focus on objectivity also means that from an epistemological stance, the researcher separates facts from their own values, stressing that there is complete separation between the researcher and those being researched (Polit and Beck 2013).

With importance placed upon control and prediction, the methods adopted in positivist research include tools which enable objective and scientific measurement including statistical tests to determine predictions, probabilities, laws or hypotheses (Polit and Beck 2013). While positivist research can be criticised for its objective use of participants in research (Polit and Beck 2013) as well as its exclusion of phenomena that are unobservable (Denzin and Lincoln 2011), strengths of positivism relate to its ability to produce generalisable findings with enhanced credibility by virtue of the objective view of reality (Guba and Lincoln 1994) as well as the scientific neutrality which requires the researcher to separate their own values from the facts (Ryan 2018).

There are a range of research designs which have their origins in a positivist paradigm e.g. clinical trials and randomised control trials (experimental design), case - control and cohort studies (quasi - experimental design), cross - sectional survey and longitudinal survey (survey design) (Maltby et al. 2010). While traditional hierarchies of evidence have placed greater emphasis upon the importance of positivist approaches e.g. systematic reviews, meta - analysis, clinical trials and randomised control trials and as organisations responsible for the development of clinical guidelines such as NICE and SIGN recommend the need for evidence from randomised control trials (Ryan 2018), Maltby et al. (2010) reiterates the importance of recognising the place and purpose of both quantitative and qualitative approaches in nursing research, coexisting to enable nurses to see or identify differing perspectives on the same issue of interest.

Post - positivism and positivism are, in some categorisations of paradigms, situated together (Parahoo 2014) while in other attempts to categorise, post - positivism is identified at the expense of positivism

(Creswell 2014). While this may be the case, Kelly, Dowling and Millar (2018) stress that post - positivism is not a rejection of positivism in itself. In a useful framework categorising paradigm, according to theoretical perspective, ontology, epistemology, methodology and methods, Crotty (1998) distinguishes post - positivism from positivism in that the ontology of the former recognises that reality can never truly be known and thus research in the post - positivist paradigm does not seek to prove absolute truths. However as with positivism, the epistemology of post - positivist research views knowledge as objective, adopting a deductive approach with aims similar to positivist approaches i.e. control and prediction. The epistemological stance in post - positivist research can result in the collection of quantitative as well as qualitative sources of data (Kelly, Dowling and Millar 2018). As the research questions within this study sought to explore and discover the experiences of preregistration nursing students to learning about research and EBP in practice placements as well as the meaning that they attached to influences over the acquisition of knowledge and understanding (i.e. the researcher's beliefs and assumptions were that truth and knowledge is subjective and that there can be multiple realities explored from the emic perspective), a quantitative methodology was not deemed to be appropriate. Given the varied perspectives and experiences potentially provided by preregistration nursing students a qualitative approach to the study was considered.

3.2.2 Qualitative research

While quantitative methodologies are firmly based on positivist philosophies, there are a number of philosophies which underpin qualitative research. Qualitative research is drawn from an interpretative or naturalistic paradigm (Creswell 2014) in which, rather than quantification and/or measurement, the researcher acknowledges that from an ontological perspective the reality of the world is socially constructed by individuals who attach their own meaning to their lived experience and thus the epistemological position is one where truth can be subjective. Furthermore, knowledge is generated in an inductive manner (Streubert - Speziale and Carpenter 2007) commencing with exploration of specific experiences before moving to a more general overview of the phenomena of interest. Qualitative research does not seek to provide outcomes which can then be generalised to a larger population but rather it seeks to provide a rich description and provide insights and perspectives of particular groups of people in particular contexts in which the experience is situated. Qualitative research enables researchers to focus upon research questions relating to meaning, explore both organisational and social processes, identify why interventions fail or succeed as well as examining facilitators and barriers to change (Starks and Trinidad 2007). As opposed to the questions of quantification and measurement in quantitative research the philosophical assumptions or beliefs underpinning qualitative research are drawn from the constructivist and interpretivist paradigms.

Interpretivism is based upon an ontological position whereby there is acknowledgement for multiple interpretations of reality (Kelly, Dowling and Millar 2018) whereas the epistemology is subjective. The recognition of the existence of multiple realities is highlighted in the focus upon explanation from the emic perspective of lived experiences (Ryan 2018). There are a range of methodological approaches which align with an interpretative paradigm, for example case study, phenomenology and grounded theory (Welford, Murphy and Casey 2011). As such, and in seeking to explore multiple interpretations of reality, a range of methods may be employed individually or in combination e.g. interviews, observations, document analysis. When initially developing a proposal for this study, the researcher sought to develop an explanatory theory from analysis of the data to provide a dynamic discussion, providing insights as to the impacts of processes and factors within the clinical practice placement setting influenced how students learn.

3.2.3 Mixed methods

Mixed methods research has been defined as research whereby the researcher “collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry” (Tashakkori and Creswell 2007, p4). Feilzer (2010) remarks that mixed methods research has been viewed as a response to the long running and sometimes unhelpful debates about the relative strengths and weaknesses of quantitative versus qualitative research. The primary philosophy of mixed methods is pragmatism (Johnson, Onwuegbuzie and Turner 2007) and the approach has become increasingly popular to researchers seeking to combine both qualitative and quantitative research approaches, methods and concepts in a single study (Johnson and Onwuegbuzie 2004). While mixed methods can draw on the strengths of both quantitative research and qualitative research, a key issue with mixed methods research according to Leech and Onwuegbuzie (2009) is the range of research designs which exist and the challenge that this presents to the novice researcher or doctoral student in selecting and justifying the choice of approach. This challenge aside, Yin (2006) in discussing the pitfalls of conducting a mixed methods research study also explores the risks of such approaches if not truly integrating qualitative and quantitative methods. Yin refers to the risk of the research study disintegrating into multiple isolated studies rather than a single study and thus with little distinctive outcomes as a result of the mixing, and importantly, the integration of the methods (Yin 2006). Having read and reflected upon the literature related to mixed methods as well as reflecting upon personal beliefs and the study research questions, a mixed method was considered to be an inappropriate route to take, given that the study aimed to provide an in-depth exploration of the experiences of student nurses.

3.3 Justification for choice of methodology

According to Birks and Mills (2011) three key aspects of research design include the researcher's philosophy, research methodology and research methods. In the context of this position a methodology is seen as a set of principles drawn from a harmonious philosophy which guide the design of the study. Methods are defined as the pragmatic tools and protocols used to collect and analyse data (Birks and Mills 2011). Given the study research questions and the aims of the study as well as personal beliefs, a qualitative interpretivist approach was deemed to be the most appropriate to address these. There are however a number of methodologies which can be aligned to an interpretative approach. To assist the researcher in clarifying this further the use of two frameworks to guide decision making and justification were found to be helpful. The two frameworks used were that of Starks and Trinidad (2007) and Trauth (2001).

3.3.1 Frameworks to guide the choice of methodology

Starks and Trinidad (2007, p 1372) state that qualitative research methods facilitate the researcher to be able to "delve into questions of meaning, examine institutional and social practices and processes, identify barriers and facilitators to change, and discover the reasons for success or failure of interventions". This statement resonated with the researcher when considering the aims of the research study. Beyond this statement, consideration then had to be given toward the approach that would be used in this study. Starks and Trinidad (2007) provide a helpful framework to assist the researcher in selecting an approach which aligns the aims of the research study, the researcher's beliefs and assumptions, the researchers existing knowledge (qualified here as existing knowledge of the subject area related to the research study and knowledge of research methodology and methods) as well as the rationale for engaging in the study itself. The framework integrated appropriately with the researcher's position at the outset of the study i.e. reflecting upon the aims of the study, prior knowledge and experience both in teaching and learning research and EBP and existing research skills.

There are three qualitative interpretative methodologies presented in Stark and Trinidad's framework: phenomenology, discourse analysis and grounded theory. All are particularly pertinent in research related to participant's subjective experiences and the meaning individuals make of such experiences. Considering Stark and Trinidad's framework, of the three interpretive approaches presented, both phenomenology and discourse analysis were deemed not to be relevant in meeting the initial study aims. Discourse analysis seeks to understand how individuals use language to "create and enact identities and activities" (Starks and Trinidad 2007, p 1373) to provide research outcomes targeted toward policy makers who look to understand the discourses used by individuals to influence identity,

activity and relationships. Discourse analysis involves examination of language (Hodges, Cooper and Reeves 2008) and as an outcome, a description of language use and the ways in which people use language to construct their own version of their social world (Burck 2005). Discourse analysis was considered not appropriate in meeting the aims of the study.

While phenomenology was considered by the researcher, the study aim was to provide a description of the meaning attributed by individuals to their personal lived experiences of a given phenomenon. Phenomenology focuses upon drawing the experience of participants so a phenomenon can be revealed (Wimpenny and Gass 2000), whereas grounded theory, whilst initially utilising methods adopted in phenomenology e.g. interview, and seeks to develop an emergent theory which provides an explanation rather than description. This distinction was seen as important in a study where the research questions sought to explore the processes impacting upon the context of student nurses learning about research and EBP in their clinical practice placements. While phenomenology may have provided an approach to describe or interpret participant's experiences of learning about research and EBP in clinical placements, it was considered limiting at the outset of this study in terms of its ability to identify relevant themes and concepts from the data which could be integrated and conceptualised to be explored further in future research or to serve as a catalyst to revisit current approaches to teaching and learning.

In addition to the three approaches cited in Stark and Trinidad's framework, the researcher also considered a case study approach. While case study research is recognised as an approach to explore and investigate phenomena (e.g. research and EBP) in real life contexts (e.g. practice placement learning) where there is a degree of uncertainty between the phenomena and context (Yin 1994), both case study and grounded theory are useful in this respect, a case study approach as outlined by Yin (1994) is benefitted by prior knowledge of theoretical perspectives to guide data collection and analysis. Grounded theory focuses upon the researcher having an open mind and, in this study, there appeared from the extant literature to be no obvious theoretical perspectives and thus the case study approach was not adopted.

To further assist in informing the researcher's decisions and complimenting Stark and Trinidad's framework, Trauth (2001) states that the choice of research methodology is influenced by the researcher's personal "theoretical lens". By adopting an interpretive approach such as grounded theory, the main assumption in terms of epistemology is that phenomena such as learning in a clinical practice placement setting and in particular the application of research and EBP are not objective, boundary set phenomenon. The ontology of such an approach is one which focuses upon meaning

being socially constructed, influenced by the experience of reality as perceived by individuals (Cutcliffe 2000).

Given the position of the researcher to the reality of nurse education and *a priori* knowledge e.g. curricula design, previous research and scholarship, expertise in regulatory standards, the researcher's position and views are important considerations. Thus, an interpretivist approach that embraces the principles of earlier directions in grounded theory and which is based upon an ontology that views realities and experiences as socially constructed (Guba and Lincoln 1994) was preferred. Seeing the researcher as being inseparable from the realities of what can be known, the interpretivist approach takes an epistemological perspective that views knowledge as being shaped by the relations between the researcher and those researched (Lincoln 1992).

To help inform the researcher further, Trauth (2001) presents a framework which outlines five factors that influence the choice of qualitative methods and it is this factorial framework which assisted in facilitating reflection on self as well as confirming the proposed methods:

1. The research problem
2. The researcher's theoretical lens
3. Degree of uncertainty surrounding the problem or phenomena
4. The researcher's skills
5. Academic politics

Dobson (2004) identified that the majority of factors highlighted by Trauth are primarily focused upon epistemological elements of the research process (theoretical lens, researcher's skills, and academic politics). Ontological concerns within Trauth's framework relate to the research problem and the degree of uncertainty surrounding the problem itself (Dobson 2004).

3.3.1.1 The research problem

According to Jones and Alony (2011), selecting an appropriate research method is one of the most important aspects of doctoral research. Aligning a method that enables the primary research question to be explored and ultimately answered via the generation of valid findings is crucial. Within the context of the proposed area of study, it can be argued that grounded theory seeks to explore phenomena in the real world without preconceived ideation or hypothesis (Glaser and Strauss 1967).

It is acknowledged that the researcher in this study entered the data collection phase with an open mind but having insight of the scope of prior research but a position seen as accepted in later iterations of grounded theory i.e. Strauss and Corbin (1990; 1998) and Charmaz (2006). Unlike alternative qualitative data analysis methods, grounded theory transcends all descriptive methods involving the location of codes, concepts and finally categories (Allan 2003). Glaser (2002 p24) provides clarification on the point of conceptualisation in stating that concepts are free or abstract from time, place and people and crucially that these concepts have an “enduring grab”. Grounded theory is not therefore descriptive nor is it a method which utilises prior knowledge or concepts forcing these to influence the generation of unique conceptualisation. This was thus attractive to the researcher, given their position in this study, in that it would be the perceptions and experiences shared by participants in early interviews that would guide the subsequent focus of questions in later interviews by virtue of the constant comparative method of analysis.

Within this study the research questions and aims of the researcher were seen to differ in that the aim was to go beyond description and produce a theory which could be applied in differing contexts (Dey 1999) e.g. approaches to teaching and learning in other health professions where students undertook clinical practice placements and were required to learn about research and EBP. The purpose of this research was not simply to seek to describe phenomena but to explore and present a theory that explains the complex interactions and patterns that relate to practice placement learning. Furthermore, the research questions are ones which had not previously been explored (Giske and Artinian 2007) and therefore would seem to fit with the purpose of theory development (Strauss and Corbin 1990; Glaser 1995; Charmaz 2000). Further reading and reflection confirmed that grounded theory was an appropriate method, particularly because:

- Little previous literature specifically related to the study research questions means that the research problem initially is stated in broad terms but is more clearly defined as data from participants is gathered (Chiovitti and Piran 2003);
- The researcher enters the field without any prior insights into what participants may share and enquiry is not influenced by prior literature but by the narrative provided by participants in keeping with a true emic perspective – data collection commences with open unstructured questions (Birks and Mills 2011).

One could consider this open and flexible approach important given the role that the researcher had within nurse education prior to data collection (programme lead) where bias on behalf of the researcher (in terms of being influenced by experience and personal opinion) may have occurred.

3.3.1.2 The researcher's theoretical lens

On commencing the Doctorate programme, as a researcher with some limited experience in the field of qualitative data analysis, reading and reviewing the literature around ground theory led to reflection upon methodological philosophies and indeed challenged previous assumptions around interpretive methodologies in particular.

Reading as a relatively novice researcher also served to further reflect upon the numerous perspectives upon grounded theory method but primarily the two key initial grounded theory schools - the Glaserian and Straussian schools.

Grounded theory was initially developed by Glaser and Strauss as a method of conceptualising theory from data rather than testing theory with data (Rennie 2000). Goulding (1998) and Ng and Hase (2008) stress the importance of researchers specifying the type of grounded theory used and this is further exemplified by Jones and Alony (2011) in stating that type has significant impact upon the execution of the research. The most differing principle dividing these schools is the way in which the researcher enters the field- for Glaser, an empty mind not influenced by literature or other insights, for Strauss the researcher should have a general idea of where to locate initial enquiry. A further methodological difference occurs in the manner in which Strauss's version adopts a highly organised and prescriptive approach to coding of data (Strauss and Corbin 1990). This approach is criticised by Glaser (1992) in that it reduces the level of insight and theoretical sensitivity, theoretical sensitivity being defined as the ability of the researcher to consider data in theoretical terms (Douglas 2003).

3.3.1.3 Degree of uncertainty surrounding the problem or phenomena

The extent to which this research problem has been investigated previously serves to further confirm the position taken here i.e. grounded theory-an interpretive, inductive approach. Previous studies as discussed in Chapter 2 of this thesis outline where prior research activity has focused (see appendices 1 and 2). These studies include both interpretive and positivist paradigms and on reviewing and reflecting upon them more closely, most tell "the what" question (Ng and Hase 2003) e.g. effectiveness of educational approaches, student's knowledge and attitudes. These studies do not inform us of "the why" i.e. providing explanation of the dynamic processes and interaction between issues. Therefore, reflections upon prior research and the limitations therein served to influence the researcher's choice of an inductive approach rather than using extant literature deductively.

3.3.1.4 The researcher's skills

Within Trauth's framework (2001), this factor was considered one of the most important in terms of the context of this framework. It was therefore important to reflect upon the skills required for this research study and in the process, reflect upon one's current strengths and weaknesses. Although discussion upon theoretical lens has been provided, in reflecting upon the proposed research approach, more pragmatic consideration was made in account of the specific techniques applied in grounded theory study. Key characteristics of this approach considered here were: ethical approval and theoretical sampling, data collection in grounded theory (interviews and memos), constant comparative analysis and coding techniques. The researcher felt competent and cognisant of aspects of the research process e.g. ethical approval, data collection via interview, however it was acknowledged that further exploration and learning related to the analytical and coding techniques was required. Additionally, reflecting upon prior personal research activity, predominately based on qualitative data collection methods e.g. semi-structured and focus group interviews (for example see Ireland. et al. 2009) and analytical methods, reading about perspectives on grounded theory led again to a question of position, personal beliefs and assumptions. The researcher's view that the initial research questions in this study were previously not explored in the literature led to a strengthening of belief that the research here avoided a concept forced descriptive nature that Glaser (2002) criticises. It was critical that an open minded, unstructured approach was taken which inductively utilised data.

The use of grounded theory presented as a significant departure from prior qualitative research activity, particularly in terms of the stages of analysis specifically coding in grounded theory - open, axial and selective coding (Strauss and Corbin 2008). Initial open coding utilises the constant comparative method of analysis whereby collection of data and analysis occur concurrently, with the use of memos (as defined by Sbaraini et al. 2011) as written notes taken in addition to the audio-recorded interview as a means of enabling the researcher to reflect upon the impressions drawn from the interview and what was understood and what was not (Kolb 2012). The identification of categories within initial open coding is followed by axial coding where connections between the categories are made (Strauss and Corbin 2008). In selective coding the researcher identifies the core category – critically this final stage is dependent upon the development of concepts and relationships developed and guiding data collection (theoretical sampling) (Kolb 2012; Strauss and Corbin 1990; Jones and Alony 2011). Constant comparative analysis informs the sample, can refine the actual nature of the research question and determines the emerging focus of the interviews until saturation occurs, i.e. no new data emerges (Giske and Artinian 2007).

3.3.1.5 Academic politics

The fifth and final factor in Trauth's framework, academic politics was not considered relevant in the context of this study as the host institution of study as well as any participating centres in differing geographical locations would have no influence in the selection of either positivist or interpretive approaches (but would of course be instrumental in approving any proposed study via their respective ethical approval committees).

Through the application and consideration of Stark's and Trinidad's (2007) framework along with that of Trauth's factorial framework (Trauth 2001) both served to confirm the approach taken in this study. By applying and drawing from these frameworks, the researcher sought to ensure at the outset of the study that a method best suited to the study aims was selected and the results of the study helpful, of utility and well received (Starks and Trinidad 2007).

3.4 Methodology

To provide clear and transparent justification, this section will provide an overview and critical discussion of the methods applied in this study.

3.4.1 Grounded theory

There are a variety of research methodologies which can be adopted to either test hypotheses or theories e.g. deductive quantitative research or to inductively build understanding through generation of theory (Alemu et al. 2015), grounded theory being one such inductive approach As discussed earlier in this thesis there are three main schools of thought in grounded theory. On reading and reflecting upon the evolution of grounded theory since its origins in 1967, this study sought to adopt the principles of the Straussian school of thought primarily due to the pragmatic approach to the analysis of data. Before discussing the methods adopted in this study, justification of the selection of the Straussian school of thought is provided.

In the Discovery of Grounded Theory (Glaser and Strauss 1967), the original iteration of the grounded theory methodology, the researcher is bound to remain distanced from the research process and to avoid any reference to extant literature until all data analysis has been undertaken and a theory generated (Giles, King and Lacey 2010; Dunne 2011; Yarwood – Ross and Jack 2015; Alemu et al. 2015). According to Glaser the primary purpose of analysing data via coding and memo writing is to provide a conceptualisation which can be evaluated for "fit" by demonstrating that the resulting theory fits the data and thus transcends description of the data (Kenny and Fourie 2015; Alemu et al. 2015,). The Glaserian methodology was not appropriate in this study, due to the strong emphasis upon the

researcher not immersing themselves in any extant literature prior to data collection. Not only was this impossible to achieve given the researchers prior activity in research and scholarly writing related to research and EBP but also in the way that the Doctorate programme guided the researcher to reach a point whereby a research proposal could be submitted for scrutiny as well as meeting the requirements of ethical approval committees. Furthermore, it was felt that the Glaserian application of the methodology lacked sufficiently detailed guidance for the researcher as agreed by Allen (2010) in a critique of this particular approach. In addition, the paper by Polacsek, Boardman and McCann (2018) reaffirms this but also the notion that in Glaserian grounded theory the researcher does not enter the field with a specific research question and plays a more passive role in the collection of data.

Straussian approaches to grounded theory emerged from a differing of perspectives particularly in regards to the need to develop the method (Strauss and Corbin 1998). Strauss and Corbin (1998) argue that the researcher cannot enter into the research without prior insights and/or knowledge of the area under investigation. Strauss and Corbin (1998) state that knowledge of extant literature can occur and assists the researcher in scoping the landscape of current knowledge and understanding, (additionally, as they contend, it is likely that the researcher may have had exposure to a significant volume of literature) however they also advise that the researchers should remain as objective as possible in data collection with participants (Alemu et al 2015). While the main purpose of their seminal text *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (Strauss and Corbin 1998) was to provide more explicit direction for conducting grounded theory, the authors also stress that such directives are not designed to be used rigidly and thus they can be adapted and use more flexibility as preferred by researchers in the context of their own study (Allen 2010).

A third constructivist approach to grounded theory has been provided by Charmaz (Charmaz 2006). In this approach, Charmaz emphasizes the co-construction of meaning (data generation) in the data collection and data analysis stages of the research process. Thus, Charmaz's constructivist approach sees the relationship between research and participant as being non - hierarchical and indeed reciprocal whereby the researcher and participant engage in a more conversational relationship where both express opinions and perspectives. Indeed, Charmaz goes as far as to suggest that this mutuality between researcher and participant should also include negotiation on the location of interviews as well as time. Furthermore, Charmaz indicates that participant perspectives should contribute to all stages of analysis of data and the write up of the study. For logistic and pragmatic reasons Charmaz's approach was too problematic for adoption in this study particularly in regards to the co-constructive nature of data collection and analysis with participants and less structured approach to data analysis which has been seen as less clear and helpful to novice researchers (Polacsek, Boardman and McCann 2018).

While other approaches to grounded theory are not refuted by the researcher, to summarise, the key factors which guided the decision to adopt Strauss and Corbin's approach at the outset of this study were:

1. The Straussian approach provides clearer and more rigorous guidelines for the novice grounded theory researcher to data analysis (Cooney 2010; dos Santos et al. 2018);
2. Strauss and Corbin (1998) stress that the researcher follow the analytical guidelines while placing trust in their instincts and working within the guidelines to the best of their abilities;
3. Strauss and Corbin (1998) place emphasis upon the context and realities of the study and flexibly and acceptingly enable researchers to use their techniques to provide useful data e.g. categories and descriptions without necessarily transcending to the generation of theory (Cooney 2010);
4. In Straussian grounded theory methodology, extant literature can be used at all stages in the research process (Dunne 2011; dos Santos et al 2018) thus assisting the researcher to develop theoretical sensitivity as well as enabling the researcher to have awareness of the wider context of their study (Cooney 2010);
5. Its focus on reflexivity and the process of the researcher actively bracketing and being self-aware of beliefs and assumptions which in turn guide actions and interpretation (Birks and Mills 2011);
6. Strauss and Corbin's emphasis on the outcomes of research being explanatory rather than descriptive and hence the potential to influence thinking, policies, approaches to teaching and learning and practice (Birks and Mills 2011).

The study was conducted in two Higher Education Institutions which provided approved undergraduate programme of study based on the NMC Standards for Pre-registration Nursing (NMC 2010).

3.5 Methods

As aforementioned the research questions in this study were:

- a) How do preregistration student nurses learn about research and evidence - based practice in the context of practice placement elements of their programme of study?

- b) What is the meaning that preregistration student nurses attach to influences upon the acquisition of knowledge and understanding of research and evidence-based practice within clinical practice placements?

3.5.1. Sampling

Gentles et al. (2011) in a review of sampling in qualitative research define the term sampling in the broad sense as “the selection of specific data sources from which data are collected to address the research objectives” (Gentles et al. 2011, p 1775). In grounded theory Strauss and Corbin (1998) as cited by Gentles et al (2011, p1776) define sampling as “where to go to obtain the data”. Strauss and Corbin (1998) refer to purposive sampling and in the context of this study purposive sampling initially sought to identify final stage preregistration nursing students who were about to embark upon final placement experiences within their programmes. In the early stages of data collection and with Strauss and Corbin’s broad definition of sampling in mind, non-probability purposive sampling was seen as a logical first step in obtaining data from participants most likely to be able share experiences at the centre of the research questions.

Purposive sampling enables the researcher to determine and to target participants that are seen as sharing common experiences which the researcher seeks to explore in - depth (Maltby et al. 2010) i.e. experience of undertaking placements within an NMC approved programme. In line with key concepts associated with grounded theory, there was an expectation that through the constant comparative approach to the collection and analysis of data, theoretical sampling would thereafter lead the researcher to further participants and thus a progressive research sample until data saturation occurred i.e. the actual sample could not be fully predetermined and would be dynamically led (Kenny and Fourie 2015). Initial purposive sampling therefore enables the researcher to select participants who can contribute to the development of the explanatory theory (Creswell 2013). According to Charmaz (2006) this initial sample determines where the research starts, subsequent constant comparative analysis and theoretical sampling determines where the research goes. Theoretical sampling, according to Birks and Mills (2011) is a means by which grounded theory is unique in comparison to other approaches and enables the researcher to explore emergent concepts as a process of concurrent collection and analysis (constant comparative analysis (McCann and Clark 2003)) proceeds. As such, these unique characteristics mean that the researcher cannot know the nature or type of data that will inform their theory, the actual type and number of participants included in the final sample and when or where data will require being collected (Birks and Mills 2003). For example, in the course of this study it was possible that, dependent upon data collected there may have been a need to interview significant others e.g. practice mentor, practice education facilitator, newly qualified

nurses. Such a change in participant would of course potentially necessitate ethical approval from additional committees or bodies. However, in the initial stages of data collection purposive sampling focused upon final stage preregistration nursing students. This, as is documented later in this thesis, proved to be a critical challenge.

3.5.2 Access to participants

While ethical approval had been provided by ethics committees in each HEI (see appendix 3 and 4), access to students was also then discussed with relevant academic staff at each HEI e.g. course leads and heads of department to ensure permission was granted to access students. From each of the HEIs where ethical approval had been confirmed, information was then provided in the form of an e-mail via student university e-mail, inviting students to participate in the study. This invitation included written information about the purpose of the study and the proposed method of data collection. This was followed up with further e-mail requests when no participants initially volunteered. In the case of one HEI this may have coincided at time in which the students were either on clinical practice placements and thus less inclined to view their university e-mail as regularly as usual or were focused upon final assessments.

The initial request for participants in the HEI in the north of Scotland took place in the latter part of 2016 when students were studying in the university. Disappointingly, no participants came forward from the final stage cohort. A further attempt to recruit participants was repeated with the cohort following this in 2017 and two students from the adult nursing degree programme consented to participate in interviews. Unfortunately, two further students who had expressed an interest to participate withdrew prior to interview. With concerns related to the lack of participants and following discussion with the researcher's supervisors, it was agreed that one further attempt to recruit students from the final stage of a preregistration nursing honours degree at the HEI in the north of Scotland would be undertaken in early 2018. This was a small cohort of around 12 preregistration B Nursing (Honours) students who were entering the final phase of their programme and completion of their dissertation. While some interest in the study was initially expressed through a face to face communication with the cohort, ultimately none of the students participated in interviews, some citing academic workload as a reason.

Access to students in the HEI in the south east of England was supported by an academic member of staff who acted to circulate information to students in the final stage of their programme who may be interested in participating. Again, the students were provided with written information about the study

as well as a consent form if they were willing to participate (see appendices 5 and 6). Ethical approval had been sought at this HEI in the earlier part of 2017 and four students consented to participate in the study. All were in the final stage of their nursing programme, two studying adult nursing and two studying mental health nursing. As a result of logistics and practicalities of the geographical distances involved, a focus group was organised to obtain data from these students.

The two students who participated in in-depth one to one interviews in the HEI in the north of Scotland were female while four male students took part in the focus group interview in the HEI in England.

3.5.3 Context of the study

The study was undertaken between 2016 and 2018 and focused upon undergraduate or postgraduate preregistration nursing students in the final stage of NMC approved programmes. Early commencement of data collection was considered important so that, with the adoption of grounded theory, the timeline related to data collection, constant comparative data analysis and further data collection was appropriate (Bruce 2007). In both HEIs students were about to complete a full cycle of an NMC approved programmes based on the Standards for preregistration nursing education (NMC 2010). Students at the HEI in the south of England were enrolled on an accelerated two - year MSc (postgraduate/preregistration) course while students in the HEI in the north of Scotland were enrolled on a three - year Bachelor degree (undergraduate/preregistration course). The researcher at the time of the study was a senior member of staff at an HEI in the north of Scotland. The study was undertaken as part of the requirements of a Doctorate in Professional Practice programme. No conflicts of interest were declared and the research did not receive any external funding.

3.5.4 Data Collection

Although acknowledged at first sight as having little direction in data collection techniques (Hunter et al. 2011), grounded theory adopts an empirical rigorous process which at its hub has constant comparative analysis. Data within the proposed study was collected via focus group interview and individual interviews, conducted in the participant's place of study/work as recommended by Wimpenny and Gass (2000). Differing options in interviewing are discussed later in this chapter. It is acknowledged that conducting the focus group interview was informed partly by logistics and practicalities of geographical distance.

Firstly, the researcher developed a checklist prior to interviewing, ensuring that the venue in the HEI was appropriate in terms of its privacy and comfort for participants. As one of the interviews was a focus group facilitated via Skype (see 3.5.6) there was need to ensure the venue supported the use of Skype, had appropriate audio - visual technology and in addition an e-learning technical support officer

was available on stand - by to trouble shoot any technical difficulties. Appropriate sound and audio checks were conducted prior to commencing this interview and a research assistant was present in the HEI with participants during the focus group to ensure support was provided should there be any issues during the interview e.g. loss of audio and/or visual, deterioration of sound quality or loss of internet connectivity.

Duffy, Ferguson and Watson (2013) also highlight the need for the researcher to ensure they arrive at the room in good time prior to the commencement of the interview, ensuring that all digital/technological equipment is working and tested, having copies of information sheets and consent forms for participants as well as ensuring no potential interruptions are likely by applying labelling to the venue entrance. In addition, the venue should be appropriately arranged for both face to face and Skype interviews in terms of the arrangement of chairs, tables and the availability of water for participants. Duffy, Ferguson and Watson (2013) also highlight the essentials of the need for appropriate information for participants, having an interview guide e.g. what initial questions will be used and what the interview will entail. At the conclusion of the interview participants were asked if they would be willing to be interviewed again. Although participants indicated that they were willing, the researcher was unable to recruit the students to a second interview. Notes and memos were written by the researcher on completion of the interview. Fuller memos and notes were compiled on completion of the interview. During the interview the researcher noted only key words or statements to prevent distraction or interference with the interview itself (Doody and Noonan 2013). The researcher also considered it disrespectful and unethical to focus on note taking at the expense of facing and focusing on the interview participant (s). These memos were reflections on both how the researcher perceived the interview data as well as some initial and pre - analysis thoughts about the conversation and the information provided by participants. An extract from one such memo is provided written in a personal journal following the first focus group interview:

“This first interview is already highlighting distinct issues in practice learning from the perspective of these final stage students. Not only does there seem to be little indication that there is learning related to research and evidence-based practice but it seems that practice placements are seen as task orientated and doing a job by these students!”

(Post focus group memo extract)

Memos were also used to assist, making the researcher more sensitive to his own assumptions. While the volume of data was less than had been initially anticipated, memos were recorded from the start of the data collection process as a) at this point the challenges of collecting data at later stages was not known to the researcher and b) memos are seen as an integral part of grounded theory from the initial analysis and continue throughout the research process. These memos enabled the researcher to

record his ideas, thoughts and feelings to initially reading and coding the interview data and where appropriate some of these memos are presented as part of the findings. The use of memos was also found to enable the researcher to be reflective and aware of any prior assumptions related to any issues highlighted by participants in the interviews.

“The focus is to explore with the students their experiences in practice placements and to identify how they interpret these experiences. It is also important to remain open minded and to be guided by the student’s responses. Prior knowledge related to education and approaches to teaching and learning as well as the reported barriers to EBP implementation is prior knowledge and I need to be careful not to explore my assumptions related to the problems related to research use by professional nurses. Be led by the students”

(Pre - focus group memo extract)

Memos are widely discussed in the literature related to qualitative research and grounded theory. These are considered important not only in remaining open to the interview responses but in awareness of the researcher’s personal views and opinions toward what had been shared. Memos are a personal reflection upon thoughts, emotions and feelings (Birks and Mills 2011). Charmaz (2014) emphasises memo writing as a critical intermediate step between collecting data and writing up findings and results/outcomes. In this study, the researcher kept a note of thoughts relating to the planning of steps in the research process, feelings related to unforeseen events as well as when reflecting upon the interviews themselves. Memos were also used to analyse data early in the data collection process as well as in helping make sense of codes and comparison of data between interviews. In specific relation to this study the researcher followed the recommendations of Birks and Mills (2011) to the what, when and why of memo writing. An example of memo writing in data analysis is presented in appendix 7. The researcher was attracted to these recommendations as they do not apply to one specific phase in the research process e.g. data collection and data analysis but to all stages of the research from feelings and assumptions about the research, the researcher’s philosophical position, reflections upon extant literature, actual and potential issues related to the research, reflections upon factors which impact upon the quality of the research, analytical processes and coding. Written reflections upon extant literature for example enabled the researcher to think critically about the outcomes of previous research, questions the researcher asked of self, prior assumptions and acknowledgement of limitations of previous research which Thornberg (2011) proposes assists the researcher to draw focus to potentially relevant and/or important characteristics of the data that they collect. Appendix 8 provides an example of a memo, written on reflection of the phase 2 literature review.

Applying the considerations provided by Birks and Mills (2011) enabled the researcher to keep a personal hand - written note through all stages of the research study, the problems encountered in

this study and the impact on quality, evidence of reflection and learning on the researcher's behalf. Memos have informed all parts of this thesis and although not always explicated verbatim, the researcher has at all stages attempted to convey an honest and reflective style where appropriate to evidence the influence of these memos.

Interviews were unstructured, starting with a broad, open question related to the area of study (Doody and Noonan 2013). As the focus group interview was the first, prior to subsequent individual interviews, it commenced by asking a broad open question "Can you describe a typical day in your practice placement?" Subsequent individual interviews were informed by the emerging codes and categories from this focus group interview. Each interview required coding prior to the next so a cascade of new data can inform subsequent interviews. Saturation represents the point by which a comprehensive set of constructs inform the theory and are represented through the data (Starks and Trinidad 2007). It was therefore not possible at the early juncture in the study to determine the final sample size drawn through theoretical sampling.

3.5.5 Interviews as a method of data collection

There are a number of data collection techniques which are advocated in grounded theory research. These are drawn from both quantitative and qualitative approaches, including questionnaires, interviews, documentary evidence as well as observational techniques i.e. a broad range of data collection techniques that can be used individually or in combination in grounded theory studies (Charmaz 2014). As Allan (2003) states, data collection is mainly, although not exclusively, by interview. This is reiterated by Birks and Mills (2011) in stating that the value of adopting the interview as a means of data collection is reflected in the extensive array of studies that have used the interview as a means of generating data. Both focus group and individual interviews were used in this study to explore the experiences and views of participants.

In research, interviews provide a key method by which in - depth qualitative data can be collected (Maltby et al. 2010). This applies to a range of qualitative methodologies e.g. phenomenology and grounded theory, albeit with closer scrutiny, the initial selection of interview type and subsequent development of interview focus can differ between those methodologies which seek to explore and describe the experiences of individuals to a given phenomenon e.g. phenomenology and those which seek to develop theory e.g. grounded theory. There are distinctions in the types of interview which researchers select namely, structured, semi - structured and unstructured (Maltby et al. 2010) as well as the format of the interview for example individual or focus group interview. Structured interviews, although more likely used in quantitative research (Streubert - Speziale and Carpenter 2007; Achora and Matua 2016), are ones whereby the researcher determines preselected questions which they want

participants to answer. In terms of the philosophical position of the researcher, this approach was considered to be researcher rather than participant focused and therefore separates the researcher from those who are researched and does not consider the individual, subjective realities that individuals may experience in the context of any given phenomena. Such a data collection method was therefore not appropriate in this study and this is reiterated in the literature related to data collection techniques in grounded theory (Birks and Mills 2011; Charmaz 2014).

Semi - structured interviews provide researchers with a flexible way of approaching interactions with participants whereby the researcher enters the interview with a predetermined range of topics which are explored but led by the responses of the interviewee in which the topics may not be covered in any particular order (Maltby et al. 2010). Doody and Noonan (2013) refer to semi - structured interviews as a flexible approach that the researcher adopts an open question approach which also allows exploration of any new paths or areas that may emerge in the course of the interview. Therefore, the researcher is able to ask additional questions as well as adapting the wording and order of questions dependent upon responses provided by interviewees. In the context of the intended grounded theory study it was recognised that interviewing becomes more focused as analysis of initial, earlier interviews progresses as the researcher explore emergent categories and concepts (Wimpenny and Gass 2000). The researcher therefore planned to adopt a more semi - structured approach both in the constant comparative analysis to that which sought to reach a point of theoretical saturation.

Unstructured interviews are the most preferred data collection method in qualitative research, enabling the interview respondent to freely discuss their experiences with little influence exerted by the researcher in terms of the uninterrupted nature of the discussion (Streubert - Speziale and Carpenter 2007). As Birks and Mills (2011, p75) contend, imposing a greater level of structure to the interviewing of respondents means the researcher is limited in allowing the interview to take an optimal route and less structure is advantageous from the point of "following where the conversation takes you".

Irrespective of which type of interview is applied to the collection of data, as Wimpenny and Gass (2000) support, the explicit description of the selected method of interviewing is seen as essential in not only demonstrating credibility via a clear audit trail but also in showing that the chosen data collection method is congruent with both the research question and the chosen methodology. Within this study both focus and individual interviews were used as a method of data collection. While the initial plan was to conduct individual interviews guided by the constant comparative analysis of data and thus moving from unstructured to semi structured interviews until saturation was reached,

significant challenges in the recruitment of participants resulted in a more opportunistic and realistic approach being taken.

Focus groups are a method by which a number of participants engage in discussion related to experiences, perspectives or thoughts to a specific topic (Maltby et al. 2010). Baillie (2019) states that focus groups facilitate discussion through interactions between interviewees. Maltby et al. (2010) suggest that the focus group interview encourages more free flowing discussion and as such are a good method of obtaining rich data as the participants not only describe their own experiences and perceptions, but also engage in responses and discussion to others perspectives. Baillie (2019) also contends that the focus group may create a more social environment in which participants interact in a way to provide data which would not be obtained via individual interviews. From the researcher's previous experience of conducting focus groups, this method also stimulates individuals to provide experiences and perspectives which may not be as obvious to them if under individual interview conditions. It is acknowledged that focus groups can lead to dominance of individuals or groups of individuals (Traynor 2015) and therefore the researcher reflected upon prior experience and also read around moderation skills to enable the avoidance of hierarchical responses. Moderation skills encompassing awareness to ensure all participants in the focus group had opportunity to contribute were applied (Traynor 2015).

"It is important given the challenges of recruitment in the study that all students in the focus group are given the opportunity to contribute and share experiences. Remember the simple statements – perhaps we could hear from the students who haven't shared their experiences yet"

(Pre -focus group memo extract)

The interview guide was modified slightly in the individual interviews as concepts emerged during analysis of data from the focus group (Birks and Mills 2011). No pilot interviews were conducted prior to the focus group or individual interviews. This is recommended, particularly for novice researchers. Having had prior experience of interviewing and given the lack of engagement from potential participants in the study it was felt that there was no scope to conduct pilot interviews as recommended by Charmaz (2014). Like Duffy, Ferguson and Watson (2004), Charmaz (2014) advocates the development of interview guides for in-depth interviews aimed at novice researchers in grounded theory, thinking through the types of questions which enable the researcher to meet the intended aims and objectives of their research questions. While such an approach may seem to be at odds with the philosophical principles underpinning grounded theory i.e. preconceiving interview content, Charmaz (2014) indicates that this simultaneously focuses the interview on the topic of interest while facilitating a conversation which allows the pursuit of new topic related areas, insights and perspectives which were not predictable at the outset. The development of broad open - ended questions which are non-

judgemental encourages the important unexpected responses and personal stories to emerge (Charmaz 2014).

While recruitment to the data collection phase of the study continued to be problematic the question of how many interviews crossed the researcher's mind. While the use of interviewing in theoretical sampling leads to the refinement of areas of focus as interviews progress the notion of how many interviews is a contested point amongst grounded theorists (Baker and Edwards 2012). While there appears to be little consensus relating to the number of interviews required, in grounded theory the researcher seeks to saturate categories rather than data and as such although aiming for a large sample size may enable this to occur, likewise having a significantly large amount of data does not guarantee that an original contribution to knowledge will be achieved (Charmaz 2014). Equally as Charmaz (2014, p108) states, "a small sample can produce an in-depth interview study of lasting significance". The significance and impact of the study can be dependent upon the initial research questions, the conduct of the study and the manner in which the researcher constructs and presents their analysis.

"I am concerned about the lack of participants coming forward for interview. I worry that the lack of data will impact adversely on my intention to develop a theory which explains the dynamic nature of learning in practice (is it dynamic, why do I think this?). Does the title of the project not connect with these students? Is this in itself significant? Sharing my concerns with others - remember it is what you do with the data you do have that is important. On the other hand I could collect a large volume of data and not use to good effect"

(At a difficult point between focus and individual interviews memo extract)

While it was initially hoped that further focus group interviews could be conducted in the HEI in Scotland a number of students who had initially expressed an interest and willingness to participate withdrew before interviews could be scheduled and thus only two preregistration student nurses remained as those who had consented to be interviewed. Given the small number, it was inappropriate to facilitate a focus group with only two students and thus in - depth individual interviews were scheduled instead. Baillie (2019) outlines the rationales for supplemental interviews of differing type and in doing so provides justification for circumstances where focus group approaches may be supplemented by 1:1 approach. Bourke (2014) provides an example in their study of the issue of race in higher education whereby the primary data collection method, focus groups, had to be supplemented by individual interviews. As Baillie concludes, focus groups provide the researcher with opportunity to collect rich data however participation can be fraught with challenges such as being able to recruit adequate numbers of participants and so in such an eventuality, individual interviews may be added to include individual perspectives.

3.5.6 Interviewing – use of online technologies

As Salmons (2012) states, as opposed to quantitative research where a data collection instrument or tool is purposively placed between research and participant, the purpose of qualitative research is for the researcher themselves to act as the primary data collection mechanism.

Given the geographical challenges involved, the first focus group interview was conducted via online technology, specifically Skype. This was particularly helpful in that the use of Skype enabled the coordination of four students, who were undertaking clinical placements in differing locations, to come together at a mutually convenient time. Technologies such as Skype have resulted in researchers being able to overcome challenges related to the disparate geographical locations of the researcher and participant (Sullivan 2012). The growth in the use of online technologies in interviewing is well documented (Collard and van Teijlingen 2016). Indeed, the potential for online interviewing is reported beyond the data collection stage in research methods to its potential for consensual data analysis (Quartioli et al. 2016). Irrespective of ongoing debate around the advantages and disadvantages of conducting interviews via technology, internet mediated research (IMR) and the use of software to conduct online interviews has emergent benefits (Deakin and Wakefield 2014). Oates (2015) concurs in stating that IMR or online research methodology, OMR, as they term it is becoming more accepted given the role that the internet and digital technologies have in society from individuals' personal and professional lives.

One of the key benefits of adopting IMR is primarily one of being able to access difficult to reach groups e.g. by geographical distance, hard to reach areas or in cases where sensitive subjects may be explored and risk embarrassment in traditional face to face interviews. Key to gathering in depth quality data from interviews is the ability for the researcher to build and establish rapport with participants. Indeed, in an earlier study Deakin and Wakefield (2014) found little difference between IMR and face to face approaches in assisting in the building of rapport. In a paper analysing two approaches to focus group interviews as a means of data collection, Flynn, Albrecht and Scott (2018) concluded that both in person and online videoconference techniques (although distinctly different) yielded rich data, strong participation rates and cost effectiveness. Indeed, Kite and Phongsavan (2017) reported that online technologies (citing videoconferencing as an example) has the potential to not only support the enhancement of sample size but can achieve a level of interaction comparable to face to face focus group interviews. Without the use of online technology this study would have further compromise in regard to the recruitment of participants to the study.

In their own study related to mental health and subjective well - being in mental health nurses, Deakin and Wakefield (2015) reported on the benefits of a broad range of geographical regions being accessed

by facilitating interviews via Skype, more so than if a face to face format had been the only option. Furthermore, the authors also reported on the fact that the use of Skype enabled a broader range of professionals to be included, some of whom may not have been able to participate otherwise. While asynchronous technologies such as chat rooms have the benefit of enabling enhanced levels of anonymity for participants as well as the ability to host such an exchange over a longer period of time (Collard and van Teijlingen 2016), synchronous approaches adopting voice over internet protocol (VoIP) technologies address some of the reported problems with written/chat room based approaches i.e. limitations in the ability to observe nonverbal communication and the issue of discussion flow with the potential for participants to type over one another thus inhibiting a discursive interview (Collard and van Teijlingen 2016).

The researcher ensured that the focus group interview commenced with an assurance around confidentiality as well as a recap on the broad purpose of the interview. All participants had consented to take part in the study but reassurances were sought from the group verbally as part of the focus group interview. Indeed, as Rivaz, Shokrollahi and Ebadi (2019) remark, the ethical aspects of using IMR adopting synchronous VoIP technology in focus groups are the same as those applied to the conducting of individual interviews including full written information and requests for written consent as well as emphasising the opportunity for participants to withdraw from the interview at any time. In accordance with some of the reported challenges in the use of internet - based focus group interviews (Smith 2014) it was anticipated that there may be potential for initial technical issues in setting up online interviews and this allowed for additional time as agreed with participants in the focus group. Furthermore, the presence of an impartial member of academic staff at the HEI at which the participants were based provided some assurance of technical support at all stages of the focus group interview. Technical support was also available throughout the focus group interview within the researcher's HEI. The focus group interview was recorded in an audio format via an MP3 digital recorder which worked well. Notes were taken throughout the interview by the researcher in regards to any significant non - verbal communication during the discussion which seemed minimal and may have been attributable to the format of the online interview compared to if it were conducted in a face to face approach. The use of technology such as software systems like EVAER® as recommended by Lo Lacono, Symonds and Brown (2016) was not adopted which limited the ability to attain an audio and visual account of the interview.

Morgan and Lobe (2010) and Collard and van Teijlingen (2016) recommend that an online focus group has between 3-6 participants, lower than a face to face equivalent (6-8) for this purpose. In addition, focus group size according to Morgan and Lobe (2010) in synchronous online technologies should also take into consideration the likelihood of the participant's level of attachment or engagement to the

subject area under discussion with a smaller sample size advocated where there is expectation that the subject will evoke in depth discussion which was the experience of this VoIP focus group.

Creswell (2013) recommends that there should be a least two validation procedures applied in data collected in qualitative interviews. These are triangulation of data sources, provision of a thick description to describe the context and settings in which the study took place and member checking. To achieve trustworthiness data were analysed independently by a fellow academic and analysis cross checked with the researcher's own analysis of the data. Secondly, the researcher provided a 'thick description of the context and settings in which the study took place' both within the researcher's own HEI and the participants who took part in the focus group in the HEI in England.

3.5.7 Data Analysis

The transparent analytical process as advocated by Strauss and Corbin (1998) consisted of coding of the data from verbatim interview transcriptions word for word. It was proposed that data would be subject to three key stages; open coding of each transcript (categorisation), axial coding (arranging data so as to ascertain relationships and patterns within the identified categories) and selective coding or identification of the core category (Strauss and Corbin 1998). According to McCann and Clark (2003), open coding is a process of categorising data by assigning codes to patterns in the raw data. Axial coding is the technique whereby the data is reviewed and reorganised so as to group categories and make relevant links.

Analysis of data in grounded theory adopts a coding process similar to that of content analysis (Allan 2003) in which the researcher identifies words and phrases which highlight an issue of importance to the participant. Creswell (2013) defines coding as a systematic process, in which specific elements of narrative are categorised so meaning can be elicited from the data. To identify the significance of such issues, the researcher describes this in the form of short phrase known as a code (Allan 2003), the process of doing so referred to as coding. While the process of coding is undertaken with a mind free from awareness of extant literature in Glaserian grounded theory (thus avoiding what is referred to as avoidance of forcing extant literature upon the data), Straussian and indeed Charmaz's iterations of grounded theory advocate an open mind rather than one completely free of prior knowledge. In grounded theory, analysis of data commences with the first interview, in this case the focus group interview, rather than in other research methodologies where the researcher waits until all data is collected prior to subjecting it to analytical tools (Wimpenny and Gass 2000; Duffy, Ferguson and Watson 2004; Dunne 2011). It has been proposed that the emergence of a theory which is grounded in the data can take place as soon as concepts and categories are identified. In Glaser's (2002) mind, categories themselves can be established from a single concept if it is of sufficient significance.

Initial open coding therefore comprises the first step in the analysis of data (Birks and Mills 2011). This involves the application of codes that are resultant from the text of the interview transcription. Strauss and Corbin (1998) suggest that open coding is the process of applying codes to similar concepts within the data. Open coding uses words, phrases and statements from the data to develop these concepts (Feeler 2012). Blair (2015) critically reflects on this point and asserts that openness and independence are questionable. Strauss and Corbin (1998) provide guidance in suggesting that the researcher should trust their gut instinct when analysing data. The data from the first focus group interview was analysed using this approach, revisited on numerous occasions to look for significant words and phrases and thus emergence of codes. The resultant codes were reviewed and compared with and in informing subsequent individual interviews. Appendix 9 provides of line by line coding utilising the techniques outlined by Strauss and Corbin.

Within this study the data was deemed sufficiently rich to enable initial open coding to lead to the formation of categories/themes. As Strauss and Corbin (1998) point out, recording and reporting procedures makes the researcher more able to demonstrate how interpretations from the data were reached. Furthermore, Strauss and Corbin (1998) state that in doing this, the researcher can be more confident that their interpretations of the data are grounded and not preselected from extant literature or drawn from personal experience alone. Initial open coding was a lengthy process where the researcher analysed transcripts line by line and labelled or assigned codes (see appendix 9). This opened up the data, identifying potential codes within the overall transcript and enabled the researcher to identify noticeable phenomena and emergent themes as well as the ability to make a comparison of the codes applied to the data (Birks and Mills 2011). The first attempts to do this during early analysis of the data led the researcher to produce pages of labels/codes (from the focus group alone, this resulted in more than one hundred initial labels/codes). Analysis of the focus group interview and the identification of labels and codes in some segments of data, informed labels and codes apportioned to the individual interviews, thus enabling the researcher to see emerging comparisons. On repeated reading and analysis of the data, the researcher was able to merge codes or labels and thereafter group some of the earlier codes or labels under one concept or theme thus reducing the range and number of concepts. For example, the participants reference to the role and influence of different professional groups in directing how healthcare is delivered on a specific evidence base included labels and codes such as "Authority", "Hierarchical", "Respect for specialists", "Domineering" and "Seeing specialists using EBP" leading to these open codes being grouped within a conceptual heading into the category "Power and authority in practice". The researcher felt that the essence of the data provided by participants in specific aspects of the interviews merited the topic of discussion being assigned as a category in its own right (Strauss and Corbin 1998). As Strauss and Corbin (1998, p114) contend such

categories are reflective of concepts, grounded in the data which represent phenomena, phenomena being imperative analytic ideas that come out of the data answering the researcher’s question “What is going on here?”. Categories and phenomena reflect issues, concerns and experiences which are important to participants and the researcher must be mindful to apportion a name for a category which represents a pragmatic and clear description of what is happening (Strauss and Corbin 1998). Allan (2003) reports upon the challenges of applying Strauss and Corbin’s coding process in terms of its time - consuming nature as well as the risk for the analysis of data to be lost in the word for word scrutiny. In terms of this research study the limited volume of data that was collected was subjected to Strauss and Corbin’s coding process and in retrospect had more data been collected then the time - consuming approach may have been challenging if indeed impractical. In retrospect it was felt using Strauss and Corbin’s also subjected the limited data collected to a more in - depth approach. Codes were then analysed and those which related to a common theme were categorised together. While normally these common themes inform the establishment of concepts; concepts are grouped by virtue of commonalities (categories) to inform the emergence of a theory grounded in the data, in this study insufficient data were collected to establish this. The study did however realise the identification of codes and by virtue of commonalities identified, concepts and thereafter categories. An example, illustrating the relationship between codes and conceptual headings into categories is also presented in figure 3.

<p>Category/theme – “Experiencing Practice”</p> <p>Codes</p> <p>“Fitting in”, “Focused on tasks”, “Lack of time”, “Surviving”, “Following orders”, “Doing a job”, “Playing the game”, “Separate worlds”, “Moving on”, “no connection”</p>	<p>Category/theme – “Professional role of the nurse”</p> <p>Codes</p> <p>“Boots on ground”, “Lack of autonomy”, “Challenge for nurses”, “Doing a job”, “Limited opportunities”</p>
<p>Category/theme – “Power and Authority”</p> <p>Codes</p> <p>“Authority”, “Hierarchical”, “Domineering” “Seeing specialists using EBP” “Respect for specialists”</p>	<p>Category/theme – “Education”</p> <p>Codes</p> <p>“Understanding EBP”, “Having relevance”, “Valuing university”, “Idealism and realism”</p>

Figure 3: Relationship between open codes and categories/themes

3.5.8 Ensuring trustworthiness in Grounded Theory research

Trustworthiness in the context of this discussion is defined as the application of recognised frameworks in ensuring rigour in qualitative research (Shenton 2004). The four criteria within the framework to ensure rigour was evidenced in this study were credibility, transferability, dependability and confirmability. The research adopted and justifies the method and methodology as a means of addressing the research questions (credibility). The thesis seeks to provide a context related to the fieldwork (transferability). Within this study, the researcher strived to do this to present a clear, pragmatic and unambiguous account of the method (dependability). To evidence confirmability the researcher did so by independently and blindly sharing and validating themes from the transcripts with a research colleague. Finally, the use of verbatim quotations from the transcripts served to illustrate how the findings are grounded in the data provided by participants.

As a unique approach in qualitative research, there are key issues to ensuring trustworthiness in grounded theory. Glaser and Strauss (1967) in the origins of grounded theory state that trustworthiness (credibility) of the data analysis is achieved in itself via the constant comparative process of returning data to participants as interviews move from unstructured to structured as open and axial coding take place, akin to iterative questioning as outlined in Guba's Four Criteria for Trustworthiness (Guba cited in Guba and Lincoln 1994). Indeed, the provision of clearly documented procedures and methods, the clear provision of relevant background information/literature, detailed description of the methods adopted and use of memos has been applied and in doing so address each of the four criteria i.e. credibility, transferability, dependability and confirmability respectively.

3.5.9 Ethics and ethical approval

Ethical approval is an essential step in ensuring that research adheres to appropriate principles and standards. This includes not only to the process of applying for ethical approval but in all subsequent stages of the research study (Shaw 2016). Ethical approval was sought from the relevant ethics review committees within the HEIs as providers of undergraduate preregistration nurse education. Furthermore, the research degree, being registered at Robert Gordon University was subject to annual research degree review and research ethics.

To help guide the consideration of ethical principles within the study, an ethics checklist for qualitative research was adopted (Streubert - Speziale and Carpenter 2007). The checklist guides the researcher through a series of questions related to topics including; phenomena of interest, review of the literature, research design participants, sampling, data generation, data analysis and conclusions and recommendations. The researcher felt that the use of such a checklist ensured a comprehensive

consideration of ethics throughout all stages of the study (see appendix 10 for an illustration of the ethics checklist). The researcher also felt that the use of the checklist addressed the key principles of ethical research. While full reference to the checklist is made in appendix 10, a review of the guiding questions assured the researcher that:

1. The research study was relevant and appropriately and justifiably explored via a qualitative approach with a full rationale for the study provided to participants in the participant information sheet (see appendix 5 and 6), the research conducted for nothing other than the good and enhancement of nurse education.
2. The study is contextualised and rationalised through a comprehensive review of extant literature published between 1998 and 2016.
3. The study was approved by relevant ethical committees and steps to protect the physical and psychological wellbeing of participants explicated. All participants were provided with full written information about the study and informed consent obtained prior to interview.
4. No inducement or coercion was involved in the recruitment of participants and the confidentiality of all participants was protected at all times.
5. Data collection methods were explicit, participants were given full information about the general purpose of the study, interviews adopted an open and unstructured approach to minimise bias and the researcher has provided a detailed account of the methods adopted in the study as well as keeping hand written notes and memos to ensure trustworthiness of data. Additionally, another researcher independently validated analysis of the data.
6. Data analysis was undertaken by the researcher and included all data collected using a validated data analysis technique.
7. The study conclusions and recommendations are grounded in the analysis of data collected, reflective of the perceptions and experiences of participants with no violation of confidentiality.

Beneficence, being concerned with the duty to do good, and non - maleficence, the duty to do no harm (Tschudin 2003) are key considerations in the design of a research study and all potential participants were protected from harm at all stages with consideration given to potential support mechanisms should they become emotionally distressed during the data collection process. Referral to the relevant personal or course tutor was assured if they became concerned or upset at any point in the interview. Beneficence can be considered in terms of the utility of the research i.e. its value and contribution to

knowledge and understanding (Oliver 2003) and this was addressed by providing a full and detailed rationale for the study presented to the ethics review panel and further elaborated upon in the earlier chapters of this thesis.

Furthermore, participants were provided with full information about the study and the requirements around full informed consent were addressed e.g. each participant was provided with written information about the study and asked to sign a consent form detailing their willingness to participate but also their awareness of the right to withdraw at any time (see appendix 5 and 6). This addressed the principle of autonomy. Confidentiality was maintained at all stages in the study with narrative data from interviews being kept in a secure place conforming to the Data Protection Act (1998). As the interviews were digitally recorded the audio files from all interviews were stored on the hard drives of a desk top PC and a laptop, both of which were secured by password protection. A mobile storage device which had been used to store audio files as a back - up was stored securely along with paper records related to the data collection stage. The only third parties which were permitted to have access to the digital audio files and transcriptions were those directly involved in the study, one of whom did so to validate the researcher's analysis of the data. The data itself was transcribed verbatim and no attempt was made to alter or amend this - in the very few points in one interview (focus group conducted via Skype) where audio quality prevented verbatim transcription the section of the sentence was left blank and marked inaudible and no attempt made to predict what might have been stated. Additionally, at no place in the presentation of findings were individuals able to be identified and names were protected, substituted with the use of numerical codes.

The researcher firstly submitted ethical approval an HEI in the north of Scotland in April 2016. Ethical approval was granted before final stage nursing students at the HEI were provided with information about the study and an invitation to take part in an individual interview. Ethical approval was granted by the HEI in the south of England and via a contact at the university, final stage students were provided with information about the study and the invitation to participate

Chapter Four: Findings

4.1 Introduction

This chapter presents findings from the analysis of data from the interviews which were conducted within the study.

4.2 Themes identified from analysis of the data

Prior to presenting the findings from each interview an introductory contextualisation of the main categories/themes which emerged from the analysis of data is discussed. This serves to give a flavour of the main issues related to each theme/category from the perspective of students. Analysis of the data from the interviews led to the identification of four key categories/themes including; *“Experiencing practice”*, *“Perspectives on professional nursing”*, *“Power and authority in practice”* and *“Education”*. Each of the categories/themes are presented as they were situated in each of the interviews conducted – the level of presence of each theme varied across the interviews with some evidencing more emphasis than others. However, through coding and comparison these were seen as the key themes by the researcher and reflected those identified through validation of the data by an academic colleague, albeit with confirmatory descriptions of the category/theme determined by the researcher.

“Experiencing practice” related to the participant’s perspectives on support for and learning in practice. This highlighted a range of key issues notably the perceived separation between learning in practice and learning acquired within the university. EBP, for example, appeared to an integral part of university education. However, the reality of practice learning was that it was either unclear how it was being applied in healthcare, acknowledged as not happening at all or students themselves undertook an independent proactive approach to seeking knowledge related to their care experiences in practice. This negated the role of mentors and others supporting learning in practice. In addition to this, there was a sense of students feeling that practice placements were a transient experience and moving between placements presented variation in experiences with some positive and some less supportive. Indeed, in the focus group interview this was couched in terms of there being “different worlds”. Making this more challenging was the perception of fitting in and the perceived lack of time for health professionals and mentors to spend time with students, the perceived priority being that of the student “doing a job” and the experience being one which was driven by the need to undertake and achieve a range of tasks.

Indeed, some students recounted bad events in practice placements which led to a range of compensatory mechanisms such as “ticking the box”, “playing the game” and “trading off” to simply meet the requirements of the practice assessment and move on. While the overriding observation was one of experiencing practice as a challenge, there were some examples where professionals in practice supported student learning about EBP and the importance of research in practice e.g. lunchtime seminars and in the justification for particular approaches to practice. However these were sometimes opportunistic and not consistent for all students. Additionally, this sometimes appeared to be dependent upon the student being proactive in seeking learning and in feeling able to ask pertinent questions about aspects of care in which they participated. In one case, the student recognised the difficulties in nurses articulating how they approached care when based on tacit knowledge gained through experience. Access to resources to actively engage in EBP learning during practice placements was also experienced by some students in terms of difficulty accessing information technology.

“Perspectives on professional nursing” was a particularly strong theme/category emerging from the focus group interview and one of the individual interviews. For example, the focus group sensed through their experiences that there was a distinct hierarchical structure within nursing, comparing some at lower levels of grade/career structure as “boots on the ground” who “turn the hand” and have little influence over EBP and decision making compared to those in more specialist or more senior roles (particularly reference to senior nurses, nurse specialists and doctors). This served to challenge students as prospective registered nurses to question the point of learning about and attempting to apply EBP when it was perceived that this ability would not present itself until one had assumed a more senior role within the profession i.e. something that was not immediately relevant to the earlier part of their career.

“Power and authority in practice”, closely related to perspectives on professional nursing, was a theme/category in the focus group interview. Here there was a differentiation from *“perspectives on professional nursing”* in that students identified a perceived lack of autonomy and ability for general nurse (qualified as band 5 or 6 nurses) to influence change. The perceived prominence of care pathways assumed that someone in higher authority translates evidence into a form which is then followed in practice by general nurses, thus promoting a subservient culture in practice where general nurses follow prescriptive approaches to care with the focus being on doing a job with little scope for discussion around the evidence informing practice. While reporting highly enjoyable and engaging approaches within the university setting, the experiences in practice placement, led to some students questioning the point of learning about EBP.

“Education” was deemed to be a relevant theme/category from the analysis of data in that many students reported on some of the positive impacts that learning within university had upon their development as well as suggesting how this may be enhanced further. In addition, some students were able to identify with experiences which had assisted in their conceptualisation of EBP, developing skills related to EBP as well as some of the personal attributes and qualities developed as a result of education in practice and in the university setting.

4.3 Focus group interview

4.3.1. Experiencing practice

The focus group interview commenced with a discussion exploring what a typical day in a practice placement was in terms of the student’s experience. Four students participated. The discussion revealed that it was important for students to perform in the placement in a way which provided benefit to the placement in terms of providing patient care, while recognising personal limits, fitting into the environment (a recurring theme from participants) but ensuring that learning took place as well.

“So, it's trying to be useful, talking to your tutor, so it's trying to get the right mixture between learning something, delivering something useful, to learn something so it's getting the balance right and fitting into the environment as a student and learning about what is going on around you.” (Student 1)

Reference was made to the importance of recognising the role of the mentor or registered nurses in providing support to students to facilitate their learning and acting as a “go to” in instances where the student encountered aspects of practice out with the scope of their knowledge.

“I would say that on a good day I would arrive and speak to my mentor for that day and would work out what my own responsibilities were so I would hopefully start the day knowing where my limits are and what was expected of me during that day and I would carry out that responsibility to the best I could and if I started to experience areas that I wasn't comfortable with or anything out with my knowledge I would turn to my mentor and, or registered nurse and ask for support.” (Student 2)

It was recognised that the responsibility for support for practice learning was with the mentor or staff nurse in terms of developing the students’ knowledge, understanding and competence.

“It's like for them to develop my learning and be able to actually help me to understand the problem that presented itself and to simply help the patients in whatever needs they had.” (Student 2)

As students in the final stage of their course, there was recognition that support for learning balanced with the need to have a personal workload, inferring that the student knew their responsibilities and had some level of independence in delivering care.

“From a mental health student perspective my own personal goal is to start from the handover and then actually have my own workload in whatever needs to be done.” (Student 3)

However, while students articulated the purpose of practice placement learning and the responsibilities of others in supporting their learning, when focusing on learning about EBP and research in practice, discussion revealed a range of factors which impacted on learning in general. This served to open a number of further categories/themes in the data. In terms of “*experiencing practice*”, these students reported little learning about EBP and research in the practice placement setting (despite and opposed to the perceived focus and comprehensive learning about EBP and research in the university). Placements provided little support for learning about EBP or research.

“We’ve done a very decent comprehensive amount of research evidence studying at university setting but actually within the hospital placement setting I have not really found much in the way of support or opportunities for research. It has been very much a task focused system way of looking at [pauses]. For example, what you have to do that day.” (Student 1)

Another student further emphasised this perspective when reflecting upon the placement experiences that had been completed to this point in their programme.

“Eh, again just thinking back on personal experiences within the placements setting the area does absolutely nothing. All of the evidence is backed with, when I think about how I have cared for patients, has come from university studies.” (Student 3)

The perspective of there being a differing focus within university based learning and the lack of recognition of connectivity of this to practice was highlighted by another student. Their perspective alluded to conceptual and instrumental use of evidence on an individual level in a placement that was perceived as task orientated.

“It’s all, doing the academic evidence as presented on the campus that I then take forward personally into interaction with patients but I can’t say realistically that there’s ever been any kind of even subtle question of here’s something to think about when you go into interact with the patient. It just doesn’t happen at all on placement. Placement is very much a doing a job and this is how you do it.” (Student 2)

Expanding on this theme the students provided some insights from their experiences as to the implications of a perceived task orientated system, recalling care settings which lacked a research culture with an emphasis being on “doing a job”. The result of this was one of perceived little learning related to EBP but also a set of behaviours and strategies adopted by the students to continue and complete the placement. This reflected in experiences referred to by one student as “sink or swim”, “adopt the structure (of the placement setting)”, doing what is required to pass the placement and placement being about “doing a job” rather than applying learning gained in university. There also appeared to be an acknowledgement that there was a trading off between wanting to change or challenge practice in terms of EBP and the reality of not only the practice placement experience but the perception of this continuing as a newly qualified nurse.

“I think its sink or swim and I think the structure comes out of this. You don't start with a structure, you adopt the structure so you generate the structure that's required of you to pass the placement and your tutor is doing the same thing.” (Student 2)

In the context of learning in practice, another student reported on their perceived reality of nurses having little or no influence or autonomy to change practice or approaches to care. Indeed there was a resignation of acceptance that without influence or autonomy the value of nurses actively engaging in EBP was worthless.

***“I mean, I suppose, to me evidence-based practice is a box that I tick. Em, because I want to pass my course. I mean the reality is, I really enjoy it, it's interesting but it's not the as important as passing it and it is the same with placement and when I get into my first job em you know I can tell that I'll go home and use my access to all the libraries to research questions that intrigue me but if I don't have the ability to change practice really, why would I bother? The reality is I won't.”
(Student 4)***

While students could articulate where they had witnessed or experienced EBP, this was mainly in the form of clinical guidelines or care pathways which although students recognised as evidence-based, were viewed as a prescriptive approach to care with little evidence of individual patient preferences being taken into consideration. Although somewhat lengthy, the following quotation appeared to capture how students deemed there to be perceived dissonance between the ethos of having a care pathway and the resultant approach to care. From this it could be deducted that EBP in this sense was seen as a prescriptive approach to care which demeans the need for the nurse to apply consideration of individual patient preferences or to think independently about how to approach individual patient. Evidence - based form filling would appear to be no more than a prescription for care.

“... it’s not so much that there is no evidence-based practice in what we do but we’re so much spoon fed in many respects. I see people on care pathways everywhere. Every scenario that you can imagine has a care pathway ... there is a falls care pathway, there is a care pathway for nutrition, so someone at a much higher level has, I would assume, taken the evidence-based practice and put it into a form so when it gets down to sort of boots on the ground dealing with patients there is no need for them to think fortunately ... it’s like follow the form and then do it. But we are meeting evidence-based practice but we are not encouraged to consider the evidence-based practice. It’s shut up, do the form, move on to the next patient, there is not time to really engage further so that’s what experience I found anyway.” (Student 1)

There was also a notion that EBP was at times something talked about e.g. between student and tutor or indeed by nurses in practice in remonstrating conflict with those in higher authority determining approaches to care in the practice placement setting.

“In my last placement which was a mental health placement evidence-based practice was talked about as something that the trust wasn’t seen to deliver, so they would say the evidence says A but just look, we do B, C and D anything but A and lots of conversations were like that. So, evidencebased practice was kind of a stick to beat management with and I learnt a lot that way about evidence around dementia. But I wasn’t introduced to it in a constructive way and evidence-based practice was never introduced or talked about on its own or on its own merits.” (Student 2)

While students had a perception of there being a task orientated approach to care experienced in practice placement, students appeared to recognise a gap between idealistic practice and the reality of practice placements. Students recognised the responsibility that individuals, including themselves, had in maintaining an up to date evidence base (however apparently restricted from applying in their practice).

***“I think there is the ideal and the most realistic. Realistically it is about the onus on the learner to do things, em, in their own time to make they are familiar with the evidence. Unless there is a step change within these wards system I don’t see anything bringing in evidence-based practice, the way that I like. Em, so it’s going to be the onus on the individual nurse keeping up to date with the literature that relates to their area of practice”
(Student 2)***

There was however a strong sense of living in two different worlds when it came to the experience of practice learning and learning in the university. This seemed to reflect an essence of the course leading to the students feeling that they passively move through a series of placement experiences in which they feel they need to learn about the context, organisation of care and the earlier reported experiences of fitting in and learning the rules and trading off to meet the requirements of the individual placements.

“... my own views and views of my friends on the course are very much the same. Most of us love what we are doing and love the way we explore issues whether that is evidence-based practice or not. It’s also like living in two separate worlds, em we have two separate parts there. It does feel that we are popping back and forth between the two. We might learn to do something in certain way at university and then there is a completely different way when we actually get to the placement.” (Student 1)

The student further elaborated upon the impact of this perception in highlighting their experience of the placement setting and the way that they felt they were unable to translate learning from university to practice. Indeed the student’s perception emphasises a view of nursing as vocation and the difficulties of experiencing consistent application of knowledge and skills across a range of areas.

“Em but ... it is, there's lots of things like this that we go to the university campus for and we think about this and we think about that and then we always have to play dumb about it when we get to placement. It doesn't help that it is actually, it's a new job each time you turn up so going into, em, say surgical or chemo ward, learning a new job, completely new skills even the way you've got variations for this so it's not just to get what you need at the university, it's about what you are able to do in a ward.” (student 1)

4.3.2 Perspectives on professional nursing

When the interview progressed to exploring the role of practice in developing their learning related to the consideration of patient preferences and values being considered as part of EBP, the focus group harboured fairly strong perceptions related to professional nursing and the impact that these perceptions had to applying learning related to EBP in practice. Two students, in particular, felt that the role of the “general nurse” was essentially doing a job with little opportunity to influence change in practice. The students clearly sensed a differentiation in roles from newly qualified nurses and more senior nurses and in terms of EBP led to a fear that as registrants they would simply do a job and indeed there was an expressed fear in sticking at the level of the general nurse with little opportunity to develop and enhance practice. The following quotations reflect these perceptions.

“I was on a surgical ward, day surgery and care was supposed to be very individualised but the checkout operator at TESCO probably feel they are giving a very individualised service when they are scanning things at the desk but it didn't feel like that and I mean just, eh, I just don't think it's true.” (Student 2)

This view of the role of the generalist nurse was further exemplified in the experiences of another student.

***“... if you are a specialist nurse evidence really does shape what you are doing but, say, if you are a generic ward nurse you are just cranking the handle or doing the checkout, that's my take.”
(Student 1)***

The perceived challenges of professional healthcare providers, including nurses, in having space or protected time to engage in EBP and to be able to influence and apply what they feel they “should be doing” was reflected in another response.

***“... my last placement was in dementia and, em, I think professionals are very skilled at talking the talk but we are all too busy to do actually things properly that we know we should be doing.”
(Student 2)***

Interestingly, one student reported a perception of generalists being task focused and consumers of evidence as compared to other professionals (medicine) and more senior nurse professionals which were seen as being more proactively producers of evidence, pushing as opposed to drawing evidence into practice.

***“It feels like nurses tend to be more turn the hand or see what comes out as evidence than for example doctors and more the senior nurses are more prepared to do it”
(Student 1)***

Students held views regarding the ability of non - specialist or senior nurses being able to influence change or to engage in EBP in the true sense of the definition. General nurses were seen as handmaidens and in relation to the research question this had repercussions for the experiences that the students have in practice placements as well as seeing EBP as something of relevance to them in their practice placement experiences (playing the game, fitting in).

“Well what I will look for is career progression and to get to a position where what I say or what I think may actually change things. It sounds awful, the change won't start with me, I will play the game and feel like everyone else so I am afraid I am not going to answer.” (Student 2)

Building on the perception of nurses being subservient and “doing a job”, the students reported their impression that unlike the medical profession where individuals had a clear career pathway and thus were thinking medicine “24/7” as well as performing a professional role, general nurses were seen as a professional group who “clocked on and off” and did not truly embrace their professional identity.

“I think again ... as a nurse on placement you are a nurse between 7am and 7pm and then you go home and then you are a person. I know that sounds like a very different way of putting but you clock on you do your job you go home, I think that's the culture of healthcare and the NHS nursing at this moment in time.” (Student 1)

4.3.3 Power and authority in practice

When further exploring the notion of individual patient preferences and values being considered with EBP in the practice setting, students shared a range of experiences. Students perceptions, based upon their experiences in practice placement, were that there was a power base amongst some professional groups which dictated research and EBP in the practice setting.

“I don't really relate to the question in some sense because em when I, when I, when evidence is spoken of I think of evidence, it is almost like a power exchange really.” (Student 1)

“When I think of a hierarchy, I do think is somebody making a power play and the weaker members of any team, less important people are less likely to interpret evidence properly that for the more important people.” (Student 1)

Again, in terms of the research questions set out at the start of this study, the relevance of this related to the student's perceptions of the role of nurses in influencing change in practice, the relevance of their university - based learning in terms of its relatedness to practice placement and role of the nurse in delivering patient care.

The perceptions of the students also revealed opinion regarding the role of the general nurse in utilising research and EBP and whether this really reflected the requirements and standards of professional regulatory bodies to the expectations of individual registrants.

“You do it. You do what the doctor said because in your band 5, band 6 nurse positions you are not really there to do anything else. Em, honestly that's the kind of culture that's in the wards right now.” (Student 1)

While the students proposed ways in which research and EBP could be supported in terms of general nurse development, there was a perception that the reality was that there was a lack of time to release staff to attend any workshops or seminars.

***“Unless there are courses that the nurse is sent, em, to keep up their skills it is just a case of keeping up to date with Nursing Times, keeping up to date with journals and what not. The best-case scenario you would actually, introduce into practice some form of, em, mandatory process which is off the clinical setting where actually you are forced to engage with what the evidence is.”
(Student 2)***

The same student further commented on the main barrier faced by nurses in engaging in EBP – the issue of time and the integration of education and/or awareness of EBP within the working week.

“So, on the few cases when specialists are presenting and the nurses try to go to educate themselves on NHS time, they are not allowed to leave the ward because unfortunately rules or whatever is happening that day they just cannot allow nurses to leave the ward for nothing other than their half hour break. That I think is one of the biggest obstacles we face.” (Student 2)

There was ideation around the dominance of the medical profession in dictating how research and EBP informed practice again leaving students with the “so what”, “why bother” question and concerns related to their future role as newly qualified nurses. Students acknowledged the importance of learning about research and EBP, however they perceived that the skills learned during their course would only have utility when they were able to assume more senior roles in practice in future. Indeed, students again expressed a fear of just being a general nurse and their desire to progress to specialist roles where they could influence practice as well as other professional groups.

“I suppose, evidence-based practice is quite ... and quite dynamic, it’s about things changing and it’s about feeling empowered to make things change as well. If you are just starting your nursing career, you are not in a very strong position to achieve any of those things.” (Student 2)

The perception of the importance of career progression as an enabling factor in the influencing of change through EBP was outlined by another participant.

“Well what I will look for is career progression and to get to a position where what I say or what I think may actually change things.” (Student 4)

A more significant perception of the generalist nurse and dissonance between educational preparation and knowledge of EBP and an ability and desire to influence change was reflected by a student in the focus group undertaking an undergraduate preregistration Masters course. It would seem to reflect a

perception that educational preparation outweighs relevance to the professional role at the point of registration.

“I would never be happy being a ward nurse I utterly, the university education, the Masters education that I have received here, it would be horrific to spend the rest of my career in that position. I would want to specialise, I would want to go further. They are almost creating a two - tier system of nurses.” (Student 1)

4.3.4 Education

This fourth and final category/theme related to the student’s perceptions of the role that their educational programme either had on their development or instances where the students were able to propose alternative approaches to learning which may serve to enhance their understanding of research and EBP.

The focus group interview revealed that students valued the education and learning which was provided by the university highly. One student referred to examples of where the educational input in the university setting had informed their understanding and served to inform their interactions with patients.

“... whether it is about patients and caring, communication skills and thinking about patient experience when dealing with cancer or whatever else we have to consider. Its all, doing the academic evidence as presented on the campus that I then take forward personally into interaction with patients but I can’t say realistically that there’s ever been any kind of even subtle question of here’s something to think about when you go into interact with the patient. It just doesn’t happen at all on placement. Placement is very much a doing a job and this is how you do it.” (Student 1)

“There’s the wonderful research informed theory on campus and then there’s do a job at placement. That’s the way I see it.” (Student 1)

4.4. Individual interviews

The findings from the two individual in depth interviews have been merged under the four theme/category headings. Two students took part in individual one to one interview and for clarity these students are referred to student 5 and student 6 where verbatim quotes are presented under each of the category/theme headings. Building upon the early analysis of the focus group interview these interviews served to explore the experiences and perceptions of the students using similar questions but with some integration of the main concepts revealed from participants in the focus group. The researcher was attuned to the early codes from the focus group interview in terms of

exploring participant's understanding of the term research and EBP, facilitators and barriers to learning in practice, the explicitness of research and EBP in practice placement learning as well as exploring further and guiding the interview according to the issues highlighted by each individual student.

4.4.1 Experiencing practice

While the students in the individual interviews were able to report examples of their practice placement experiences where nurses and/or their mentor supported their understanding of research and EBP in practice, there also appeared to be an acceptance and acknowledgement of some of the challenges facing professional nurses in keeping up to date with current research.

"... it has like you know why using a certain dressing for a certain wound, they will go through that and explain you know the reasons why they are using that dressing." (Student 6)

The opportunities to learn about the application of research and EBP in practice appeared to rely on the mentor sharing their justification for the approaches to care adopted. One student recognised the complexities in nursing practice where nurses with more experience meld tacit knowledge with EBP.

"I think it depends on whether em someone em makes implicit decisions or em and chooses not to verbalise the way in which that is being done. It can be difficult sometimes if you know being a student to be working with someone that's em had a lot of tacit knowledge and experiences underpinning what they know em with em research." (Student 5)

While both of the students participating in individual interviews appeared to recognise how EBP was applied in practice, the ability to learn about the basis for approaches to care seemed to be dependent upon their being proactive and confident in seeking explanations and clarity from those supporting their learning in practice.

"Em my last sort of placements I did find myself asking more because I felt a little bit more confident." (Student 6)

"So, its I think for me it's about learning the more I learn about research - based practice the more then I can see that being evidenced or not in the clinical areas." (Student 5)

When asked how learning about research and EBP was facilitated in practice placements, for one student talking about research and EBP with mentors and nurses was an important factor in her

learning in practice placement. Being able to openly discuss approaches to care in a constructive and meaningful way were central to her development.

***“When I see that happening, I can usually have a conversation with the nurse and we can talk about current research and em look at em how that research is actually informing that care em and usually there has been an opportunity to talk about what em I have learned at em university.”
(Student 5)***

While these students appeared to be able to work in partnership with their mentors to understand the basis for their practice there was recognition of the challenges to have time with their mentor to discuss this.

***“I think the opportunities sometimes to have these em conversations can be... cos you need time to do that em and sometimes the business of the task can takeover. So, it’s, em, its challenging.”
(Student 5)***

“we’re not there to be healthcare support workers we are there, we are heading toward becoming degree nurses and I think that can be a challenge.” (Student 5)

The same student emphasised the importance of the relationship between the mentor and student.

***“You know there’s only so many hours you can commit to in a day and the priority you know people still need to get washed and dressed and whatever so there is, there is a risk and it’s about a conversation that’s coming back to the relationship between the mentor and the student.”
(Student 5)***

Furthermore, one student indicated that there was variation in terms of the context of the learning environment and the impact on the student’s ability to actively engage in their learning. Making direct comparison between a small community team and an acute hospital placement environment the student referenced the impact upon her self - confidence and time available in engaging with staff supporting learning. This had impact on her ability to learn.

“I have had a community hospital placement and the em acute hospital placement and they were completely different. Em, I didn't really have the confidence there but going into the community I felt it was easier to speak up cos it is a smaller group of people.” (Student 6)

“Well I think it is just so busy in the acute sector you know it just, cos it was general surgery so it’s like really sort of, everything was going at once.” (Student 6)

The same student reiterated some of the challenges reported by participants in the focus group interview in respect of the transient time limited nature of the practice placement experience. This was conveyed clearly in two quotes.

“... you sort of get use to a busy ward and you do sort of settle and then as soon as you settle you're, like OK you're finished now.” (Student 6)

“Yeah, you do sort of get comfortable and then it's like OK, em back to Uni, next placement.” (Student 6)

Similar to the perceptions and experiences of students in the focus group interview one participant commented on the tensions between the ideal (learning in university) and the reality of different placement areas and provided a fairly simple procedure relating to laundry segregation management as an example. This challenged the student, causing tension in terms of realising the need to initiate discussion around approaches to practice while at the same time having a perception that practice did not recognise the learning that the student had undertaken in the HEI.

“I mean I have had some tricky conversations in clinical areas about what I am being taught in university and what's happening out in the clinical areas. As they say, you know, "well we're not doing that here.” (Student 5)

“So, at university, please correct me if I am wrong, we are being taught evidence-based, it's the ideal this is what we want, yes. So, from year one day one students, if we are taught the ideal from day one and then we go out and see for students have got no experience you go out and see it's not like that then there's stress cos the, we have, we are being underpinned, we are being conformed to the NMC.” (Student 5)

In recounting experiences shared by peers this student raised a more concerning perspective on the impact upon students who may not be able to reconcile such tension.

“I have listened to stories, I have heard students. It has been quite interesting being on the other side. I ... student nurses get a hard time. They get a really hard time. Some of them don't have the mechanisms to know how to deal with it.” (Student 5)

There also appeared to be sense of isolation when undertaking practice placement, the student almost feeling that they go to placement alone and without the assurance that learning gained in university will align with the reality of practice. This resonated with some of the perspectives of the focus group participants to practice placements being insular and “different worlds”.

“So the challenge that we have as students as you can imagine so we are going in there“... “and then the conflicts that comes in because we know what the evidence is, we know its bang up to

date, we see the lag and then ... it can be difficult dealing with the tension of what do I do here? Do I do this; do I wait ... so it can be difficult.” (Student 5)

There appeared to be some subject areas where students could see a more direct translation of theory/EBP to practice. Similar to the participants in the focus group these subjects were perceived to be those which were procedural in nature. With subjects such as these e.g. specific clinical skills protocols or anatomy and physiology there was a perception that these were more easily understood in terms of their application to practice placement.

“Well I think you know some things will stick in your head you know if it’s like facts and figures of you know how they used to do like insulin so like how they used to administer insulin, like all the different you know routes, and how after like how long after eating or before eating so you know so you do learn stuff to take onto practice from that research.” (Student 6)

4.4.2 Perspectives on professional nursing

While students were less analytical in their perspectives on professional nursing as compared to the focus group interview participants which may be attributable to the age of participants and prior experiences there were still concepts within the data that aligned with this category/theme. These mainly related to perceptions regarding the intense nature of some of the practice placement as working environments and again the sense that nursing is seen as getting the job done and a focus on tasks. While the reality of any occupation is meeting outcomes and performing tasks and interventions, for students there was a sense that there was limited dedicated time for professional nurses to support learners and to see nurses being able to maintain their knowledge base and awareness of current research.

“I think it can be difficult to keep up to date with current research. I think it is a challenge for nurses to be continually aware of that. I do see, em, pockets of it. I do see em, nurses striving to do it, em, but it is difficult. It is difficult to make sure that em what practice were doing is in fact current and up to date because nurses need time to actually see it.” (Student 5)

The same student referred to the role of the professional nurse in meeting their requirement to support learners as outlined by professional regulatory bodies and through agreements with partner HEI. The tensions for professional nurses, in combining the demands of their role providing patient care as well as integrating support for student learning was succinctly captured in one quotation.

“I think you know nurses are finite.” (Student 5)

4.4.3 Power and authority in practice

Although the participants in the individual interviews did not provide in - depth perspectives and opinions upon the role of power and author in practice (in the sense of dominance of particular professional groups to research and EBP) there was still a sense from one participant that their basis of knowledge and understanding related to research and EBP was gained from nurses working in more specialist areas of practice. This was borne out in a probing question which sought to ascertain which individuals in practice placements were instrumental in enabling the student to learn about research and EBP.

“I've also been in a situation in a ward where there was a mentor, there was a nurse, a link nurse in the ward and there are nurses who have different areas of speciality for example like urology whatever, and there was a situation where the nurses em all went into em a day room and they all got training.” (Student 5)

“I had the most amazing opportunities to go to [hospital] for Wednesday afternoon seminars and they have been of excellent quality and there has been like podiatrists and McMillan Nurses and all these, you know, I was amazed.” (Student 5)

4.4.4 Education

Participants in the individualised interviews provided perspectives on their experiences of their education programmes to date and how this had facilitated their learning (both in university and in practice) about research and EBP (including reference to quality improvement) as well as being able to provide suggestions as to how this could have been enhanced further. When exploring the factors that facilitate learning, students emphasised the importance of the learning that is situated within the university having utility to them in its application to their practice placement experience. There was also reference to situation of learning with the student's programme. Both participants in the individual interviews had completed two modules, one in year 2 and one in year 3 of their programme, the first introducing them to the concepts of research, EBP, quality improvement and the development of information literacy skills and the second, for part facilitating their development in regards to critiquing research articles.

“... well it depends on what subject it is, some of the papers we have had to read they're not as relevant to, you know, nursing as you sort of want to read. Like I mean if they were more relevant to what we are doing I'd understand.” (Student 6)

The same student inferred the importance of learning about research and EBP being contextualised to their level of practice. There was a perception that learning was not always aligned with this level and practice and the relevance of the learning was lost upon the student.

“Em, well one that we read was more to do with the managerial side you know, not actual nurses but like the managers, the ward managers and researchers coming in. It’s like, well the researchers aren’t going to know when the ward managers aren’t actually doing the care. So if it was all a little bit more to do with the care rather than them.” (Student 6)

The importance of the situation of learning about research and EBP within the student programme was highlighted by one student when asked what could enhance knowledge, understanding and application in practice placement. The early introduction of research, EBP, quality improvement as well as teamwork was highlighted as something that would have enhanced the student’s development and ability to integrate effectively with her placement areas in year 3 as well as enable her to build confidence and resilience in dealing with aspect of learning about EBP in practice.

“I think looking at research to quality improvement I think it is something which I think could be brought in earlier. Em I think it could be built upon through the programme so that by the time we come into third year we have an overview and an understanding of what quality improvement in the broader sense is about. So, when we come to actually come to do what we are doing now we have had a longer lead in time and we understand how em teams work.” (Student 5)

This particular student emphasised the importance of learning about teams and developing relevant skills such as resilience to the concept of fitting in, surviving and being a transient member of placement area teams. The role of education in facilitating the development of such skills was seen as critical.

“So it’s something which we all have to be I think certainly my experience of being in teams in the, in the clinical areas is very often I have not been, I have been the student that has survived, had to fit in. Found it quite difficult at times not being allowed to fit in and then come out of it. So it is a stressor in itself.” (Student 5)

The student elaborated further, expressing a need for clearer and more realistic expectations regarding the role of the student when learning in placement areas in nurse education and support for their transition to becoming a professional nurse.

“ ... in terms of transformation then the role of the student is, needs, I think from my experience really needs to be looked at more closely about their place and about what their contribution is

***and a greater understanding of what we are expected to achieve in the workplace you know.”
(Student 5)***

Similar to the references made for the need for students to assume personal responsibility for their learning to research and EBP. One student stressed the benefit of social media in keeping abreast of developments in nursing and healthcare.

***“I think there’s a responsibility on behalf of the student themselves. I actually subscribe to a magazine through the Royal College of Nursing called evidence-based practice for nursing, EBN and that is a quarterly magazine and it is a fantastic magazine cos they distil hundreds and hundreds of articles in the magazine so I can take that and read it in my tea break. Things like Twitter help.”
(Student 5)***

One student stressed the benefit of social media in keeping abreast of developments in nursing and healthcare.

“I well, I mean I don’t do Facebook but I do do Twitter. I specifically use Twitter, it’s amazing. I mean things like Cochrane, I’ve been looking at em IHI, I’ve been looking at what has been coming out of the patient safety programme, I’ve been looking at all the awards that have been given and em NHS em Horizons and looking at em sketch notes and looking at how they bring evidence-based research and make it simple and accessible.” (Student 5)

Based on the responses provided in the interviews with these participants, the researcher explored whether they had opportunities to share with their mentors/practice area the outcome of their year 3 quality improvement module where students undertook a group project involving a review of best available evidence in proposing improvements in practice to a specific aspect of nursing practice (and indeed opportunity to have open discussion about what they had learned in university). Unlike the participants in the focus group there was however a stronger sense that practice placements were receptive and interested in what students were learning in the university. This reflected in the following quotes.

“I think they would be interested in it, eh, whether it was actually you know put into practice. I don’t know, probably not. No, they do take an interest in what we are learning.” (Student 6)

“There’s an openness and em there’s an opportunity then for me to be able to say look have we thought about this you know, this is what’s coming out and em so yes, there’s usually a dialogue there.” (Student 5)

4.5. Overview of findings

While research and EBP are extolled as key principles and values underpinning contemporary healthcare practice, the experiences described by the students in these interviews would appear to not only serve to reiterate some of the reported challenges of facilitating learning about research and EBP in the clinical practice placement setting but go further in touching upon the perceptions of students as to the professional role of the general nurse and engagement in EBP in the delivery of patient care. Reports of there still being a perceived differentiation between theory learned in university and the reality of practice still indicate that for some of these students there is still a distinct theory - practice gap at least to the learning of research and EBP. As some students described this – two different worlds which they switched back and fore between, engaging as transient learners focused on performing tasks and learning to do the job while evidencing examples of dissonance between practice learned in university and practice applied in the clinical placement setting (actively fitting in and playing the game, trading off idealism for realism). Once one placement is complete students are then moved on to the next placement where a new set of routines, approaches to care and culture needs to be adapted to.

It would appear to some students that there is still a domination in practice by specific professions i.e. medicine and that the ability to influence EBP is based on power and authority either by those specific professions or only once other professionals reach a point of seniority or specialist practice.

There is a strong sense in parts of the findings that students question the expectations of organisations and professional bodies in terms of individual nurses engaging and evidencing that their practice is evidence-based when the reality for some is that the evidence is translated into the form of guidelines or systems which nurses appear to follow prescriptively. The current experiences of some of the participants suggest that they do not look forward to their roles as general nurses based on their placement experiences e.g. lack of ability to influence change, the need to develop a strong sense of resilience to learn as a student and to develop as a professional.

Students valued the education gained in their programme. There were a number of examples within the findings where students reported positive experiences and were able to cite or propose approaches which were of value to them in their learning overall and learning about research and EBP.

Students referred positively to the ways in which they were encouraged to engage with learning within their HEI. The overriding perception was that there was a responsibility on students to undertake proactive approaches to learning e.g. asking questions in practice, accessing online sources of information and evidence, using social media to maintain awareness and journal clubs.

4.6. Summary and conclusions

This chapter has served to present the key findings from the analysis of data from the interview transcripts. The data were, through analytic coding and comparison of findings, grouped under four category/theme headings with commentary and exemplar verbatim quotes presented to contextualise the data. While students demonstrate a desire and awareness of the need for EBP, there are some significant challenges presented to students in learning about EBP in placements and indeed in some instances the exploration of the issues pertaining to this has highlighted wider issues such as how students integrate as active learners within the placement setting and develop perspectives related to the role of nurses in contributing to EBP in the true sense of the definitions provided by key reports and authors (e.g. Sackett et al. (1996), Dawes et al. 2005). The following chapter presents a critical discussion of the findings in the context of making sense of the student's experiences and perceptions relating, where appropriate, to extant literature.

Chapter 5 Discussion

5.1 Introduction

Chapter 4 presented the findings in the context of previous literature, considering similarities and differences as well as how this study further develops knowledge in this area of preregistration nursing education.

This study provides recommendations based on the subsequent discussion which seeks to merge knowledge related to teaching and learning research and EBP with factors influencing learning in the clinical area to identify proposals for further research and also to provide recommendations for preregistration curricula developers/leaders, particularly in an era where professional regulators for nursing education in the UK promote more flexible and collaborative approaches between academic institutions and clinical partners. The study therefore seeks to provide realistic recommendations for education and further research.

The discussion chapter is contextually grounded in the data. In discussing the findings from this study, the researcher refers to literature presented in chapter 2 but as a result of themes which emerged from the analysis of the interviews (particularly those relating to the experience of the practice setting), the researcher drew on wider literature and theoretical perspectives. Indeed, reference to such literature and theoretical perspectives was guided by the analysis of the focus group interview at an early stage in the study to assist the researcher in making sense of the data and emerging codes/categories. These theoretical perspectives were particularly evident in the participants discussions around the meaning that they attached to the factors influencing their learning and experiences in practice placements which although relevant to the research questions in this study, were considered to have broader implications for preregistration nursing programmes and the pedagogical approaches adopted and the connections and collaborations between HEI and practice placement providers/healthcare organisations.

The chapter is structured according to the main themes that were identified through the analysis of the data. Each theme is discussed in turn. "Experiencing practice", the most significant theme from the analysis of data is discussed in two parts – experiencing practice in the context of learning about research and EBP and secondly, the meaning that the students attached to the factors influencing their learning. The latter was, for the students, predominately centred on their integration or fitting into the clinical practice placement environment. As such discussion around this key factor focuses on the experiences of the students in this study in the context of extant literature.

Before discussing the findings, it is clear that the students who participated in this study harboured awareness, and positive attitudes toward the need for EBP in professional nursing practice. This is reflected in reference to positive learning experiences within the HEI setting. Students within the study were also clearly able to articulate examples where they had undertaken their own self - directed learning related to research and EBP in practice e.g. through database searches or social media. This indicated to the researcher, that the students in this study were able to reflect upon their practice experiences and secondly were motivated to inform personal professional knowledge and understanding. There did however appear to be dissonance between learning in the HEI and learning in the practice placement setting both in terms of learning and the nature of the learning environment. By virtue of the characteristics of these settings this is perhaps not surprising (the HEI focus is primarily on teaching and learning while practice placement settings are primarily concerned with occupational objectives i.e. provision of care). However, this study provides insights into how this was reflected in the context of learning about research and EBP.

The student's experiences in practice did not always reflect expectations around the use and application of research and EBP in practice by nurses. Although some examples of EBP were identified e.g. care pathways, sustained and consistent (and perhaps more importantly individual) use and application of research and EBP by general nurses was not clearly evident or evidently discussed from the perceptions of students. The examples provided by some students such as care pathways, although a recognised example of EBP, were seen as a top down approach resulting in perceptions of passivity and detachment in terms of how nurses use research and EBP in practice. While the interviews also sought to explore the meaning attached to the factors influencing learning it was clear that the emphasis for students is often on investing effort and applying individual strategies to adapt or fit into the practice placement. This indeed appeared to be major factor influencing learning. The placement learning environment appeared to be one characterised by effort placed upon task or occupational goals as opposed to one where for the students, learning was directed. Overall, the study highlights that some placement settings would appear to lack a culture where research and EBP is obviously integrated by all staff, thus making it difficult for students to see research and EBP evident in the professional practice of nurses.

It is argued in this chapter that the way in which research and EBP is reflected and implemented within organisations where preregistration nursing student practice placements are situated, may not always mirror the perspectives and expectations of HEIs or indeed the NMC in terms of the realities of practice for the majority of nurses. While examples of care pathways and other protocol-based approaches to care are evidently followed by nurses, less obvious is the way in which most nurses apply research and the skills of EBP consistently in practice as autonomous and accountable practitioners. While some

students experienced opportunities to learn about research and EBP e.g. in workshops and seminars, others highlighted the difficulties in nurses being enabled to have support or time to attend. For students this resulted in dissonance and a perceived gap between learning in the HEI and the reality of practice, exacerbated by experiences whereby student still appear to invest much effort into adapting and fitting into placement areas at the expense of their learning. Not only can this impact on the quality of learning in the practice placement setting, but from the perceptions of some of the students in this study, influence their perceptions of the role of the general nurse as a professional with influence and autonomy.

5.2 Experiencing practice

“Experiencing practice” was the most significant theme from the analysis of the data. The students provided insights into how learning about research and EBP in practice placements occurred (or not as their perceptions may be). In both focus group and individual interviews, the students also referred to a range of factors, experienced within practice placements, which influenced their ability to actively engage with and learn about research and EBP or in some cases to see how professional nurses applied EBP in their personal practice. Indeed while some of the responses provided by students reflect the findings from prior studies and reviews exploring research and EBP in preregistration nursing education e.g. more support for learning is provided in the HEI as compared to clinical practice (Florin et al. 2011), the identification of challenges related to barriers of implementation of research and EBP use by clinical nurses in practice (Graue et al. 2010) and a perceived lack of observation/experience of clinical nurses involvement in research and EBP (Brook, Hvalic - Touzery and Skela - Savic 2015), interviews revealed a range of more generalised factors pertaining to placement and the nature of the placement environment and the distinction between learning situated in the HEI and learning in practice. Again, some of the findings echo with those from earlier theories and studies which, whilst being revealing, were also somewhat disconcerting given the advances in preregistration nursing programmes over the past decade in particular with new standards, advances in technology and innovative pedagogical approaches within HEIs. There would, from the evidence of the study, still seem to be challenges related to learning in practice placements for preregistration nursing students. For example, the reported perceptions and experiences of the students to the meaning attached to factors impacting on learning, made references to the challenges of adapting or fitting in, the perceived dissonance between learning in the HEI and learning in the practice placement setting, as well as a feeling that practice focused upon the objectives of getting the job done and a task - orientated system.

5.2.1 Learning about research and EBP in clinical practice placements

Firstly, “experiencing practice” in the context of learning about research and EBP in clinical placements revealed a range of experiences and perspectives. It was clearly apparent that while students were able to provide examples of where they had witnessed research and EBP in practice e.g. care pathways, guidelines and in some cases through discussion with their mentor/supervisor they found it harder to determine or witness how individual nurses adopted research and EBP in their professional practice. For example, participants in the focus group could identify care pathways and guideline use in the delivery of care, however ironically the students also then shared a view that such approaches merely served to represent a prescriptive approach to nursing care, focused upon form filling. Such insights and perspectives may have been informed by virtue of the focus group demographic and potentially higher expectations given that participants were enrolled on a postgraduate Masters course. As such, students appeared unable to observe and thus articulate how individual nurses apply research and the steps of EBP in their personal professional practice with participants in the focus group likening the work of the general nurses as akin to simply doing a job.

“We've done a very decent comprehensive amount of research evidence studying at university setting but actually within the hospital placement setting I have not really found much in the way of support or opportunities for research. It has been very much a task focused system way of looking at [pauses]. For example, what you have to do that day.” (Student 1)

It should be noted that all participants’ programmes incorporated learning about research and EBP as well as quality improvement into the curricula – as referred to by students themselves and evidenced within the respective HEI programme specifications. None adopted approaches whereby there was planned, consistent and structured collaboration between HEI and clinical staff in respect to learning about research and EBP in the practice placement setting. Examples of such collaboration may include journal clubs situated within clinical placement settings, student participation in clinical projects related to research and EBP or students having defined objectives with learning outcomes related to the application of research and EBP in practice - based projects. Collaboration may also translate as research active healthcare clinicians teaching within the HEI. As reported in the findings from the scoping reviews within this thesis, there is evidence to suggest that the adoption of collaborative approaches is more effective in facilitating learning, particularly in assisting student to contextualise knowledge and understanding of research and EBP (for example see Mattila and Eriksson 2007; Brown et al. 2009; Gray 2010; Horntvedt et al. 2018).

Students in this study were allocated to their placements by their HEI and learning in practice was supported by the student’s mentor and through working alongside other healthcare professionals. In

both HEIs, academic staff provided support but this tended to be generalised e.g. providing mentor updates, supporting students who may be at risk of not meeting the outcomes of placement or intervening where placement areas had concerns about individual students. None of the academic staff providing support for practice learning engaged in teaching and learning in the practice placement setting, although at the HEI in the north of Scotland, academic staff had started to pilot drop - in sessions for students to discuss any broader issues related to practice on a scheduled basis. Therefore, irrespective of the volume and quality of teaching related to research and EBP in the HEI setting, there may be a risk that with some degree of separation between support for learning between HEI and practice students may face challenges when learning in placements and realising the application of theory to practice (Christie, Hamill and Power 2012; Finotto et al. 2013; Brook, Hvalic – Touzery and Skela - Savic 2015). Indeed, an overriding observation from the data relating to this theme was one of the students undertaking their clinical practice placements in somewhat isolated existence compared to that of their host HEI.

In the course of the interviews, participants were able to identify and praise the learning that they had engaged in within their HEI in terms of research, EBP and in the case of one of the individual interviews learning related to quality improvement. The students referred to the learning within the HEI environment in terms of being engaging, motivating, enjoyable and supportive in developing knowledge, understanding and personal development. This supports prior research findings where the impacts of well - designed approaches to learning in HEIs have been evaluated by students as enhancing their knowledge and understanding (Irvine et al. 2008; Finotto et al. 2013; Wong et al. 2013; Gercek, Okursoy and Alp Dal 2016) and indeed facilitating positive attitudes and awareness of the relevance of research to nursing (Veeramah 2004; Ireland et al. 2009; Waters et al. 2009; Zhang et al. 2012; Ruzafa – Martinez et al. 2016). Conversely, it is also recognised that the impact of a lack of educational input or effective approaches to learning results in students, not surprisingly, having low knowledge and skills (Ashktorab et al. 2015; Al Qadire 2019). The importance of appropriate educational approaches within the HEI setting is therefore undeniable in developing knowledge, awareness and positive attitudes. However, less clear is what value and utility such learning has when students take this to their clinical placements? The reported dissonance between the students learning in their HEI and the reality of practice means that efforts directed toward information literacy (as one recognised approach to teaching and learning research and EBP) may become an effort without any gain (Aglen 2016). In a review of the literature exploring pedagogic approaches to teaching and learning, Aglen (2016) states that nurses do not apply the steps of EBP in their day to day practice. The students in this study demonstrated knowledge, awareness and recognition of the importance of practice being based on best available evidence and research (there were no responses indicating

negative attitudes) however less discernible was how these students actively learned and engaged with research and EBP with their mentors, supervisors or working with other staff.

Students in both the focus group and in one of the individual interviews inferred that they adopted self - directing activities to search, locate and read research and evidence relating to aspects of practice experienced during the placement.

***“I think there’s a responsibility on behalf of the student themselves. I actually subscribe to a magazine through the Royal College of Nursing called evidence-based practice for nursing, EBN and that is a quarterly magazine and it is a fantastic magazine cos they distil hundreds and hundreds of articles in the magazine so I can take that and read it in my tea break. Things like Twitter help.”
(Student 5)***

Learning in the HEI was couched in terms by the participants of being a supportive environment which actively encouraged students to engage in learning opportunities.

“... my own views and views of my friends on the course are very much the same. Most of us love what we are doing and love the way we explore issues whether that is evidence-based practice or not.” (Student 1)

As aforementioned, the approach taken in the HEI is important if not critical and the evidence of innovative impactful approaches to teaching and learning related to research and EBP is well reported (for example see Kim et al. 2009; McCurry and Martins 2010; Johnson et al. 2010; Callaghan 2011; Davidson and Candy 2016; Aglen 2016; Ruzafa – Martinez et al. 2016; Reid et al. 2017). The approach taken within the HEI is therefore not only important in terms of facilitating knowledge but also in shaping awareness and positive attitudes toward research and EBP by preregistration students and the students within the study appeared able to highlight the importance of research and EBP. Unlike earlier studies exploring preregistration nursing student attitudes where the relevance of the topic was unclear to students (Ax and Kincaid 2001) in this study the students appeared to have positive awareness and understanding regarding the importance of research and EBP as well as positive attitudes indicating that current pedagogical approaches taken within their respective HEIs had positive impact. Learning in practice was not perceived as supportive as expected, particularly in the focus group, and based upon the responses provided by the participants, practice was an environment focused upon the task of doing the job, was time limited in terms of opportunities for learning with mentors, and was seen as a transient experience whereby students undertook placements of a fixed term, having to learn how to settle in and work with new teams and organisational principles prior to having to then leave. This apparent division in organisational cultures and learning environments i.e.

HEI versus practice placements resonates with the findings of Aglen's (2017) systematic review of pedagogical approaches to teaching and learning concerning research and EBP whereby the divisions between education and clinical practice were seen as problematic in the sense that students were rarely exposed to working alongside mentors and nurses who were actively and explicitly using research in their practice. This issue is not only bound to the UK context. International studies such as Finotto et al. (2013) found that preregistration nursing students lacked opportunities to learn about research and EBP out with the classroom setting when undertaking clinical placements. Smith-Strøm et al. (2012) that students lacked exposure to learning about EBP in clinical practice due to perceived competing priorities. As Brooke, Hvalic - Touzery and Skela - Savic (2015) found, experiences whereby students have limited insight into how individual nurses utilise/engage research in their practice results in those students struggling to appreciate how they themselves will be able to apply their research and EBP skills in the future.

To make the connections more explicit to students, it has been demonstrated that collaborative and situated approaches to practice learning may have benefits (Laaksonen et al. 2013; Andre, Aune and Braend 2016; Blackman and Giles 2017; Fiset, Graham and Davies 2017). The students in this study appeared to convey a lack of collaboration between HEI and practice, often presenting as isolated learners in clinical practice adopting a range of strategies in to adapt to the clinical practice placement environment and therefore complete their placement and practice assessment. The findings in this study also resonates with earlier literature in that often, nursing programmes have developed EBP skills and competencies in the classroom environment rather than as an integral part of clinical practice placement learning (Ciliska 2005). Further studies indicate this separation of learning from HEI and practice placements. For example, Florin et al. (2011) found that students felt that there was greater support for learning about EBP in the university compared to practice, while Moch, Cronje and Branson (2010) stressed the importance of integrative approaches to learning as a result of educationalists failing to engage in practice. If as seems to be the experience of students in this study, there is a perceived failure or lack of opportunities to learn with their mentors, their ability to understand and apply EBP skills in practice is limited. This is reflective of the findings of the study by Blackman and Giles (2017) where nursing student graduate's ability to understand and apply EBP was dependent upon a range of factors including the ability to witness nurses providing EBP care directly in practice.

Given the diverse range of placement settings that students are allocated to meet the required standards and competencies in their programme and within those settings the diverse range of leaderships styles, specialism and organisation of working practices it would seem prudent to suggest that there needs to be more structured and consistent approaches to learning about research and EBP. Prior studies exploring the effectiveness of integrated learning approaches i.e. specific approaches

whereby synchronous learning about research and EBP is undertaken in the context of placement attendance indicate that students are more able to see the relevance of research and EBP in practice and in some studies enabling them to see how change can be implemented in practice by nurses. However, this takes considerable collaborative efforts on behalf of both HEI and practice provider partners. There have been varied levels of success related to collaborative approaches reported. Examples range from student nurses collaborating with nurses on evidence-based projects (Jack, Roberts and Wilson 2003; Killeen and Barnfather 2005; Stone and Rowles 2007; Gray 2010; Andre, Aune and Braend 2016) specific learning assessments related to research and/or EBP e.g. review of research articles related to a particular concept or issue in the practice area (Mattila and Eriksson 2007), discussion groups bringing students and nurses together to discuss topics in the practice setting from the perspective of research or EBP (Moch and Cronje 2010) and journal clubs (Morris and Maynard 2008; Laaksonen et al 2013; Mattila et al. 2013). It seems important, therefore, that nurse educators play a key role ensuring that preregistration nursing student learn and see the relevance of research and EBP beyond the classroom setting (Christie, Hamill and Power 2012) through partnership approaches between HEI and clinical placement partners (Fiset, Graham and Davies 2017).

In this study, students appeared to be allocated to placements in a distanced way (distanced in terms of learning in a very different environment and being challenged to fit in) from their host HEI with no evidence of integrative or collaborative approaches which may explain their perspectives and experiences. This had further impact upon these students in terms of their perspectives on the role of the nurse, power and authority in research EBP and the purpose of education in the HEI. Reference to the practice assessment process in the interviews would indicate that such tools were the primary means of framing learning. Benner, Sutphen, Leonard, and Day (2010) as cited by Fiset, Graham and Davies (2017, p534) have recommended important changes to a model where learning in HEI and practice may be disparate, notably moving “from a focus on covering decontextualised knowledge to an emphasis on teaching for a sense of salience and action in particular clinical situations” and “from a sharp separation of classroom and clinical teaching to integrative teaching in all settings”. The findings from the study here would seem to indicate that re - examination of the policies and practices of HEIs to practice placement learning and support for connections between theory and practice in the context of research and EBP is considered.

The lack of opportunities to engage in learning related to EBP by the participants in this study also reflect reports of lower levels of confidence to apply EBP skills in practice due to limited opportunity and mentorship related specifically to EBP (Llasus, Angosta and Clark 2014). The notion of key challenges related to learning about EBP for preregistration students is reported as those barriers faced by students in practice, again a lack of opportunity and support (thus leading to low levels of confidence

amongst students) (Ryan 2016). The failure to contextualise learning about research and EBP in clinical practice placement as a definitive and clear objective may result in students failing to see its relevance in nursing practice (Ryan 2016). It can be surmised that this then risks impact on students as newly qualified registrants not perceiving themselves as being able to actively engage in research and EBP not only conceptually, but also (and crucially for the development of the professional nursing career and workforce) instrumentally whether that be via local, ward level improvement projects or at an organisational level through service redesign. This would seem to also risk contravening the NMC (2010) Standards for preregistration nursing education which state that there is an expectation that new nurses will be personally accountable for safe, effective, person centred and evidenced based care and that nurses “appreciate the value of evidence in practice, be able to understand and appraise research, apply relevant theory and research findings to their work, and identify areas for further investigation” (NMC 2010, p23). While the participants in the study were undertaking courses subject to the 2010 standards the new NMC standards (NMC 2018a) make no less significant statements regarding the proficiencies that all students must evidence at the point of registration e.g. “demonstrate an understanding of research methods, ethics and governance to critically analyse, safely use, share and apply research findings to promote and inform best nursing practice” (NMC 2018a, p9), “acting as a role model for others in providing evidence-based person centred care” (NMC 2018a, p14). Given the perceptions of placement settings in terms of nurses engaging as personally accountable practitioners and through the experiences of their placements and their perspective on the role of general nurse (as a professional with perceived limited autonomy), as one participant in the focus group stated “why would I bother”.

It is argued here that if this were to be the case that a) many newly qualified nurses will quickly become deskilled in EBP and b) considerable investment and efforts to educate preregistration nursing students in research and EBP will be meaningless. Furthermore, prior research which has sought to inform effective approaches to teaching and learning within the classroom will be obsolete if recognition is not directed toward translation in practice of the realities of contemporary practice placements. There is sense from the findings in this study as well as from prior literature that while approaches to teaching and learning in HEIs have developed and the standards and requirements of the NMC have reflected changes in health, society and healthcare that there is little evidence of concurrent development and consideration toward the practice placement as a learning environment which is receptive to these new standards (or generations of students) bar the publication of standards to support student learning in practice focused on mentorship and supervision (NMC 2008).

The researcher would suggest that the failure for preregistration student nurses to see the translation of theory learned in their HEI not only extenuates an education - practice gap but, as was the case in the study, serves to lead graduate nursing students to question the professional position of nurses in healthcare and to devalue the role of the “general nurse”, almost likening the role in some cases to that of a skivvy. Consideration of the impact a lack of exposure or learning toward professional ideals such as EBP among students upon transition into professional roles is important. Potentially, such a position may also be reflective of there being incongruity between the ideologies of academics in HEIs with the realities of how nurses work on a day to day basis.

The findings in the study suggest that the participants were not exposed to approaches to teaching and learning in practice which specifically focus upon research and EBP. Prior studies such as Jack (2003), Killeen and Barnfather (2005), Mattila and Ericksson (2007) Gray (2010) and Cronje and Moch (2010) demonstrate the potential impact where there are collaborative approaches taken between HEI and clinical practice, contextualising learning about research and EBP and thus enabling students to see the relevance to practice as well as in some prior studies (Horndvedt et al. 2018) benefitting clinical nurse’s knowledge of research and EBP. Moch, Cronje and Branson (2010) espoused the importance of enabling students to establish meaningful partnerships with practising nurses to promote the uptake of research and EBP. The authors also recommend that students should be seen as resources for practice, opinion leaders who can inform and use their learning and experience to influence change, envisioning the role of students. However, bar the identification of care pathways, the students in the focus group appeared less able to articulate or see where research and EBP had a place in the delivery of care in their placements and again it is clear from prior research that approaches to learning research and EBP which are situated in the context of clinical practice are most likely to enable student to see the relevance and application of research to practice (Smith - Strom et al. 2012; Christie, Hamill and Power 2012; Laaksonen et al. 2013; Andre, Aune and Braend 2016; Fiset, Graham and Davies 2017).

5.2.2 Students attached meaning to the factors influencing learning in practice

The following subsection looks at discussion on the meaning that the students attached to the factors influencing learning in practice and these are discussed with reference to extant literature. These factors included the transient nature of placement experiences within their programme, the task focused systems apparently at play in placements, a lack of dedicated time for learning and perspectives related to having to continually re adapt to different placement and the process of fitting in. Bar reference by one student to the benefits of returning to placements within a small community nursing teams (contrasted by the same student with her acute placement experience), overall the participants conveyed a picture of their nomadic journey through what appeared to be a range of busy

environments which they perceived to focus on achieving the aims of work, task orientated and dependent upon support and time with mentors to promote learning. From this a key factor appeared to be that of “fitting in”.

5.2.2.1 Fitting in

Fitting in was a major influence upon the student perceptions of their experiences within practice placements. Within their descriptions and experiences, students referred to the tactics and strategies to integrate as a student, a learner, referring to a range of examples. In addition to some of the tensions created by the separation of theory from practice, the impact of preregistration nursing programme values on the socialisation into professional roles has been found to create conflict between the professional ideals espoused through programmes of study within HEIs and the organisational values. Feng and Tsai (2011) in a study exploring the socialisation of new graduates into professional practice highlight the main challenges reported by individuals e.g. fitting into bureaucratic systems, maintaining inter professional relationships, familiarising with ward routines and conflict between professional and organisational values. The study highlights the concern raised about the idealistic values espoused by nursing schools and the reality of clinical areas.

While students in the study referred to the distinct differences between theory and practice learning environments there was a sense that learning in HEIs directly supported the student’s knowledge and understanding while in practice these students either spent much of their time adapting to the work environment and fitting to complete assessments or doing the job. There is therefore a distinctive difference in the ways in which these students viewed the way they were situated in each environment – one (HEI) provided structured support for learning where students were actively engaged in learning while the other (practice) was a distinctly different world where students had to adapt and learn through the opportunities afforded through the organisation of work in that environment. This latter environment was one in which the students had to trade off and fit in, to complete the placement. It was apparent from the student experiences that this could result in the need to “fit in” by following the procedures and practice of the placement area while negating the learning gained in the HEI. While students provided a sense of acquiring learning in the HEI there appeared to be a process of adapting or trading off in practice where the student had to give up that learning to fit in and to complete their assessment. From the analysis of data in this study and with reference to extant literature, the researcher devised a conceptual model. This seeks to represent an explanatory dynamic overview of learning in the HEI and learning in practice in the context of research and EBP. The conceptualisation represents a distinction between learning in the context of the HEI and learning in clinical practice. From the perceptions of students, these were often experienced as two differing worlds in which they

transiently engage across their programme. One, the HEI, is characterised by the student engaged in active learning, gaining and benefitting from blended approaches to learning about research and EBP. Here the relationship between learner and context is reflective of one in which learner and HEI collaborate in a manner which energises and informs the student's knowledge. Conversely, the transience of clinical practice learning for students appears to be characterised by a context in which task and vocation are key and the student investing much effort in adapting and fitting in often at the expense of perceiving that learning situated in the HEI is not of value. This is illustrated in figure 4. Houghton (2014) comments on the process of adapting to placement and while acknowledging the relatively short duration of placements, refers to the potential for tactics to assist in students integrating into placement. Citing socialisation tactics which could be adopted by organisations (Van Maanen and Schein 1979 cited by Houghton 2014, p2369) preference tends toward collective tactics (grouping students and ensuring consistency of experiences); formal (clear, formal and structured processes of learning in practice); sequential (demarcated stages of induction); fixed (fixed schedule or timetable for achievement); serial (responsibility for socialisation attributed to a named role model or mentor) and investiture (use of feedback). While one could argue that this conceptual framework is dependent upon the organisation holding appropriate values and principles, it would seem to be helpful in considering key factors in support for learning in practice. While the students could articulate the role of the mentor and the importance of feedback, there was less clarity that their experiences reflected tactics such as collective, formal, sequential or fixed.

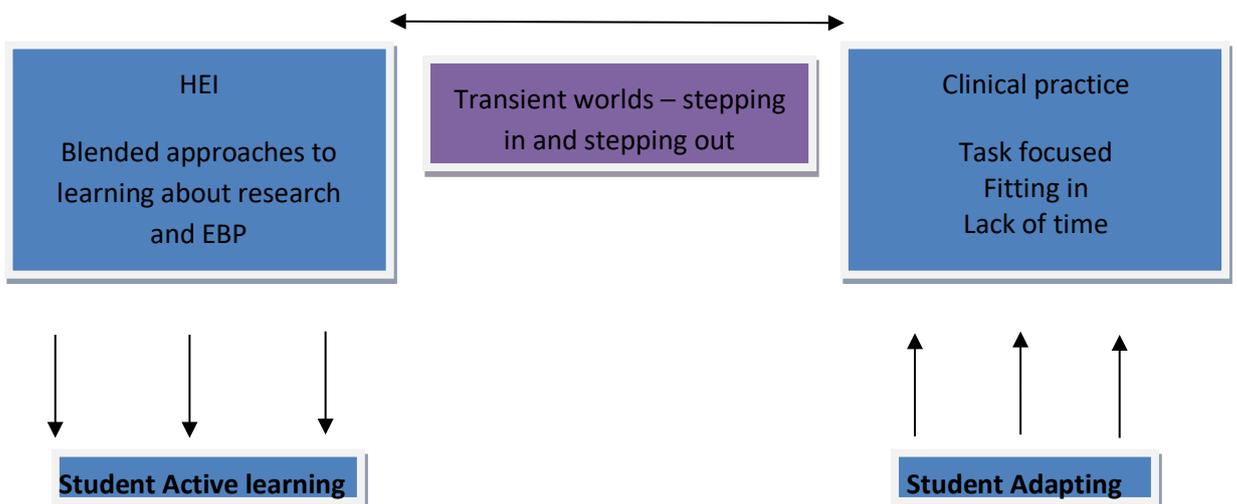


Figure 4: Study findings: Conceptualisation of learning in the context of HEI and clinical practice

Challenges related to the segmentation of nurse education programmes where students migrate between their HEI and clinical practice placements are well reported as are the challenges and implications of this not only in terms of student learning but also their perspectives upon the role of

the professional nurse. Most concerning from the experiences described by the participants in this study were the comments regarding fitting in, trading off and playing the game to get through the placement. Melia's seminal work on student nurse's construction of occupational socialisation (Melia 1984) still appeared to resonate with these students with the reality of passage through their programme being characterised by two distinct segments – *education* promoting the professional perspective of nursing and *practice* the reality of getting the job done. Melia (1984) refers to the findings of her research with nursing students (acknowledged here as having been subject to a training/apprenticeship model of education) citing the challenges of being a student nurse progressing toward professional registration. This includes the notion of passing through clinical practice placements, not spending sufficient time in each placement for sustained education to take place, fitting in as a major component of practice learning (continually adapting and negotiating learning along the journey) with students recognising the need for satisfactory assessment in each component of their programme. Transience combined with the need to fit in, as reported in this study, results in students prioritising the need to “fit in” at the expense of drawing from the educational segment of their programme while learning in the practice placement (Melia 1984). In this study reference was made in the focus group to “play dumb” and “play the game” inferring that the students in this study adopted similar strategies to those reported by Melia's seminal research from many years ago.

Further studies such as Levett - Jones et al. (2008) exploring the concept of student nurse's experiences of belongingness in clinical placements also indicate that placement duration and structure are determinants of how students then engage and actively learn in such environments. Indeed, for some students, practice placement experiences are attributed as the reason for leaving their programme (Eick, Williamson and Heath 2012). Concerning, and more than three decades later, senior final stage preregistration nursing students, with relatively little expertise in nursing, use similar terms to those cited by Melia to describe their own experiences. The persistence of such challenges many years on and as reported in this study would seemingly suggest that the issues are as pertinent now as they were then. Dale, Leland and Gunnar Dale (2013) reported of the findings of a study exploring factors influencing good experiences in clinical placements from the perspective of nursing students. These included the importance of feeling welcomed by clinical staff and mentors, a sustained culture of valuing student learning (again some students reported as being there primarily to undertake tasks or doing a job, similar to the experiences of participants in this study), the mentor's attitude and motivation as well competence to support student learning and most importantly the quality of the relationship between the mentor and the student. One of the desirable attributes of the mentor in promoting and supporting learning is that of having sufficient years of working expertise (Huybrecht et al. 2011).

While the concept of acceptance or belongingness is well reported (Levett - Jones et al. 2006; Levett - Jones and Lathlean 2007; Levett - Jones et al. 2008; Levett - Jones and Lathlean 2009), in terms of the impact upon positive placement experiences it is unclear as to what or who determines the terms of what enables belongingness. Evidence from this study would appear to indicate that some students are willing to trade off, to fit in, knowingly in the context of getting the job done or completing the placement assessment and moving on. The concept of belongingness resonates strongly with students in this study in terms of how they adapted or fitted in with the clinical practice environment. There is evidence of the impact that this had on students learning about research and EBP as well as wider learning and in addition their perspectives about professional practice and future career (Levitt - Jones 2008). It is unclear from the students in this study if they felt they had a legitimate place within the teams and environments in which they were placed with reference to playing the game, trading off and reference to the transient nature of placements.

Given the reported importance placed upon socialisation of students into the real world of practice (Houghton 2014), the inextricable links between how students acquire values and beliefs about the nursing profession and their learning would seem to have significant relevance in the findings from this study within the theme of practice experience. Further evidence of the significance of this to student learning is reflected in the participant's reference to the short nature of placement experiences, moving on and learning a new set of values, beliefs and ways of working as they progress through differing placement areas – the nature of this placement experience interrupts the student's ability to adapt and socialise (Houghton 2014). As Houghton (2014) also contends, continual change may also serve to facilitate the student's ability to adapt to differing environments – something that the students would have to do as qualified nurses and throughout their career. However, evidence from participants in the study, particularly those within the focus group, would seem to indicate that students were somewhat incredulous toward the seemingly repetitive, task focused and unimportant role of the general nurse reporting that they had no intention to end up in a role such as this. It would appear that the expectations and aspirations that some participants held in relation to the role of the professional nurse were not witnessed or experienced while undertaking practice placements. "The ethos created within the CLE ¹can influence how a student 'fit in' with their environment and is central to facilitating students' learning in practice" (Houghton 2014, p 2369).

McIntosh (2006) comments on earlier literature related to the socialisation of preregistration nurses commenting on its one - way process where students fit in to a normative organisation or team, not an organisation which is viewed as a change orientated system. Students therefore act as transient

¹ Clinical Learning Environment

visitors to a range of placement areas which could be considered as static in terms of structure and any culture of change hidden from the student. The negative consequences of such a socialisation process are students lacking the ability to critically reflect upon practice while in the practice learning experience, challenges to idealism and values being sacrificed from those of self-ideals and values to one of an occupational view point of nursing and one which runs the risk of student adaptation by trading off, fitting in and engaging in ritualistic practices. What would appear critical in considering the findings of the study in the context of extant literature as well as reported approaches to enhance teaching and learning and in overcoming the reported and continued challenges related to learning in practice is again collaboration. The importance of providing placement experiences which can focus on learning rather than work and task are unequivocally dependent upon an ethos of ensuring students feel as if they belong in placements as legitimate learning environments (Levett - Jones and Lathlean 2007; Levett - Jones et al. 2009; Kaphagawani and Useh 2013; Ford et al. 2015; Grobecker 2015) compared to other professional groups, nursing students value belongingness (as compared to participation in medical students) a key pre - requisite for learning in the workplace (Liljedahl et al. 2015). This must be developed in a culture of collaboration as well approaches to teaching and learning where by students learn about research and EBP in a contextual approach, with learning more clearly situated in practice e.g. approaches reported such as journal clubs, involvement in clinical projects or students undertaking research and EBP themed activities related to the concepts and practice within the clinical practice placement.

The potential impact upon preregistration nursing students of experiencing challenges in fitting in, not only in terms of their learning but also the personal psychological and behavioural implications are well reported. These include diminished self - esteem, stress and anxiety, depression and general well - being (psychological) as well as the development of affiliative behaviours such as acquiescence, unquestioning and modification of personal behavioural attributes by following opposing values or group norms (behavioural) (Levett and Lathlean 2007). Behavioural implications such as this risk a compliance with group norms in the future and a lack of ability to critically reflect or practice. For some students this manifest in feelings of stress and a sense of frustration and challenges related to the need to continually re adapt and fit into the variety of placements during their programme.

“So it’s something which we all have to be I think certainly my experience of being in teams, in the clinical areas is very often I have not been, I have been the student that has survived, had to fit in. Found it quite difficult at times not being allowed to fit in and then come out of it. So it is a stressor in itself.” (Student 5)

In the context of practice placement experiences the students in the study referred to strategies which are well documented in the literature to adapt to the dissonance between learning in their HEI and practice - their theory - practice gap. While none of the students directly expressed feelings of conflict or distress, they provided examples of behaviours to deal with this gap. As students approaching the final stage of their programme the researcher perceived a sense of passivity amongst students to do nothing other than to go with the flow to complete the placement and gain a positive assessment. In a systematic review of the literature related to the theory - practice gap in nurse education, Monaghan (2015) concludes that the nature of nursing programmes, splitting the curriculum in two, leads to the separation of theory and practice, most pronounced when students are entering the latter stages of their programme

Eick, Williamson and Heath (2012) contend that while poor placement experiences can result in students leaving their programme (further highlighted by Hamshire, Willgoss and Wiberley 2012 and Crombie et al. 2013) the student's ability to adapt and complete their programme is related to the student's personal attributes to deal with stress and self - efficacy in terms of the individual's resilience and beliefs to deal with challenging situations and to exercise some control over such demands. According to Eick, Williamson and Heath (2012), these abilities are correlated with the student's age with more mature students dealing better with such challenges as well as having prior life experiences which enable them to draw upon prior strategies to adapt. Likewise, Crombie et al. (2013) argues that mature students may have prior experiences of working in organisations where systems experienced had enabled them to develop resilience. Students within this study were predominately mature students - all of the students in the focus group (postgraduate preregistration) were mature students who had a range of life experiences, including prior study and work in the public services while participants in the individual interviews (undergraduate preregistration) were also more mature and had prior experience in caring. This may explain how they seemed able to articulate their experiences and frustrations but seemingly were able to adopt strategies to enable them to resolve their experiences or deal with the challenges of practice placements. It would be interesting to conduct a similar study with students who have progressed to HEI programmes directly from secondary education. Like the students in the study, Eick, Williamson and Heath (2012) suggest that students are confronted with the realities of practice, busy environments, areas where staff are short in supply and work involves a comparatively large amount of paperwork all compounded by the dissonance between the expectations developed in the university and the reality of practice. Fowler (2007) comments that the reality of practice and the busy, work overloaded focus presents a real risk that may drain the energy from those who are key stakeholders in student learning which could otherwise be utilised to integrate reflection and experience.

What would appear as key barriers to students taking more direct action where dissonance is experienced or where placement experiences are deemed to be of poor quality, relate to the potential or perceived consequences of students taking such action. Students in the study referred to terms such as 'fitting in', 'playing dumb' and 'trading off' implying that they were willing to negotiate their learning experiences while sacrificing personal values. Dale, Leland and Gunnar Dale (2013) reports on the sometime vulnerable position of students in practice and the perceived sanctions for 'rocking the boat' or being seen as challenging as well as the consistent sanction of the "evaluation ghost" a spectre present in placements whereby being the difficult student results in an unfavourable assessment. Henderson et al. (2012) report students adopting a survival strategy, fitting into the placement environment and undertaking the work required. While students have been reported as adopting a range of strategies and tactics to adapt, Henderson et al. (2012) caution against this becoming the norm for students in that it restricts critical, reflective approaches to learning and prevents students from truly exploring the evidence-base related to the management of patient care. Unfortunately, Henderson et al, in their systematic review of nursing student's perceptions of learning in practice, also found in their study that the learning of skills in practice is formulaic with a nursing culture focusing on the completion of work - related tasks. As Levett - Jones et al. (2006) reported healthcare environments can be at risk of not being the best place to learn. Often, they are focused on workplace goals rather than students leaning goals. HEIs have little control over this.

The segmentation of HEI and practice was clearly apparent in this study and from the experiences of participants these two aspects of their programme were perceived as differing learning environments with active learning focused on research and EBP reported in learning in HEI while a rather more opportunistic and work - related approach to learning was experienced in practice with students seemingly adopting a range of strategies to adapt.

"Em but ... it is, there's lots of things like this that we go to the university campus for and we think about this and we think about that and then we always have to play dumb about it when we get to placement. It doesn't help that it is actually, it's a new job each time you turn up so going into, em, say surgical or chemo ward, learning a new job, completely new skills even the way you've got variations for this so it's not just to get what you need at the university, it's about what you are able to do in a ward." (Student 1)

Bendall (1976) as cited by Maben, Latter and MacLeod Clark (2006, p466) was the first to report the differences between what was taught in theory and what was practiced in the real world (and vice versa) in nurse education. Since this initial report there have been a range of writers who have explored

the notion of a theory - practice gap in nurse education (e.g. see Rolfe 1998, Upton 1999). However, while the term theory - practice gap has been discussed for many years in nursing education, it is defined by Greenway, Butt and Walthall (2019, p1) as "The gap between theoretical knowledge and the practical application of nursing, most often expressed as a negative entity, with adverse consequences". Greenway (2014) firstly contends that this theory - practice gap is compounded by the reliance upon textbooks, instruction guides and in practice, policies and guidelines. Yet these may not be based on the most up to date evidence. Utilising policies as a learning tool according to Greenway (2014) does not promote a fluid and dynamic approach to learning. This presents not only as a challenge in terms of student learning but in the context of practice may result in clinical staff perpetuating out of date practices through use of such policies.

While this point is an important one to consider, it is the researcher's view that the issue is more complex than this, particularly in teaching research and EBP in preregistration nursing. Policies, guidelines and instruction guides are based on a review and synthesis of best available evidence at the time of that synthesis being undertaken. Implementation of such tools in practice seeks to provide pragmatic approaches that seek to improve quality of care, improve patient and public safety, promote positive outcomes and reduce variations in practice. They are the key tools enabling organisations to implement evidence. The notion of individual nurses using research and EBP in their personal professional practice is one that requires clarity - for example how could individual nurses utilise research or evidence in practice that contradicts the guidance of policies or pathways in the context of professional accountability and vicarious liability and what examples of practice may fit into individual use of research and EBP? To further develop this argument, is it not better that students witness and engage in care pathways, instructional guides or organisational protocols to evidence EBP and the link between theory and practice in the absence of any published credible alternatives. What is required is the importance of supporting students in making those connections between evidence and practice within practice learning experiences. Individual practitioner research use as defined by Nutley, Walter and Davies (2007) is predominately conceptual but has the potential to influence changes in practice or policies. Individual practitioner use should not imply nurses being in some way free to select research, evidence or theories to direct their practice at the patient interface. It is contended here that neither HEIs, practice placement providers or indeed the NMC in the UK provide clarity on the statements related to nurse's use of research and evidence in standards or in curricula which serve to exacerbate confusion in the nature of the theory - practice gap and the use of evidence in practice. Perhaps, controversially, the seminal definitions of research use and EBP do little to assist in this respect.

In detailing the attributes of the theory - practice gap, Greenway, Butt and Walthall (2018) cite the growing challenge of maintaining relationships between HEI and practice (made more problematic with the migration of nursing education in the UK to universities) and argued here by the researcher, magnified by the continued directive of a 50/50 split between learning in HEI and learning in practice. Secondly, Greenway, Butt and Walthall (2018) cite the failure of practice to reflect theory and the impacts of organisation factors in preventing practice from enabling nurses from applying theory to practice. If the theory - practice gap persists as it appears to do so, given the experiences of the students in the study, does the current model of education truly reflect the realities of the work of nurses? Finally, Greenway, Butt and Walthall (2018) refer to theories as being perceived as irrelevant to practice, attributable to practice due to a lack of contextualised learning, the lack of research use in practice and the inevitable lag between theories and their eventual implementation in practice. The need for excellent experienced, research minded and reflective mentors are a critical factor in reducing the theory - practice gap according to Greenway, Butt and Walthall (2018). While Greenway, Butt and Walthall (2018) contend that EBP is in itself a contributory factor for the theory - practice gap, it is argued here that EBP is a process rather than an entity and that in this study it is that process of nurses and other practitioners making conscientious decisions about patient care based on best available evidence while taking into consideration the patient and their values and preferences that students could not articulate from their perspectives and experiences. A further issue considered by the researcher is the influence that HEIs can realistically have or pragmatically provide support to placement learning and experiences given implications on physical resources and time. When students undertake placements over a period of time, the HEI has little direct influence upon the reality of that experience (bar providing the student with their assessment documentation and ensuring that other arrangements are in place to support learning e.g. link lecturer, mentors and practice educators). Ironically, accountability for the placement experiences would appear to rest with HEIs and not practice (Crombie et al. 2013). It will be interesting to see how the implementation of new standards for the support and assessment of practice in the UK address these issues of apparent segmentations and the impact on the theory - practice gap as well as the potential psychological and behavioural implications on students. As Duncan and Johnstone (2018) contend, the new NMC standards offer new opportunities for HEIs and practice placement providers, however the changes to supervision and assessment in practice does create the potential of risk, particularly where the prior role of the mentor is often cited as a central factor in student learning and having positive placement experiences (Huybrecht et al. 2010; Dale, Leland and Gunnar Dalel 2013; Foster et al. 2014). Furthermore, HEIs and practice placement providers should also be cognisant of the requirements for the new NMC standards to develop more advanced clinical competencies (Duncan and Johnstone 2018) and in the context of

this study, ensure students learn about the connections between research and EBP to these advanced skills and the evidence underpinning approaches.

The baseline ideals for practice as a newly qualified nurse have for some time been reported as including the need to base care on relevant nursing knowledge and research (Maben, Latter and MacLeod Clark 2006). Maben, Latter and MacLeod (2006) revealed how the ideals espoused through educational programmes were “sabotaged” from the perspective of newly graduated nurses citing empirical examples of organisational sabotage of those ideals (ideals including providing care based on research evidence) as including staff shortages, time constraints, task focused approaches to care, role constraints. These examples again seem to resonate with students in this study in terms of learning about research and EBP approaches to care in the clinical placement environment as well as their general perceptions of the practice placement environment.

Despite decades of development and changes in preregistration nursing education (UKCC 1986, NMC 2004; NMC 2010) these students appeared to vociferously demonstrate the realities of their practice experiences not only in the sense of learning about research and EBP but this as part of a wider set of ideals which were learned in university. Tensions between practice and educational developments and directions still exist. Indeed, one could argue that the development of services through technological advances resulting in higher patient turnover combined with public expectations and ironically the need for healthcare professionals to evidence safe, effective and person-centred approaches to care have added further pressures for nurses. The well reported issues of staff shortages (one of the organisational saboteurs described by Maben, Latter and MacLeod Clark 2006) must not be underestimated to how student nurses are supported in their learning in practice. Positive placement experiences should not only promote learning related to the application of research and EBP to practice but also to ensure students see the relevance of all aspects of their university based education and are socialised into the profession through positive role models, placement teams and mentors (soon to be practice supervisors and assessors) who instil appropriate professional values and thus inform the development of a new generation of nurses, preventing those unfit to make the register from doing so and reducing attrition in those students who encounter reality shock (Jokelainen et al 2011).

The issue of fitting in and adapting as a supernumerary student are well reported and have relevance to this study based upon the experiences described by the participants. Allen et al (2011) argued that in order for effective learning to take place, students by virtue of their supernumerary status have to negotiate their status within the placement area dependent upon how each area view the student's status and the expectations of their performance. For many students these expectations are not

obvious and can be submerged in what is described as the “hidden curriculum” (Allen, Smith and O Driscoll 2011) - the processes, pressures and influences out with the formal curriculum which are not obvious or overt but impact upon the students learning e.g. through the strategies used by role models, teachers and mentors in both the educational setting and the practice placement setting. This is particularly important in professional courses where there are clinical practice placements. Instrumental in the education and learning of preregistration nursing students in the practice learning setting is the mentor who can exert a gate keeping effect in terms of what students learn i.e. the mentor can have a positive or negative influence upon the student learning (Allen, Smith and O’ Driscoll 2011). It is clear from the findings of this study that the students reported varying experiences. Allen et al ‘s study reports a lack of standard processes related to guidance in clinical practice areas as well as the fact that in busy ward environments it is often difficult for students to spend time with their mentor, a problem that may be addressed with the implementation of practice supervisors and practice assessors with the new NMC Standards. However, the context in which nurse’s work is often one characterised by lack of time and lack of staff. Allen, Smith and O’ Driscoll (2011) in discussing the outcomes of their study conclude that a lack of integration between theory and practice, a lack of expectation by mentors which determine the hidden curriculum and thus results in fragmented learning where student need to negotiate their learning and identify their own learning opportunities where mentors may either not be available to work alongside students or act as gatekeepers with little insight to the students learning needs. There therefore needs to be an explicit understanding between education and practice and a reframing of the expectations for learning in practice for nursing students at all levels of their programme.

5.3 Perspectives on professional nursing

The students who participated in the study referred to their observations of nurses working in the clinical practice placement setting. All students inferred that this was viewed as a busy environment whereby nurses were seen to focus on getting the job done in a task focused approach to which the students adapted to over time. Some students recognised that this was all that could be expected of nurses during a twelve - hour shift.

“I think again ... as a nurse on placement you are a nurse between 7am and 7pm and then you go home and then you are a person. I know that sounds like a very different way of putting it but you clock on you do your job you go home, I think that's the culture of healthcare and the NHS nursing at this moment in time.” (Student 1)

Student in the focus group appeared to harbour perspectives on the role of the “general” nurse who had little autonomy in shaping change within the practice setting. Students within the focus group also perceived that individualised care in which nurses adopted EBP was difficult to discern, with one participant in the focus group likening the role of the general nurse as simply doing the job.

***“... if you are a specialist nurse evidence really does shape what you are doing but, say, if you are a generic ward nurse you are just cranking the handle or doing the checkout, that's my take.”
(Student 1)***

While there were some examples where nurses engaged in EBP, the challenges of nurses engaging and working in an environment in which research and EBP are integrated into culture and practice, were perceived by students as related to the busy nature of the practice. Time therefore was also perceived as a key factor. Such factors have been and still are recognised as key barriers to implementation (Veeramah 2004; Rycroft - Malone 2004; Williams, Perillo and Brown 2015). It would appear that the students in this study experienced this first - hand and were able to identify and reflect on such barriers, not only would there appear to have been a lack of time for learning, but from the perspectives of the students in this study, nurses themselves were seen as having little time but to provide, service and carry out their jobs.

“I think it can be difficult to keep up to date with current research. I think it is a challenge for nurses to be continually aware of that. I do see, em, pockets of it. I do see em, nurses striving to do it, em, but it is difficult. It is difficult to make sure that em what practice were doing is in fact current and up to date because nurses need time to actually see it.” (Student 5)

The experiences and perceptions of the students in terms of seeing research and EBP integrated into the daily practices of general nurses resonates with literature related to factors impacting on learning. While none of the students in this study expressed perceptions that nurses were resistant to research and EBP, participants when describing their placement experiences were able to articulate the importance of care being based on best evidence. However, the implications of a lack of obvious engagement with research and EBP by general nurses are reported in earlier studies and reviews (Christie, Hamill and Power 2012; Brooke, Hvalic - Touzery and Skela - Savic 2015; Ryan 2016; Blackman and Giles 2017) in terms of impact upon student attitudes and confidence to carry out care based on research and EBP. The experiences of the students in this study and the resultant perceptions of the role of the professional nurses as a theme, indicate a need to ensure that educational approaches to teaching and learning must reconsider the context in which individual nurses use research and EBP in practice. Understanding this in a more realistic way may enable more relevant connections to be made

between HEI and practice and enable student to see where research and EBP are implemented at organisational and individual levels.

While perceptions and experiences which reflect a lack of engagement with research and EBP among individual nurses were apparent, this did not appear to lead students to devalue use in practice as reported in earlier studies.

5.4 Power and authority in practice

Participants in the focus group shared perspectives on the extent of engagement in research and EBP by general nurses that they had perceived on placement. While the participants had witnessed nurses using care pathways in the placement setting this was interpreted as a formulaic use with nurses perceived as simply filling in a form before moving onto the next patient. The participants in the focus group perceived evidence as hierarchical in the sense of those professionals who are more senior or in specialist roles having time to engage in research and as such those in more senior positions were seen to have some level of control and influence over less senior colleagues in terms of the evidence used to direct practice. Those in less senior roles were seen as being tasked with keeping up to date unless practice introduced mandatory training for staff.

“Every scenario that you can imagine has a care pathway ... there is a falls care pathway, there is a care pathway for nutrition, so someone at a much higher level has, I would assume, taken the evidence-based practice and put it into a form so when it gets down to sort of boots on the ground dealing with patients there is no need for them to think fortunately ... it’s like follow the form and then do it. But we are meeting evidence-based practice but we are not encouraged to consider the evidence-based practice. It’s shut up, do the form, move on to the next patient, there is not time to really engage further so that’s what experience I found anyway.” (Student 1)

Challenges reported with this approach included time to attend opportunities to learn. Students expressed their intention to pursue roles in their future career where influence over practice change could be achieved or realised - somewhat inferring that learning about research and EBP would be deferred for use until a more appropriate point in the future. Interestingly the focus group interview revealed a sense of the purpose of degree/post-graduate preregistration nursing and the potential to utilise this as a general nurse. The findings in the study are reflective of earlier studies exploring research use in nursing. Veeramah (2004) found that the extent of research utilisation correlated with the individual’s clinical grade. Nurses in higher grade bandings reported a higher degree of engagement with research findings attributed to a higher level of autonomy and ability to influence change compared to less experienced staff or staff on lower grade bandings. Interestingly, participants in the focus group asserted that they felt that it was clear that engagement in research and EBP and the ability to influence sat with those in more senior positions or those in specialist roles, a point

corroborated by Veeramah (2004). However, the experiences of one of the focus group participants had questioned the approaches to care in a dementia unit where staff openly verbalised an awareness of the most recent recommendations for practice but a conflict in the way “management” implemented different approaches leading to a perception of power and control being exerted over staff by those in leadership and management positions within the organisations.

“In my last placement which was a mental health placement evidence-based practice was talked about as something that the trust wasn't seen to deliver, so they would say the evidence says A but just look, we do B, C and D anything but A and lots of conversations were like that. So evidencebased practice was kind of a stick to beat management with and I learnt a lot that way about evidence around dementia. But I wasn't introduced to it in a constructive way and evidence-based practice was never introduced or talked about on its own or on its own merits.” (Student 2)

5.5 Education

The study revealed that the students understood research and EBP as evidenced in their insights into learning within their respective HEIs. While the course specification and curricula differed in the HEIs (one postgraduate and one undergraduate preregistration course) there appeared to be awareness and recognition of learning about research and EBP albeit with caveats related to the relevance of the learning to practice. Education related to research and EBP was deemed to be more prominent in the HEI than practice supporting the findings of earlier studies (Florin et al. 2011).

“There's the wonderful research informed theory on campus and then there's do a job at placement. That's the way I see it.” (Student 1)

Students appeared to have positive attitudes toward research and EBP with there being no explicit references to these subjects having no place within the curricula which counters earlier literature which reports on students realising their relevance (Ax and Kincade 2001).

5.6 Summary and conclusions

This chapter has provided critical discussion around the four themes in the context of extant literature. The findings in this study have resonated with that of some of the findings of previous studies and reviews, most notably the general experiences of learning within the practice placement setting for preregistration nursing students as well the challenges for these students in seeing and learning about research and EBP within clinical practice placement settings. The challenges relate to the status of the supernumerary student and the processes of adapting and fitting into each placement for which time is limited and to adjust to accommodate the practices and organisation of those placements to meet the requirements of assessment. There is still a reported gap between learning in HEI and learning in

practice. While these challenges persist, for some students in the study this not only impacted upon their learning but their perspectives on the role of the professional nurse as well as perceptions as to where research and EBP originates and whether nurses truly have autonomy to exercise independent thinking and implementation.

What this study provides as an original contribution to knowledge, is evidence that the stated standards and aspirations of educational and professional bodies around the expectations around research and EBP use do not account for the ways in which research and EBP are implemented in practice (from the perspectives of undergraduate students). The study presents a conceptual model which provides an overview of the dynamic of learning about research and EBP in the practice placement setting. Students' perceived learning in the HEI and learning in practice placements as two distinctly different experiences and at times disconnected "worlds". Students would appear to actively engage and value learning about research and EBP in the context of the HEI. The transient and time limited nature of practice placements appeared to result in students adopting a range of mechanisms to ensure that they completed the placement and obtain a satisfactory assessment. This was evidenced in the ways in which students appeared to invest effort in the need to fit in to the placement environment and adopt strategies which enabled them to engage in the work of the placement area. Strategies reported by student and focused upon adapting to the placement environment resonates with prior literature. While students acknowledge the importance of research and EBP in their learning and future careers, this was seen as the preserve of senior or specialist nurses while the role of the generalist was to focus on tasks from the perspective of students. Generalist nurses were seen as having little influence over change or in engaging with research and EBP. This is of some concern, given that such generalists often act as supervisors or assessors of student learning in practice. The reality of the ways in which nurses use research and EBP in practice, as perceived and experienced by the students in this study, do not reflect the sentiment of educational standards or professional codes. Within practice placement experiences, the experiences of the students in the study would suggest that individual practitioner use of research and EBP is viewed in relation to professionals in specialist or senior roles within the nursing profession. In the main, the role of the non - specialist or general nurse, is seen as one which has little perceived influence in terms of independent decision making or autonomy as seen by nurses utilising care pathways or refuting theory and practices learned by the students in the HEI setting. It would seem that from the experience and perceptions of these students that general nurses either do not explicitly demonstrate the integration of research and EBP in their practice or do so by following policies and protocols e.g. care pathways which are implemented at organisation level.

It would seem from these perspectives that there is a need to review the relationship between learning about research and EBP in the HEI and the practice placement setting. The realities of practice placement for these students is one where there is limited time or opportunity to engage in learning about research and EBP with much time and effort expended in fitting into a variety of different teams and placements across their programme. While HEI and practice placement partners should work more collaboratively in designing preregistration curricula around the new NMC standards, there should also be consideration to the practice placement being an experience whereby students are more actively supported in making meaningful connections between theory and practice (in the context of this study, research and EBP). Such approaches could be provided in terms of structured and supported projects or assessments that students engage in as a requirement in meeting specific competencies relating to research and EBP.

Chapter 6 Relevance to Practice

6.1 Introduction

This chapter further explores the contribution of the conceptual model (see figure 4) presented in the discussion in chapter 5. This chapter aims to bring the discussion beyond the constraints of grounded theory selected as the methodology for the research project. While it is argued here that a whole theoretical discussion is out of the scope of this thesis, this chapter explores the findings from the study and the emergent conceptual model in relation to key theories highlighted within the scoping literature review.

6.2 Conceptual Model

The conceptual model represents the realities of learning about research and EBP from the perspectives of preregistration student nurses. The model's significance lies in the fact that the future of EBP is dependent upon a professional healthcare workforce, inclusive of nurses, that is confident to engage in research. The education of that workforce commences in preregistration programmes. While students were able to articulate awareness and understanding of the need to base practice upon best available research and EBP as demonstrated in their references to positive learning within the HEI, their experiences in practice were somewhat different. Practice experiences were couched in terms of having to fit in, learn the rules and in some cases to deny or negate learning gained in the HEI. While the reported challenges for these students, in terms of fitting in, adapting and acceptance are discussed in the context of extant literature in the previous chapter (for example see Melia 1984; Levett - Jones et al.2008; Levett - Jones and Lathlean 2009; Houghton 2014), the conceptual model presented in this thesis represents a need to redress the perceived separation of learning in the HEI and learning in the practice placement in relation to research and EBP..

The conceptual model provides an overview of the dynamics of theory and practice learning environments whereby learning in the HEI supported the development of the student's knowledge and understanding while learning in practice was an experience characterised by students' perceptions of spending much of their time adapting to and fitting into the practice environment. Within the practice learning environment, students expressed perspectives of transient experiences where - by time was spent adapting and fitting in and where learning appeared to be driven by vocation or task. In both HEIs, course specifications indicated a spiral curriculum adopting blended pedagogic approaches to teaching and learning which are considered the most effective in facilitating knowledge, understanding

and attitudinal change (Ireland et al. 2009; Johnson et al.; 2010; Zhang et al. 2012). However, whilst students within the study reported active engagement and motivation to learn in the context of the HEI, their resultant perceptions of a lack of research and EBP in the practice placement setting is of concern. Resonating with the position of Aglen (2016), the conceptual model would appear to indicate that approaches to teaching and learning may fail to acknowledge the need for these students to be supported in their learning and development to truly understand knowledge transfer and the ways in which research and EBP are implemented in practice. Aglen (2016) also proposes that preregistration nursing students will remain challenged in seeing the relevance of research to practice if they continue to perceive tutors, mentors and professional nurses as providing answers to all of their clinical questions.

Such an expectation socialises students into becoming consumers of knowledge according to Aglen (2016), rather than actively engaging participants in practice placements and potential future creators of knowledge through research activity. This combined with the reported barriers of lack of time for research and EBP in practice placements, perceived lack of use of research and negative attitudes (Fiset, Graham and Davies 2017) risks there being a detrimental outcome for students if experiencing such conflicts. For example Greenway, Butt and Walthhall (2019) make reference to Rushton (Rushton 2006 as cited by Greenway, Butt and Walthhall 2019, p5) and the risk of students experiencing “moral distress” as a result of the perceptions of conflict between learning in the HEI and learning in practice placement: the “differing worlds”. Indeed, and in reference to examples of responses from students in this study, there would appear to be some evidence of such distress where participants refer to “student nurses get a hard time” or “it can be difficult dealing with the tension of what I do here?” Additionally, Greenway, Butt and Walthhall (2019, p5) citing Festinger (1957) identify cognitive dissonance as a phenomena experienced by students when they are faced with new and existing knowledge and practices which conflict with their own values. The resultant discomfort of such distress and/or dissonance can lead to the adoption of adaptive behaviours akin to those reported by students in the study and illustrated in the conceptual model as the “student adapting”. The conceptual model therefore brings into focus the approaches to teaching and learn about research and EBP within their HEI, if this has little or no perceived relevance in practice.

Furthermore, and more concerning, it was unclear as to what influences and processes supported learning in practice for these students. The conceptual model therefore provides evidence of a theory practice gap to learning about research and EBP. This serves to highlight to educational providers, the need to reconsider the relationship between theory learning and learning situated in practice. While the scoping reviews presented in chapter 2 indicated varying impacts of a range of pedagogical

approaches to teaching and learning research and EBP (in terms of knowledge, understanding as well as attitudinal change) the model (figure 4) indicates that there is a need to ensure that effective translation of learning in the HEI to all practice learning environments. In reference to Nutley et al. (2007) and the notion of two research use typologies, it was clear from the perspectives of the students in this study that they harboured clear levels of understanding which evidenced conceptual use i.e. students articulated awareness, understanding and support for the need for practice to be underpinned by best evidence. What was more problematic for these students was evidence of both conceptual and instrumental use of research in the practice placement setting. In all cases, students referred research use to be the domain of more senior or more specialist professionals. Indeed the role of more generalist nurses was viewed by some as a task orientated one, devoid of any evidence of autonomous decision making or application of research and EBP at the point of delivery of care. It is argued that the reported saboteurs for learning about research and EBP in the practice placement setting are similar to those cited by Maben, Latter and MacLeod - Clark. (2006), namely “organisational” (role constraints, time pressure, skill mix) and “professional” (poor role models). While speculative and requiring further research, the reported barriers to research and EBP by professional nurses e.g. lack of time, lack of autonomy (Thomson et al. 2005; Brown et al 2008; Koehn and Lehman 2008; Kajermo et al. 2010; Majid et al. 2011; Heaslip, Hewitt - Taylor and Rowe 2012; Williams, Perillo and Brown 2015), organisational culture and leadership (Sandstrom et al. 2011) do appear in references to the practice setting from the perspective of some of the students in this study.

While the gap between what is learned in theory (the should) and that which is evidenced in practice (the reality) is not a new phenomenon in regard to nursing proficiencies and skills (Greenway, Butt and Walthall 2019), this apparent gap appears from the conceptual model to apply as equally to research and EBP use as it does to practical elements of professional practice e.g. injection technique. Indeed, Greenway, Butt and Walthall (2019) state that the terms “theory” and “evidence”, although separate, should form part of a similar connotation when discussing the theory - practice gap where evidence and research are considered to be a part of theory. This has been exemplified in the conceptual model (figure 4) which serves to illuminate the realities and reasons for the persistence of a theory – practice gap in relation to learning about research and EBP. As this gap clearly applies from the perceptions and experiences of the students in this study, it would seem salient to suggest that at the level of preregistration nursing education, collaboration between HEI and practice placement providers is critical in the development of the nursing profession.

Thus, the conceptual model (figure 4) outlines the persistence of challenges relating to the theory practice gap. The model emphasises the transient and sometimes disconnected characteristics of

practice placements and the strategies adopted by students to fit into this environment often at the expense of their learning. The model also highlights the distinctive differences as perceived by students between that which is learned in practice and the reality of practice. While students in this study recognised the importance of research and EBP and were able to describe positive learning experiences within their respective HEIs as Greenway, Butt and Walthall (2019) contend, students face a conundrum in terms of either accepting that the real world of practice does not reflect that of the world of the HEI or to question practice. From the perceptions and experiences shared by students in the study and as reflected within the conceptual model, students spend time and energy adapting to the world of practice, often following a perceived task based approach to learning. Although students within the study were aware of their right to question practice, often they appeared unwilling to challenge perhaps fearful for the resultant impact that this may have upon the relationship with their mentor or their practice assessment. For students within this study the transition between HEI and practice would appear to have resulted in some levels of stress and dissonance. To overcome this, the conceptual model highlights the importance of both academic and clinical staff, working collaboratively to bridge the theory practice gap and where possible, collaborating on joint projects or research studies which enhance the profiles of professionals in both HEI and clinical practice. Evidence from the scoping reviews (chapter 2) supports this proposition with evidence of impact where partnership approaches are taken e.g. see Gray (2010), Andre, Aune and Braend (2016). However, a fundamental issue highlighted within the conceptual model is that of final year preregistration nursing students, while understanding the importance of research and EBP, are not witnessing or seeing how this relates to the practice setting.

6.3 Relating key theory to the conceptual model

At the outset of this chapter, the conceptual model was presented as significant given the need for preregistration education to ensure that the future workforce is able and confident to engage in research. While learning in the HEI appears to harbour positive outcomes in terms of knowledge, understanding and attitudes, the reported constraints and barriers to research and EBP use in practice (Kajermo et al. 2010; Heaslip, Hewitt -Taylor and Rowe 2012; Williams, Perillo and Brown 2015) by professional nurses combine to cause conflict amongst student nurses. To enhance equitable and consistent exposure to research and EBP, there needs to be better collaboration between HEIs and practice placement providers. One solution to address the imbalance presented in the conceptual model may be to draw from existing models and theories to inform more effective ways of ensuring meaningful connections between that which is learned in the HEI and in its application to the practice placement setting. From the scoping review in this thesis, Cronje and Moch (2010) provide a potential

means of addressing this, drawing from Roger's Diffusion of Innovations theory to present a Student – Enabled Practice Change Model. Cronje and Moch argue that the future success of research and EBP in practice involves a re - envisioning of the role of student nurses as opinion leaders to promote the dissemination and diffusion of EBP practice, to the benefit of both the student and professional. Citing from Everett Rogers (1995) Diffusion of Innovations theory, Cronje and Moch (2010, p23) present five characteristics of innovations which influence the pace at which the innovation is adopted:

1. The innovation has perceived benefit over the practice it supersedes;
2. The innovation is compatible with existing culture and values;
3. The innovation must be easily understood and easy to use;
4. The innovation must be able to be trialled before full commitment;
5. The innovation must have visible impact.

Cronje and Moch argue that EBP is an innovation which shares none of these characteristics. According to the authors EBP is an abstract concept, the benefits of which are not readily visible, requiring nurses to question their professional practice and alter their practice in ways that may be deemed inconvenient (Cronje and Moch 2010). Considering the seminal definition of EBP (Sackett et al. 1996), EBP requires that nurses utilise best current available evidence to inform decision making in partnership with patients which can sometimes seem at odds with organisational expectations of how healthcare professionals work within teams. Therefore it is feasible that this explains why there is now a plethora of literature exploring barriers to research and EBP use as discussed in chapter 1. Indeed the implementation of clinical guidelines and care pathways (and other similar protocols or organisational policies) may possibly negate the need for nurses to adopt research and EBP in their personal professional practice. Greenway (2014) supports such a position in discussing the theory – practice gap in nurse education. Where, in the context of this thesis, EBP can be considered part of the theory in the theory – practice gap, Greenway (2014) contends that a reason for the lack of EBP by professional nurses may lie in a reliance on the use of such policies or guidelines. Secondly, the prescriptive nature of some policies or guidelines restrict the truly dynamic nature of the nurse – patient relationship and the spirit of Sackett et al (1996) and their definition of EBP (Greenway 2014).

Given the reported challenges of learning about research and evidence based practice, Cronje and Moch (2010) emphasise a need for education to reconsider the role and relationship between nursing students and practice. Cronje and Moch (2010) posit that Rogers's theory, with the central role of social networks in the diffusion of innovations, suggests that students can serve as "opinion leaders" who actively engage with their professional peers. There is potential to draw from Rogers's theory in terms

of the relevance of social learning theory and diffusion theory. Cronje and Moch (2010), recognise the potential for social networks to be more fully deployed in nursing curriculum. In reality, this approach may have the potential to provide students with opportunities to interact with professionals to enable them to integrate EBP in practice placement settings. In a second paper Moch and Cronje (2010) attest to the success of curricular innovation drawing on diffusion theory which could overcome the perceived challenges of students as represented in the conceptual model (see figure 4). Facilitation and construction of more *socially* relevant relationships (in Moch and Cronje's case, New Knowledge Discussion Groups and Student – Staff Partnerships) between students and professional nurses would appear to provide evidence of a means to narrow the perceived differences as represented in the conceptual model (see figure 4) and encourage engagement in research and EBP among student nurses as well as contribute to the overcoming of barriers to the diffusion of research and EBP among professionals.

In nursing curricula, particularly those which are informed by regulatory body standards (NMC 2018b) which continue to place emphasis upon EBP, those students in the final stage of their programme could be considered as having some degree of command in the skills of EBP. Again drawing on the work of Rogers, Cronje and Moch (2010) argue that these very students could be considered to being an “early adopters” playing an important role in the diffusion of research and EBP knowledge in practice. While nursing students may hold similar values and knowledge as that of their professional counterparts, their enthusiasm and engagement with research and EBP should make educational providers consider designing curricula that enables these students to engage in research or EBP related projects which are situated in their practice experiences e.g. reviews, quality improvement projects, and which serve to further develop their skills but also support and promotes research and EBP in practice.

Chapter 7 - Conclusions, Recommendations and Limitations

7.1 Introduction

In chapter 4 the findings from the analysis of data were presented and in chapter 5, these findings were discussed in the context of extant literature. Chapter 6 presented a discussion related to the conceptual model and the contribution that this has made in terms of understanding the concepts influencing preregistration student nurses' ability to relate learning about research and EBP to practice. In this final chapter the main conclusions from the study are presented as well as suggested implications for both education, limitations of the study and further research.

The purpose of this study was to explore the perceptions and experiences of preregistration nursing students to learning about research and EBP in the clinical practice placement elements of their programme. The study built upon previous research which explored approaches to teaching and learning as well as the attitudes of nursing students toward research and EBP. The study did so by exploring how learning in clinical practice placements was experienced from the perspective of the students themselves.

7.2 Main conclusions

The findings from the study provide evidence that students still face challenges in practice, not only from the perspective of learning about research and EBP but also wider issues related to the factors impacting upon their experiences in placement. In this respect the findings of the study are consistent with previous studies reporting on the wider experiences of students when undertaking clinical practice placements. The findings from the study would also indicate that there needs to be bespoke approaches to teaching and learning, if students are to learn more effectively about research and EBP. The existing literature relating to approaches to teaching and learning appeared to indicate that collaborative approaches to teaching and learning between HEIs and their practice placement partners serves to assist in contextualising learning to practice as well as enabling professional nurses to engage in the learning with students. While reports regarding a theory - practice gap in nursing education continue, the study provides further perspectives upon the challenges of ensuring that preregistration student nurses are enabled to apply learning situated in the classroom in structured and relevant ways in practice. It has been suggested that adopting collaborative approaches to teaching and learning will not only enable students to recognise the relevance of research and EBP in practice but will also enable

practice to engage students in projects or activities which serve to inform enhancements and improvements in practice. However, for this to happen, HEIs and practice placement partners must work in closer collaboration to address the continued reported challenges experienced by students during practice placements. There should be strengthened support for learning in the placement as an active and real workplace and in preparing students for the reality of the practice environment. Additionally, there would appear to be benefit in HEIs and practice placement partners reconsidering the frameworks of support for students learning in practice and the avoidance of this responsibility falling to one individual, the mentor/practice supervisor. Within this, there must be time identified and protected in practice placements if students are to benefit in translating learning within the HEI to learning in practice.

The findings from this small - scale study provide evidence of similar perceptions and experiences from preregistration nursing students in two distinctly different regions of the UK. The implications of the findings, particularly those of the experience of practice are concerning, not only to these students being able to apply learning about research and EBP in practice but also in terms of their general perceptions of practice and the focus on tasks or work. It is difficult to see, in the context of these findings, how nurses at the point of registration can be realistically enabled to apply the proficiencies required of the NMC as a result of the reality of the practice setting. In some ways the published standards of the NMC are in themselves dissonant from the perceived realities of professional practice (bar those in more senior or specialist roles) for the majority of general nurses. This is exemplified in the conceptual model presented in chapter 5, where the realities of learning about research and EBP in practice placements is problematicised by students by virtue of the transient nature of their being in placement as well as organisational and professional issues which present barriers to them actively engaging in meaningful learning. Indeed, it would appear that much time is invested by students in fitting in and learning the ropes of differing placement settings while aware that the realities of practice do not truly reflect their learning from the HEI.

The findings from this study reaffirmed some of the prior literature exploring teaching and learning research and EBP in the context of clinical practice placements in preregistration nursing education. This in itself is a significant finding. The perspectives of the students in this study related to the clinical practice placement environment being one characterised by a focus on a task orientated system, a busy environment where time constraints are real and one where students adopted a range of strategies 'of survival to meet their clinical competencies' and move onto the next placement have been reported for some time (Melia 1984) and have continued to be a subject of research interest to nurse educationalists. While these findings may be considered unrelated to the research questions in this study, as the primary researcher and nurse educationalist with considerable experience, their

continued reference raises concerns. Firstly, while a separation between the learning that takes place in university and that which is perceived to take place in practice will continue to risk to erode the philosophies and principles underpinning recent advances in nurse education and the advancement of nursing as a profession (for example the move to an all graduate profession, NMC 2010), the perspectives and experiences provided by the participants in this study seem to contradict the key tenets espoused by experts and professional bodies to EBP. While participants could cite examples of why EBP is important and some examples of where they could see what they considered EBP in practice e.g. care pathways, clinical guidelines, the findings of this study would suggest that the nurses engaged in EBP by following such guidelines and from the perspective of some students simply “follow the form” or “move onto the next patient”. This may infer a lack of understanding as to how research and EBP is used by nurses in practice but equally, students felt subsumed into a working environment where discussion and engagement with research and EBP were not experienced unless they themselves were proactive in identifying opportunities to learn or learning from those in more specialist roles. The separation of learning in HEI from the reality of learning in practice may indicate that educationalists, while preparing and developing pre-registration nurses as consumers of research are not truly preparing or indeed enabling them to be users of research in the clinical practice setting, a point supported by Badger, Daly and Clifford (2012) in a review the content of preregistration nursing (as well as Allied Health Professional) programmes in selected HEIs in the UK. Furthermore, as supernumerary, students do not have the autonomy to exercise decision making based on research and EBP further challenging learning in practice.

While there are a range of barriers related to research and EBP use among staff nurses that have been proposed and reported in the literature such as lack of leadership, confidence, ability, time (for example see Rycroft - Malone 2004; Kajermo 2007; Hewitt - Taylor 2012), given what the students in this study observed in terms of the work of nurses, there would appear to be a need to review and reflect more accurately how nurses combine the challenges of practice with research and EBP use. As Hewitt - Taylor (2012) suggests it may be useful to clarify more precisely what research and EBP use for these nurses should mean. The nurses referred to within this study appeared to be engaging in EBP through care pathways or could discuss with students the rationales for nursing interventions but students somehow expected more individual engagement from their mentors/ supervisors to EBP to facilitate their learning. Barriers to research and EBP use are out with the scope of this particular study but it would seem salient for educational providers to consider research and EBP use by nurses when devising curricula and learning for preregistration students. Do educational providers adopt appropriate approaches to teaching and learning that are attuned to the key ways in which general nurses can evidence use of research and EBP in practice? Aglen (2016) makes a distinction between

two main approaches to teaching and learning – learning skills related to information literacy and learning about the research process. Despite innovative approaches within the literature and as evidenced in this study, students still struggle to see the relevance of EBP to practice e.g. general nurses do not evidence the five - step approach to EBP (information literacy) in their day to practice and neither do they have or demonstrate knowledge of the research process in day to day practice.

There is a risk that pedagogical approaches of these types do not reflect the reality of practice and thus as evidenced in this study can lead to students harbouring negative views of nurses where they do not see direct, individual and autonomous use of research and EBP. The use of care pathways for example is according to Hewitt - Taylor (2012), still viewed as practice that has been based on national guidelines, even when individuals utilising the guidelines have not appraised the basis of the evidence of the guidelines themselves. Do educational providers therefore, convey an idealistic and indeed unrealistic perspective of the realities of practice and the wider use of research and EBP at national, local, organisation and service levels? Given the considerable body of literature published on research and evidence use by nurses it is unsurprising that the rhetoric that all nurses should consistently and autonomously use research and EBP in their professional practice as well as the principles and standards within codes and standards, translates into educational approaches which do not truly reflect the realities of the working environments in which nurses work. Within this study the students were however of the perception that those in more senior positions or specialist roles were engaged in research, research and EBP use and thus there may be an opportunity to use such specialists as research or EBP champions both in the practice setting or in terms of inputting to education within HEIs. It would appear from the findings of this study as well as the evidence from the scoping reviews undertaken in this thesis that educational providers must ensure that teaching and learning is contextualised to practice at the very least. It may be very possible that there are unrealistic expectations regarding the level at which practising nurses engage in research and EBP (Hewitt - Taylor 2012).

While the points proposed here regarding the questionable relevance and potentially idealistic portrayal of research and EBP by HEIs may seem contentious, there is clearly a need to address what the researcher initially couched as an education practice gap but having considered the findings of this study in the context of prior literature and knowledge and experience in nurse education may now consider a practice education gap. Do the pedagogical approaches in teaching and learning research and EBP consider the reality of practice? Are we overtly ambitious as nurse educationalists regarding the nature of explicit use of research and EBP by nurses? From this study it could be argued that the students could identify research and EBP in practice but expected more engagement at the nurse – patient interface. As Hewitt - Taylor (2012, p357) argues, “there is distinction to be made between

care, which is ritualistically performed on the basis of little evidence, and practice, which is in accordance with national guidelines”.

From this study, the most pronounced observation made by the researcher was the reality of research and EBP as perceived by the students in the study and the dissonance between learning in the HEI and learning in practice, not only in the theory - practice sense but also in the way in which students, through their experiences described the realities of the work of the nurse in two distinctly different geographical locations. It is clear that the context in which research and EBP is really reflected in HEI must include closer collaborations with healthcare and placement providers. While facilitating learning related to the steps of EBP via information literacy would appear to be a useful and indeed important skill for preregistration nursing students to learn in terms of composing assignments and in reflecting upon aspects of their practice placement experiences it would also seem pertinent to propose that the introduction of collaborative initiatives such as journal clubs, involvement in improvement projects and ensuring that there is clear guidance regarding the objectives relating to learning about research and EBP (e.g. explicit guidance within practice assessment documents to ensure clarity and consistency) may enable students to engage in learning which is more constructively and contextually aligned to their practice experiences. While these proposals demand organisation and resource implications it is feasible and given the importance placed upon preregistration student nurses having skills and knowledge related to research and EBP as the future generation of professionals would be a pragmatic step in the right direction in terms of demystifying the realities of nursing practice and how most nurses will use EBP in practice and crucially provide some sense of consistency to the way students learn across all placements.

While there is some work to clarify the operational aspects of the new standards in terms of the supervision and assessment of students in practice, the new NMC standards (2018) provide an opportunity to introduce these changes when most HEIs will implement new programmes between 2019 and 2020. Closer collaboration between the practice and academic assessor as well as collaborative curriculum development between HEIs and their placement provider partners serves as a point in which these proposals could be developed and realised as well as opportunities for a narrowing of the segmentation of education and practice through collaborative teaching interventions which take educationalists into practice and clinical staff into the educational setting. Finally, it is critical to consider the scope of this study and its focus upon learning about research and EBP in clinical practice placement setting. Empirics (Carper 1978) or empirical evidence forms one part of the knowledge nurses use in the provision of care and educational providers in collaboration with partner placement providers should acknowledge it as such in curriculum design. Facilitating students to learn about research and EBP is vital however it should be done in the context of other sources of knowledge

informing decision making and changes in practice and should not be seen as having hierarchical importance and the researcher deems it important to state this as a nurse educationalist.

7.3 Recommendations

Although the findings from the study are not generalisable, there are a number of outcomes which should be considered by HEIs when reflecting upon current and future approaches to learning. There is also a need to undertake further research, particularly around the factors impacting upon placement learning as well as further validating the findings from this small - scale study.

7.3.1 Recommendations for education

For providers of NMC approved preregistration nursing programmes there is a need to ensure that programmes not only facilitate learning related to research and EBP from an earlier stage but that students at some point in their programme are able to learn within a more collaborative and integrated approach, one which enables both HEI and clinical staff to reciprocally support learning either in the placement or in the classroom. Newly qualified graduate nurses are more likely to pursue careers in nursing which integrate practice with engagement in research, service evaluation, and audit or quality improvement projects if they perceive research and EBP as being of importance and are confident in their own skills relating to these subjects. Students in this study clearly see the relevance of research and EBP. What seems key from the findings from this study is that educational providers review current strategies of teaching and learning about research and EBP to consider:

1. Educational approaches should ensure that indicative curricula content is developed to highlight professional knowledge, the context of research and EBP to professional knowledge as well as ensuring students are equipped with skills related to EBP;
2. Educational providers should carefully consider the duration of placement placements to ensure that students are sufficiently presented with opportunities to learn while minimising the impact of transition;
3. Education in practice placements related to research and EBP must be underpinned by collaborative approaches between HEI and practice providers to enable preregistration nursing students are able to contextualise their learning (approaches should consider student engagement in placement related projects, journal clubs or inclusion in improvement projects);
4. For newly qualified graduate nurses, incentives related to clinical – research career pathways could be considered for these students who have a particular interest in research;

5. Professional bodies should provide clarity as to the definitions of research and EBP use by individual nurses in professional regulatory codes and standards.

7.3.2 Recommendations for practitioners

1. Practitioners should ensure that transparent communications related to the implementation of evidence in practice is provided to all students either at organisational or departmental level;
2. Where practicable and relevant, students should be encouraged to have opportunities to participate in research or quality improvement projects related to their placement setting;
3. Practitioners with responsibility for supervision and assessment of students must ensure that there is protected time within placements to ensure students are enabled to make connections between theory and practice;
4. Practitioners should ensure that wherever possible, students are exposed to a breadth of experience within placement settings e.g. time spent with research nurse/team or quality improvement and that learning is not solely based upon the provision of care at the point and place of delivery.

7.3.3 Recommendations for further research

While it is recognised that this study has limitations the implications for further research are as follows:

1. Based upon the key theme “experiencing practice”, there should be further investigation of the perceptions, opinions and/or experiences of preregistration student nurses to practice placement learning. The new NMC standards for preregistration nursing education provide a timely rationale for doing so;
2. There is scope and rationale to undertake a larger scale study exploring preregistration student’s perceptions of research and EBP and the approaches taken by HEIs;
3. There is scope to undertake a larger scale study investigating the concept of research and EBP in preregistration nursing programmes with an aim to inform national approaches in future.

7.3.4 Limitations

The study did encounter challenges relating to the recruitment of participants and thus collection of data. This prevented the researcher from developing an emergent theory. Therefore, while the researcher initially set out to develop a theory grounded in the data from interviews and developed through a constant comparative method while applying the analytical tools aligned with grounded theory (in terms of coding techniques) the study reached a stage where the selected analytical and

coding techniques (Strauss and Corbin 1998) were used descriptively to identify key categories and themes from the data.

At its conclusion the completed study therefore does not claim to be grounded theory research which led to the generation of theory but rather a study which adopted particular grounded theory techniques to explore the phenomena of preregistration student nurse experiences of learning about research and EBP in the context of their clinical placements. As the study encountered significant challenges in obtaining participants, the researcher can only acknowledge that a genuine commitment to apply a Straussian grounded theory approach was taken at the outset but in reality, the study can only claim to have applied the principles of this approach in terms of the underpinning philosophy, data collection and data analysis methods. In doing so a clear and honest account of the research methodology, methods and outcomes are provided and no assertion is made by the researcher that this study commenced and completed in the manner intended and thus any emergent theory. While attempts to recruit participants at one HEI proved problematic despite a number of approaches taken to invite students to take part, the researcher sought to ensure any alternative opportunities to recruit students were explored and this did result in participation from a second HEI. On reflection the position and role of the researcher in the HEI in the north of Scotland may have impacted upon participant's willingness to participate in the study. Furthermore, the study focused upon six preregistration nursing students on NMC approved courses in the UK. There is no claim that these students were representative of other students on similar courses. The small sample size means that the findings of this study are not generalisable.

However, the data collected still provided revealing insights which are worthy of reporting and discussing in the context of existing literature and conceptual frameworks leading to meaningful outcomes and proposals. As Birks and Mills (2011) state, all researchers should be able to evidence that their research will engender knowledge that will be relevant and of use in terms of new insights. As argued earlier in this thesis, Strauss and Corbin (1998) state that grounded theory techniques can lead to meaningful outcomes in terms of useful insights and descriptions without necessarily building theory. To do this the researcher must move the analysis of data beyond description. Subsequently and crucially, the challenges presented in the recruitment of students to the study were clearly underestimated and impacted upon the progress of the study as well as the ability for a theory to be emergent from the analysis of data. The study does build upon existing knowledge and was conducted in a manner that provided outcomes which will be useful as HEIs develop curricula around the new NMC Standards. The study provides positive confirmation that HEIs and practice placement providers should work collaboratively to ensure that learning gained within the HEI is directly transferrable to

the practice setting. Opportunities that enable students to be active contributors to the enhancement of practices in the healthcare setting would not only allow students to see more clearly the relevance and translation of theory to practice but would also enable practice placement providers to view students as not only learners but also as resources that can make meaningful contributions to the placement setting through participation in projects or in supporting the continued development of nurses.

The new NMC Standards for education provide opportunities for closer collaboration between HEIs and practice partners. Refocusing the purpose of practice placement experiences for preregistration nursing students as primarily ones related to learning rather than occupation and task could serve to enable students to more ably translate learning from the HEI into practice. In the context of learning about research and EBP this could be realised by engaging students in practice based projects including journal clubs, reviews of research and evidence relating to the clinical area or in utilising final stage preregistration nursing students as active contributors to small scale improvement projects which would not only utilise EBP skills but would assist in practice providers gaining from the skills and knowledge of such students, build confidence in students themselves and help students see the relevance of research and EBP in the context of professional careers. This would serve to overcome some of the reported challenges with the perceived gap between theory and practice, overcome some of the reported barriers of research and EBP use in practice and develop a future generation of nursing professional who from an early stage in their career possess the competence and confidence to engage in practices which reflect the aspirations of professional regulatory bodies and standards.

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Appendix 1 – Phase 1 Literature review - results

Author, year of publication and country of origin (by primary author). Theme.	Sample	Aim of study	Design Data collection	Key findings/conclusions
1.Ax and Kincade (2001). UK Knowledge, attitudes, perceptions	12 pre-registration nursing students.	To explore nursing student perceptions of research usefulness, implementation and training.	Qualitative approach. Semi structured interviews.	The study revealed that students mostly disagreed with research training and they reported that they would be reluctant to conduct research in the future. A recurring theme was that of resistance to research both from students themselves and from qualified nurses and managers in clinical practice. The students did not expect to study research as part of their course and students placed preference to more practical subjects. Additionally the students were unsure of the nature of nursing research and how it could be applied usefully.
2.Brown et al. (2009). USA. Knowledge, attitudes, perceptions	458 nurses at an academic medical centre.	To describe nurses practices, knowledge and attitudes to EBP and the perceived barriers and facilitators of EBP.	Cross sectional survey.	The main barrier to EBP use was organisational i.e. time, lack of autonomy. Facilitators were seen as learning opportunities, culture and access to resources. The study found a correlation between barriers/practice, knowledge and attitudes. Educators should collaborate with practice managers to address organisational barriers and promote EBP.
3.Callaghan et al. (2011). UK. Educational strategies	16 members of academic staff and 27 pre-registration health profession students.	To explore student's evaluation of an innovative teaching resource aimed at enhancing students understanding of generic research concepts.	Qualitative –initial focus group workshops with academics to identify key concepts considered important to research appraisal were followed by focus group interviews conducted with students enrolled on pre-registration health profession courses	Academic staff considered three key components to be of importance in framing the students learning – research design, research terminology and interpreting data. The students felt that the use of interactive audio visual resources demystified the topic and that the approach was more engaging and interesting compared to text books. The use of audio visual media enhanced the students learning.
4.Callister et al. (2005). USA. Educational strategies	n/a	To describe student perceived benefits and challenges to integrating inquiry based approaches to promote EBP within a	Peer reviewed discussion paper outlining the integration of research and scholarship in a baccalaureate programme	Students report enhanced interest in EBP and participation in research, enhanced critical thinking and motivation to develop professionally via life - long learning, a desire to become consumers of

		baccalaureate programme.		research and to pursue post graduate study as a result of an inquiry based approach to the curricula.
5. Carlisle and Ibbotson (2005). UK. Educational strategies	51 students from multi professional health professions studying a research methods module. 6 module facilitators.	To evaluate problem based learning (PBL) as an approach to teaching research methods.	Mixed methods – questionnaire surveys completed by students after each module theme (Theme evaluation questionnaire) and a summative module evaluation (response rate 29%) and focus group interview with two student representatives and six module facilitators.	The use of PBL was positively evaluated by both students and module facilitators. The role of the facilitator was seen as a critical factor in terms of supporting the process of the group as opposed to imposing knowledge.
6. Cronje and Moch (2010). USA. Educational strategies	n/a	The paper aims to argue that curricula reform should take into account the undergraduate student nurses as “opinion leaders” and through meaningful social interactions with practicing nurses, EBP will be better integrated within both groups.	Peer reviewed discussion paper	Nurse educators must look to ways in which to integrate EBP not only into student learning but also into the practice setting from which students will emerge. Drawing from Rogers diffusion of innovations the authors propose that students should have opportunities for meaningful social interactions with practicing nurses and that viewing students as opinion leaders that can influence the adoption of EBP in practice may have influence on practice settings with EBP skills that some senior nurse managers lack.
7. Day et al. (2005). Canada. Knowledge, attitudes, perceptions	50 undergraduate student nurses participated in interviews with a further 81 completing the questionnaires.	To explore student nurses evolving beliefs about nursing	Mixed methods – interviews and questionnaire surveys	Student move from a lay to a professional image of nursing across the four years of their course. While some beliefs remained idealistic, by the fourth year of their course, students identified essential attributes of the nurse as being confident and caring, providing effective care as well as being organised and assuming the roles of teacher, resource, researcher, change agent and advocate.
8. Desjardins et al. (2005). USA. Educational strategies	A total of 380 surveys were completed by undergraduate nursing students from across three cohorts.	To describe the effect of an evolving informatics for evidence based practice curriculum on nursing informatics competencies.	A repeated measures non - equivalent comparison group design. Questionnaire survey.	The evaluation demonstrated that the incorporation of informatics into the curriculum was successful.
9. Florin et al. (2011). Sweden. Knowledge, attitudes, perceptions	1440 undergraduate nursing student from across 26 universities (68% of total population).	To investigate Swedish nursing student’s experiences of educational support for research utilisation and their capability beliefs in regard to evidence based practice skills.	Cross sectional survey. Questionnaire.	Students perceived there to be greater support within educational institutions compared to clinical education settings in their support for research utilisation. Support across educational institutions varied and students reported high capability beliefs in regard to

				evidence based practice skills. However large variations were found across universities in relation to specific skills – formulating a research question, searching, appraising and compiling best evidence.
10.Graue et al. (2010). Norway. Educational strategies	33 nurses participating in a diabetes education programme which integrated evidence based practice completed the initial questionnaire and 24 completed the final questionnaire.	To explore student’s abilities to search, locate and appraise research evidence and to explore their perceived barriers to implementing evidence based knowledge and skills into practice.	Survey – Pre/post course questionnaire.	Students reported enhanced ability to search for and critique research evidence by the end of the course. Reported barriers to implementation of evidence based knowledge and skills in practice included lack of time, the working environment, organisational and structural issues, organisational hierarchy, fear of judgement, competing demands and fear of change.
11.Gray (2010). USA. Educational strategies	13 baccalaureate nursing students participated in a focus group while 34 students completed a survey at the end of second year and a further 30 students completed a survey at the end of year three.	To evaluate the effectiveness of an educational research partnership between baccalaureate nursing students and practice nurses in enhancing knowledge and use of the research process.	Longitudinal descriptive study. Data were collected via focus group and questionnaire survey.	The collaboration between students and practice nurses on an evidence based research project was identified by participants in the focus group as being the experience which most positively impacted on their learning. Students reported that learning was most effective when they collaborated with nurses who were enthusiastic about working on the project. Students learned least when partnering nurses who were less enthusiastic and who did not intend to implement changes. Positive learning occurred when students were engaged in real clinical issues. The third year survey reported students appreciated nurse’s experience, views on the topic and increased appreciation for EBP to improve patient outcomes. Although there were reported logistical challenges, students experienced how evidence based practice can be integrated into the reality of what nurses do.
12.Ireland et al. (2009). UK. Knowledge, attitudes, perceptions	The study reports on phases 1 and 2 of a longitudinal cohort study. Phase 1 – 36 undergraduate nursing students completed a questionnaire. 7 of the 36 phase 1	To evaluate a blended learning approach to teaching and learning “Research and evidence based practice” from the perspective of knowledge, attitudes and	Longitudinal cohort study using a mixed methods approach.	Phase 1 - Students rated most elements of the blended learning approach useful. Students’ demonstrated higher levels of knowledge at the end of the module (bar knowledge relating to ethics). Phase 2 – focus group responses indicated that there were

	participants took part in a semi structured focus group interview.	experiences of undergraduate nursing students.		eight themes which related to the students perspectives on the impact that the learning had. Conducted one year after completion of the module, participants appeared benefit from the blended approach and reported that they appreciated the relevance of their learning as they undertook the final clinical practice placement.
13.Irvine et al. (2008). UK. Educational strategies	53 undergraduate nursing students 4 lecturers	To explore the perceptions of student nurses and lecturers in relation to strengths and weaknesses of an experiential approach to learning about research.	Mixed methods – a questionnaire survey was conducted with 53 student nurses (48 completed the questionnaire) who participated in an experiential approach to learning about research. In addition data were collected via graffiti boards following classes. A focus group interview was conducted with 4 lecturers who had acted as group facilitators.	Module evaluation gained a mean satisfaction score of 85.3%. This related to the entire module and not just the research components. The graffiti board data and focus group with lecturers helped to provide deeper understanding. The structure of the module was positively evaluated in respect of the use of a VLE and its ability to provide enhanced access to resources and the sharing of work. Concerns were raised in relation to workload both in terms of students and demands placed on lecturing staff. The approach promoted ownership, encouraging learners to set their own goals, taking more responsibility for their learning however facilitation factors led to some students expressing a lack of ownership while dysfunctional group dynamics did threaten the success of this initiative. The outcome of the approach revealed positive regard for the sessions with students reporting enhanced knowledge and skills however in regard to personal impact the module led to a polarisation of views.
14.Jack et al. (2003). UK. Educational strategies	n/a	To describe an educational initiative whereby a joint initiative approach was adopted by an educational institution and a local Trust to deliver an evidence based practice course.	Peer reviewed discussion related to the development and implementation of a joint initiative between education and practice to deliver evidence based practice course.	The development of a joint initiative based course led to student nurses identifying and agreeing a clinical issue with their own nurse manager and educational facilitator. Students submitted a written report and presented their findings to both educational and Trust based staff. A range of benefits are reported from the perspectives of the students and Trust: in addition to knowledge and understanding of EBP a

				range of skills were acquired e.g. formal presentation and other impacts reported related to the benefit of student outputs to the development of clinical guidelines and service improvement. In addition the benefits of the outputs to patient care are highlighted.
15. Johnson et al. (2010). UK. Educational strategies	n/a	To discuss an innovative approach to teaching and learning research and evidence based practice with undergraduate student nurses.	Peer reviewed discussion paper which critically discusses the development and implementation of a blended approach to teaching and learning research and evidence based practice.	The paper emphasises the importance and emergence of research and evidence based practice in undergraduate nursing curricula. The authors argue that educationalists must consider carefully the approaches to teaching and learning adopted as these ultimately influence learner motivation and in turn attitudes toward research. Surface approaches to learning occur when subjects such as research are seen as of no real relevance to practice and therefore students have little intention in applying learning in their working practices. The authors conclude by arguing that blended approaches to teaching and learning serve to enhance the student experience as well as addressing the often varied ability and learning styles of undergraduate nursing cohorts.
16. Killeen and Barnfather (2005). USA. Educational strategies	n/a	To discuss an educational strategy in which students are supported in successfully implementing evidence based practice.	Peer reviewed discussion paper which outlines an educational strategy to successfully prepare baccalaureate nursing students to be successful in implementing evidence based practice in their nursing career.	The authors describe an educational approach which places nursing students with clinical managers and clinical teaching associates to identify real relevant clinical problems. The educational institution supports students in searching, reviewing and synthesising evidence. Using the Conduct and Utilisation of Research in Nursing (CURN) model students along with support from faculty and clinical teaching associates conduct a public presentation related to their change project. As a result of the student projects, some of which were sustained across semesters, practice agencies were assisted in a range of ways – implementation of

				strategic planning by managers, improvements in staff knowledge by attendance at presentations, continued collaboration between students and staff as projects continued, some projects assisted in healthcare agencies achieving the requirements of commissioning bodies, enhanced recruitment of students to professional nursing roles.
17. Kim et al. (2009). USA. Educational strategies	208 senior baccalaureate nursing students. (88 in intervention group – E FIT, 120 in control group, standard teaching).	To evaluate the effectiveness of an evidence based practice focused interactive teaching (E FIT) strategy.	Quasi experimental controlled pre and post - test study. Data were collected via a knowledge, attitudes and behaviours questionnaire for evidence based practice.	The control group received standard teaching in the form of a Nursing Leadership/Management Theory and Clinical Practicum course at two universities. The intervention group undertook the E FIT intervention which included a 2 hour introductory lesson on the basics of EBP principles and processes as well as descriptions of clinically integrated EBP projects that would be carried out in partnership with clinical preceptors. The intervention group demonstrated statistically significant higher post - test evidence based practice knowledge and evidence based practice use than the control group. However there were no statistically significant differences between the intervention and control group in relation to attitudes toward evidence based practice and future use of evidence based practice.
18. Mattila and Eriksson (2007). Finland. Educational strategies	50 nursing students	To examine the significance of a learning assessment in regard to research skills and the learning of students in clinical practice.	Questionnaire survey administered at the end of a six week clinical placement. The questionnaire comprised open ended questions which were analysed by content analysis.	Students participating in this study reported that the learning assessment (an individual oral presentation of a research article to peers and ward nurses followed by discussion) advanced their familiarisation with a research article, understanding of research concepts and terminology as well as considering utilisation of research in developing nursing practice.

<p>19.Mattila et al. (2005). Finland. Educational strategies</p>	<p>257 nursing students.</p>	<p>To evaluate the learning in relation to the research process and utilisation of research knowledge in nursing students when writing their bachelor thesis.</p>	<p>Descriptive survey – questionnaire.</p>	<p>The researchers found that writing a bachelor thesis was an effective way for nursing students to use research knowledge. Students evidenced that they understood the steps of the research process well, most were able to report that they had observed research results being implemented in practice and more than 50% reported that attitudes toward research in clinical practice were positive.</p>
<p>20.McCurry and Martins (2010). USA. Educational strategies</p>	<p>72 baccalaureate nursing students.</p>	<p>To evaluate innovative approaches to teaching undergraduate nursing research to millennial learners and to compare students perceived effectiveness of innovative to traditional approaches.</p>	<p>Questionnaire: one adopting a Likert Scale to evaluate the effectiveness of teaching strategies. A second qualitative instrument was used to enable students to evaluate the most enjoyable and effective activities as well as any changes that may be made to the class.</p>	<p>The researchers found that there was a statistically significant difference between innovative and traditional approaches. Innovate approaches (including collaborative learning tasks, presentations by clinical nurse researchers, oral group presentations and posters) were reported as being more effective in supporting students to meet learning outcomes than traditional approaches (including textbook reading, didactic lecture, library orientation to nursing databases). The researchers demonstrated from the qualitative instrument that 75% of students reported positively on group approaches to learning consistent with the known learner preferences of millennials. More than 50% reported a need for more online learning and small group interactions.</p>
<p>21.Moch and Cronje (2010). USA. Educational strategies</p>	<p>Not stipulated but inclusive of nursing students who engaged in the learning assignment.</p>	<p>To evaluate the effectiveness of an integrated curriculum model which seeks to fully and systematically exploit the potential for academic-practice partnerships in promoting EBP in students and practising nurses.</p>	<p>Action research – data collection methods included process summaries, participant surveys, student surveys, interviews and surveys with staff and unit administrators, student’s journals and presentations.</p>	<p>The researchers describe two key approaches – “Students as Leaders of New Knowledge Discussion Groups” and “Student Staff Partnerships”. The discussion groups provided lively and meaningful discussions. The curriculum model demonstrated that it was possible for nurse educators to enable practice change by creating innovative approaches to socially meaningful partnerships between students and practice nurses which has the potential to effect change in practice from the lower points in the organisational hierarchy.</p>

<p>22.Moch et al. (2010). USA. Educational strategies</p>	<p>n/a</p>	<p>To review nursing pedagogy literature related to the integration of evidence based practice into the nursing curricula for undergraduate nursing students.</p>	<p>Peer reviewed literature review.</p>	<p>The authors, through an extensive review of literature, argue that with an increasing need to integrate learning about EBP into nursing curricula, educationalists have been unable to immerse students in learning about EBP in the real world clinical settings. The literature included in the review that addresses active roles for students in clinical settings (albeit limited) suggests that enabling students to interact in a more active way with practicing nurses may indeed assist in removing barriers for EBP use among such professionals.</p>
<p>23.Moore and Hart (2004). USA. Educational strategies</p>	<p>n/a</p>	<p>The paper presents strategies adopted for teaching nursing research online as well as brief description of the outcomes of course evaluation from, students.</p>	<p>Peer reviewed discussion paper which presents strategies used in teaching a degree nursing research course online.</p>	<p>The authors report that the online approach enabled students to have access to a wider range of resources including online databases. The online approach enabled faculty staff to provide enhanced functionality to manage student assignments and to provide enhanced levels of feedback. The authors also report enhanced guidance and communication with learners. Faculty did however report that the online approach consumed more time than traditional didactic approaches. Student satisfaction with the course was very high.</p>
<p>24.Morris and Maynard (2008). UK. Educational strategies</p>	<p>3 undergraduate nursing students who had participated in the EBP cycle and 2 mentors.</p>	<p>To explore the feasibility of implementing an evidence based practice cycle into a practice area within an undergraduate nursing programme.</p>	<p>Pre and post test evaluation to assess the process and outcome of the EBP cycle utilising two questionnaires (one to assess changes in EBP knowledge and skills and one related to issues of implementation and the perceived value of the EBP cycle).</p>	<p>The EBP cycle consisted of four meetings over a five week period in a cardiac intensive care unit. Students participated with their mentors. The author's rationale is based on earlier literature that shows that EBP educational interventions may improve knowledge but not EBP in the clinical setting. The EBP cycle consisting of the identification of a patient problem and a student led journal club. Students demonstrated modest improvements on post testing related to changes in EBP knowledge and skills. Students reported that the EBP cycle had resulted in some value in developing their knowledge about the EBP process, in searching, retrieving and appraising evidence. Participation</p>

				<p>resulted in students having enhanced understanding of the relevance of EBP in clinical practice. Further reported benefits included positive influence upon the way the students approached the care of patients, integration within the unit team. Students reported challenges in accessing practice protocols, the lack of knowledge of clinical staff and inconsistent support from clinical staff. Mentors reported challenges related to time.</p>
<p>25. Mulhall et al. (2000). UK. Educational strategies</p>	<p>206 participants took part in the workshops (a response rate of 84% was achieved for the questionnaire administered following all workshops). 13 participants took part in interviews.</p>	<p>To evaluate the impact of nine two day workshops (accredited by the RCN) which sought to help nurses, health visitors and midwives to critically appraise research and implement research in their place of work.</p>	<p>Mixed methods – semi structured questionnaire survey and pre workshop telephone interviews and post workshop focus groups.</p>	<p>The workshops resulted in participants reporting via questionnaire a reduction in fear and lack of understanding in relation to research. The workshops also led to a clarification of research terminology and increased critical appraisal skills. Participants attitudes to research was positive in the pre workshop phase and this did not alter i.e. improve any further as a result of the workshops. Interviews further confirmed the findings of the questionnaire survey. The authors acknowledge the challenges of individuals overcoming the “system” in terms of translating education initiative learning directly into their clinical practice. Local support is imperative in supporting individuals and developing newly acquired skills.</p>
<p>26. Schmidt and Brown (2007). USA. Educational strategies</p>	<p>n/a</p>	<p>To describe the use of the Innovation-Decision Process Teaching Strategy (I DPTS) to promote evidence based practice.</p>	<p>Peer reviewed discussion paper.</p>	<p>The authors describe an innovative teaching strategy for senior level baccalaureate nursing students. Clinical practice issues were identified by local healthcare providers. The issues were then analysed by students – searching, reviewing and appraising evidence, determining best practice, and developing a policy for implementation. Oral and poster presentations were provided to practice representatives by students. The authors state that the “I DPTS” allows students to learn about the essential steps in EBP adoption and to develop the necessary competencies for students</p>

				overcome barriers related to implementing best practices.
27.Shorten et al. (2001). Australia. Educational strategies	108 1 st year undergraduate nursing students completed the pre programme questionnaire. 71 1 st year undergraduate nursing completed the post programme questionnaire. 72 2 nd year undergraduate nursing students also completed the post programme questionnaire.	To evaluate the development of information literacy skills and changes in student confidence following the implementation of an information literacy programme.	Pre and post programme questionnaire with 1 st year undergraduate nursing students and a post programme questionnaire were administered with 2 nd year undergraduate nursing students who had not completed the information literacy programme.	The authors describe the evaluation of a curriculum integrated model for information literacy seen as a pre-requisite to an evidence based practice approach to nursing. Using this approach information literacy is integrated into the teaching, learning and assessment of course objectives as opposed to knowledge transmission through stand - alone approaches. Students who had undertaken the programme scored higher in the post programme questionnaire than those who had not. Programme students scored higher on their ability to use library catalogue. Self - assessed confidence in searching tasks was higher in the programme group.
28.Stone and Rowles (2007). USA. Educational strategies	42 students agreed to participate in the study. The student's preceptors (n=42) in their final clinical experience participated in telephone interviews five months after the clinical experience concluded.	To explore whether research utilisation projects undertaken by baccalaureate students could impact on nursing practice within clinical units.	Structured telephone interviews.	Baccalaureate nursing students completed a research utilisation project in their final clinical placement. The partnership project focused on a clinical issue assigned within the unit. The student projects were evaluated positively by preceptors with evidence that the project outcomes had enhanced nursing staff knowledge as well as prompted the basis for change on most of the units.
29.Strickland et al. (2012). UK. Educational strategies	Two cohorts of undergraduate nursing students (cohort 1 = 228, cohort 2 = 233). 71 students completed the questionnaire in total (15% response rate).	To evaluate the introduction of podcasts in an undergraduate nursing research module.	Online post module questionnaire comprising both quantitative and qualitative data.	The researchers report on a number of themes from both quantitative and qualitative data provided by students. Impact on the learning experience – students valued the audio visual nature of the podcasts. Personal interaction was also valued. The research found that the podcasts had assisted students in understanding module content and the flexibility of podcasts as well as their integration into the module provided students with a variety of ways in which to learn. Students reported high levels of satisfaction with podcasts in terms of enhancing research – teaching linkages. Convenience of access was

				reported however the main reported issue was in relation to problems with technology.
30.Veeramah (2004). UK. Knowledge, attitudes, perceptions	340 newly graduated nursing and midwifery students (51% responded the questionnaire survey).	To assess the impact of research education on the attitudes towards research and the use of research	Cross sectional postal questionnaire.	96% and 87% of students stated that their critical appraisal and search skills respectively had improved since graduation and 50.5% reported using research findings in practice frequently. The majority of graduates reported positive attitudes toward research. However the researchers report that a significant number of respondents reported having a lack of time and access to research in the workplace. A number of respondents required more support in implementing research findings in practice and in developing critical appraisal skills. Despite educational interventions to facilitate knowledge and skills related to research utilisation in nursing curricula there would still appear to be barriers in relation to time, skills of fellow professionals in relation to knowledge and skills of existing workforce, resistance to change and availability of resources in the workplace. Furthermore the extent of research utilisation was found to be correlated with hierarchical grade – those with more authority reported higher use of research than those in lower positions.
31.Waters et al. (2009). Australia. Knowledge, attitudes, perceptions	677 post registration nurses and 1134 final year nursing students. 126 post registration nurses and 257 final year nursing students responded (combined response rate 21%).	To determine current knowledge and attitudes towards EBP amongst pre and post registration nurses.	Postal questionnaire survey examining perceptions of EBP.	The researchers report that both pre and post registration nurses have a positive attitude toward EBP with preregistration nursing students expressing more confidence in their EBP skills. Self - reported knowledge and skills were low to moderate in both pre and post registration groups. The researchers conclude that although nurses and nursing students demonstrate positive support to EBP, nurses and recently graduated nurses do not have the requisite knowledge and skills to enable direct involvement

				in evidence implementation. Nurse leader should consider the EBP knowledge needs of their workforce and in influencing more practical approaches in nursing education towards EBP guidelines relevant to the clinical context.
32.Zhang et al. (2012). China. Knowledge, attitudes, perceptions	Convenience sample of 75 undergraduate nursing students.	To evaluate the effectiveness of learning strategies – self - directed learning and workshops during clinical practicum.	Quasi experimental with a one group pre intervention survey, interventions and post intervention survey. The questionnaire concerned three parts – participant demographic data/study background, knowledge/attitudes/beliefs/behaviours about EBP and a subjective evaluation of the learning process.	The researchers exposed participants to two educational interventions during a clinical practicum – a self - directed learning process for EBP basics and a workshop for critical appraisal of literature. The researchers found statistically significant improvements in knowledge, attitudes, beliefs and behaviours following the interventions even although most students had an educational background in research. The majority of students indicated some or complete satisfaction with the self - directed activities and the workshops. The researchers conclude that knowledge, attitudes and behaviours are inextricably interconnected and this educational intervention addressed this goal. Some students requested more opportunity to apply evidence in practice however this was deemed difficult given that this requires critical analysis and the ability to make decisions. Application of the skills gained to practice is still lacking in the students which the researchers suggest could be addressed through partnership approaches to learning EBP reported elsewhere.

Appendix 2 – Phase 2 literature review

Author, year of publication and country of origin (by primary author). Theme.	Sample	Aim of study	Design Data collection	Key findings
1. Aglen, B (2016). Norway. Educational strategies	n/a	Review of international articles about pedagogic strategies to teach bachelor degree nursing student's evidence based practice.	Peer reviewed systematic review – peer reviewed, original, empirical articles describing pedagogical approaches to teaching EBP at bachelor level nursing students published between 2004 and 2014.	There are considerable efforts toward teaching nursing students about information literacy and research topics. Strategies adopt student active learning methods however students still fail to see how research findings relate to practice. Prior to being introduced to research and EBP topics students must have insight into knowledge transfer related to clinical questions and their own epistemic assumptions.
2. Al Qadire, M (2019). Jordan. Knowledge, attitudes, perceptions	316 undergraduate nursing students from nursing schools within three government universities.	To evaluate Jordanian nursing student's knowledge of EBP.	EBP Knowledge test administered via Questionnaire Survey. Data were analysed using SPSS.	The mean total score as measured by the EBP knowledge test was low (1.9 out of 10). EBP courses need to be evaluated and developed. Critical appraisal and evidence synthesis skills need to be refined as they were found to be very weak.
3. Andre et al. (2016). Norway. Knowledge, attitudes, perceptions	5 undergraduate nursing students in their final year at a University College in Norway.	To explore how nursing students should increase their knowledge and skills related to EBP via participation in clinical research projects.	Pilot study utilising a qualitative approach. Students participated in two clinical research projects. An open ended questionnaire incorporating Likert - Scale questions. Open ended questions were subjected to thematic analysis.	Students reported that they were motivated to participate in the project but reported low levels of knowledge in relation to EBP. However students reported improved attitudes toward EBP as a result of their involvement in the project thus providing evidence that pedagogical approaches can impact on student attitudes.
4. Ashktorab et al. (2015). Iran. Knowledge, attitudes, perceptions	170 final year undergraduate nursing students from two faculties of nursing and midwifery in Tehran, Iran.	Investigation of nursing student's knowledge, attitudes and intention to implement EBP as well as factors influencing implementation of EBP.	Cross sectional questionnaire survey using the Rubin and Parish Questionnaire.	Results demonstrated that nursing students did not have a high mean score in the three subscales i.e. knowledge, attitude or intention to implement EBP and thus there requires to be enhanced education focused on EBP as well as support for implementation in patient care. The study demonstrated significant correlation between knowledge, attitudes and intention to implement EBP.
5. Badger et al. (2012). UK. Educational strategies	Eight Universities in the north of England and 46 research and evidence based practice module guides from pre-registration nursing/AHP degree level programmes.	To review the content in pre-registration nursing/AHP degree level programmes to describe the content of such programmes and to ascertain the extent to which clinical research appeared in programme content.	Documentary Analysis involving categorisation of programme guide content. Data were analysed using SPSS.	Pre-registration nursing programmes focus upon producing graduates who are competent consumers of evidence based practice rather than clinical researchers.

6.Blackman and Giles (2017). Australia. Knowledge, attitudes, perceptions	375 completing undergraduate nursing students.	Use of a hypothetical model to explore factors influencing nursing student's ability and achievement to understand and apply EBP to health care provision.	Non experimental descriptive survey to collect self - reported EBP efficacy estimates of 375 completing undergraduate nursing students.	Nursing student graduate's ability to understand and apply EBP is directly and indirectly predicted by: understanding in the analysis, critique and synthesis of clinical nursing research, ability to communicate research to others and their actual witness of staff providing EBP in clinical practice.
7.Brooke et al. (2015). UK. Knowledge, attitudes, perceptions	22 1 st year, 38 2 nd year and 10 3 rd year undergraduate nursing students from a university in the UK and a university in Slovenia. A total of 70 students participated in 10 focus groups.	To explore nursing students perceptions on the importance of EBP and research.	Qualitative approach using an Interpretative Phenomenological Analysis. Data collected via focus groups using cross sectional sampling of 1 st , 2 nd and 3 rd year nursing students in UK and Slovenia.	Although students understood the importance of research and EBP they found the subject challenging and difficult to understand. Students reported a lack of clinical nurse's involvement in research and therefore struggled to appreciate how they could maintain their EBP and research skills once graduated.
8.Christie et al. (2012). UK. Educational strategies	n/a	How to maximise nursing students learning about research for evidence based practice in undergraduate pre-registration programmes.	Peer reviewed literature review	Nurse educators have a vital role in ensuring that research is fully embedded throughout nursing curricula and beyond the classroom. Nursing students must be able to appreciate the importance, use and relevance of nursing research for patient care both in the academic and practice based settings.
9.Davidson and Candy (2016). Canada. Educational strategies	30 undergraduate nursing students.	Pilot study evaluation of an innovative game based approach to learning to improve student learning, engagement and satisfaction in an online EBP course.	Questionnaire survey – course specific as well as standardised end of course evaluations (only 10 students completed the end of course evaluation) and game platform analytics.	Students reported high satisfaction with this innovative approach. Analytics demonstrated high levels of engagement and motivation to learn with a game based approach.
10.Finotto et al. (2013). Italy. Educational strategies	300 newly graduated nursing students from a degree programme.	Exploration of student's perceptions of the benefits and skills acquired during a three year EBP laboratory programme integrated into both the academic and clinical learning setting.	Questionnaire survey adopting a 10 Likert Scale.	The structure of the three year laboratory led to students reporting acquisition of the relevant skills related to EBP. The intervention led to students having skills related to the EBP process, however, the clinical context was found to lack the necessary opportunities for learning about the EBP process.
11.Fiset et al. (2017). Canada. Educational strategies	n/a	A scoping review which sought to explore the amount, range and type of research focused on student's use of evidence in clinical education.	Peer reviewed scoping review	37 studies were reviewed and the study describes the reported barriers and facilitators to student's engagement with EBP. The most common barriers were lack of knowledge and skills related to EBP, negative attitudes of students, nurses and faculty toward EBP as well as lack of support for learning about EBP in clinical education. The review reports that educators can overcome such barriers with appropriate educational approaches such as EBP projects either used alone or in combination with workshops or journal clubs. All

				but two of the educational intervention studies reviewed reported positive outcomes. The review recommends partnership approaches between academic and clinical agencies to promote learning about EBP in the clinical setting.
12.Forsman et al. (2012). Sweden. Knowledge, attitudes, perceptions	1319 newly graduated nursing students.	To investigate newly graduated nursing student's intentions to utilise research instrumentally in clinical practice and to determine whether intention itself can be a predictor of subsequent research use one year following graduation.	Questionnaire Survey – Data were collected within a national survey; Longitudinal Analysis of Nursing Education.	34% of newly graduated nursing students reported an intention to use research on more than half or almost every working day in future clinical practice. However a large proportion of respondents (44.4%) rated their intention to utilise research as a low. A small proportion (1.5%) reported that they never intended to use research in clinical practice. The study concluded that the results demonstrate negative views toward evidence based practice. The study found that reported intention can be a predictor of subsequent behaviour.
13.Gercek et al. (2016). Turkey. Knowledge, attitudes, perceptions	390 senior nursing students from across six schools of health.	To compare awareness and attitudes of Turkish nursing students toward research and development in nursing.	Descriptive cross sectional study utilising a Likert type scale to measure nursing student's attitudes to and awareness of research and development within nursing.	The study found that students mean scores increased in line with the level of ECTS credits for learning related to research, information literacy, research process and academic writing skills. The study also concluded that a minority of students (6-7%) believed that using research in clinical practice was unnecessary. The authors recommend multidimensional learning methods to promote learning and positive attitudes toward research.
14.Hornthvedt et al. (2018). Norway. Educational strategies	n/a	To identify strategies for teaching evidence based practice in undergraduate nurse education.	Peer reviewed thematic literature review using Braun and Clarke's six phase analysis.	The review identified four key themes – interactive teaching strategies e.g. PBL, workshops, flipped classroom, group work and seminars, interactive clinically integrated strategies e.g. learning assignments based on clinical practice, learning outcomes and barriers i.e. lack of information literacy skills and knowledge, challenging collaboration – group dynamics and clinical practice. Educators must consider interactive and clinically integrated teaching strategies.
15.Keib et al. (2017). USA. Educational strategies	Two cohorts (n=109) of degree nursing students who were undertaking a mandatory nursing research and EBP course.	To evaluate changes in nursing students perceptions and confidence in research and EBP as well as interest in research participation following completion of a	Pre and post course questionnaire survey.	The study demonstrated significant improvements in student's perceptions and confidence in research and EBP following the course however there were no significant improvements in student's intention to perform

		research and EBP course.		or participate in research in future.
16.Laaksonen et al. (2013). Finland. Educational strategies	The study sample consisted of 216 nurses and 235 undergraduate student nurses.	To explore nurses and nursing students experiences of journal clubs as a means of collaborative learning	Semi structured questionnaire survey.	The journal clubs focused on clinical questions related to clinical practice. Students were responsible to search and review evidence related to the clinical question. Students (75%) reported that their competence to search appraise and be able to communicate research to improve and that the collaboration with nurses was beneficial. There were variations between student's perceptions e.g. mental health students reported 75% benefit while only 20% of students attending medical nursing reported benefit. The journal clubs were, however, seen as demanding by students e.g. due to workload and lack of time for the journal club, poor attendance.
17.Leach et al. (2015). Australia. Knowledge, attitudes, perceptions	The sample consisted of undergraduate nursing students – 84 (24%) completed the pre programme questionnaire and 33 % (39% of pre programme) completed post completion.	To measure the impact of an undergraduate research education programme on nursing student's attitudes, skills and uptake of evidence based practice.	Pre and post completion of programme questionnaire survey.	Participants reported significant improvements in EBP skills but no change in attitudes following the programme. The students reported that inadequate skills related to EBP were less of a barrier to EBP use post education.
18.Llasus et al. (2014). USA. Knowledge, attitudes, perceptions	174 undergraduate nursing students in the final semester of their educational programme.	To explore newly graduated self - reported EBP knowledge, readiness and extent of EBP implementation and to examine the relationships between knowledge, readiness and extent of EBP implementation.	Cross sectional survey	Students demonstrated awareness of EBP and the need to use knowledge informed by evidence in practice but less knowledge of the EBP process. Although reporting EBP readiness students were less confident in basic EBP competencies which the authors attribute to the lack of opportunity to practice these competencies throughout the programme, including clinical practice. EBP implementation was low amongst the students with little use of EBP database sources, little formulation of clinical questions. The authors attribute this to the practice – education gap with practice settings having limited ability to adopt EBP and limited mentorship/preceptorship relating to EBP.
19.Malik et al. (2016). Australia. Educational strategies	23 nursing academics	To explore the processes undertaken by nursing academics when integrating EBP into teaching and learning practices into undergraduate nursing education.	Constructivist Grounded Theory – data were collected via semi structured interview, observation and programme outlines.	Influencing EBP integration is used to discuss educational approaches to integrate EBP knowledge and skills into the undergraduate nursing curricula. Traditional didactic approaches to learning are ineffective and pedagogical approaches should seek to

				engage students actively in the learning process.
20.Mattila et al. (2013). Finland. Educational strategies	53 undergraduate nursing students.	To explore what nursing students report to have learned from research knowledge and how nursing students assess the utilisation of research knowledge in nursing and its development as a result of participation in journal clubs.	Questionnaire survey.	Participation in journal club facilitated learning related to reading research articles but not solving nursing problems, the research process or research methods. The journal club facilitated discussion about nursing research, provided a forum for support and guidance on research utilisation and served to foster collaboration between nurse education and nurse practice.
21.Reid et al. (2017) UK. Knowledge, attitudes, perceptions	311 first year undergraduate nursing students.	To formally evaluate the attitudes, beliefs and knowledge level and utilisation of EBP amongst undergraduate nursing students.	Pre and post - test questionnaire survey.	Students had developed their knowledge and understanding of EBP in nursing. Exposure to the EBP course alongside clinical practice placements resulted in students evidencing that they were able to use evidence and EBP guidelines to inform their nursing practice. The study also demonstrated significant improvement in EBP skills e.g. critical appraisal, searching for evidence and clinical question. The authors do caution however that this may not translate into EBP use as qualified nurses.
22.Ruzafa-Martínez et al. (2016) Spain. Educational strategies	75 undergraduate nursing students were assigned to the intervention group with 73 undergraduate nursing students not assigned to the intervention acting as the control.	To evaluate the effectiveness of an EBP course on EBP competency in undergraduate nursing students.	Quasi experimental study with non - randomised intervention and control groups. A pre and post intervention questionnaire was administered. Comparison of intervention and control group scores was measured before and two months following the educational intervention. 78.7% of the intervention group and 83.6% of the control group completed the follow up questionnaire.	A variety of learning methods e.g. online, face to face, peer group workshops/discussions, teamwork and oral presentations were adopted in the course. The intervention group exhibited significant improvement in scores for EBP attitudes, knowledge, skills and EBP competence following the stand alone course.
23.Ryan (2016). Australia. Knowledge, attitudes, perceptions	n/a	To explore undergraduate nursing student's attitudes toward the use of research and evidence based practice and factors influencing this.	Peer reviewed integrative review.	The author finds that nursing students attitudes and use of research and evidence based practice are based upon their self - perceived capability, attitudes as well as the attitude and capabilities of those supporting their learning in practice i.e. mentors, staff. Although students appear to be generally positive toward use of research in EBP they report experiences whereby lack of support and opportunities exist in clinical practice. Students face cultural and attitudinal barriers and therefore lack confidence to practice autonomously.

<p>24.Scurlock-Evans et al. (2017). UK. Educational strategies</p>	<p>56 undergraduate nursing students (55.4% studying embedded EBP and 44.6% studying modular EBP).</p>	<p>To compare the impact of embedded approaches to EBP in curricula design with modular based teaching on the EBP profiles of undergraduate nursing students.</p>	<p>Longitudinal panel study comprising questionnaire survey in the first, second and third year of an undergraduate nursing programme measuring four domains – frequency of use, attitude, knowledge and skills in retrieving evidence and knowledge and skills in applying and sharing evidence.</p>	<p>The study found no significant difference between the two approaches – both demonstrated improvements in all domains over time bar attitudes which remained positive across all years. The embedded approach demonstrated a reduction in scores for retrieving and applying evidence in year two which the authors attributed to timing of placements/theory. Consideration should be given toward structure of course features which may have an impact upon nursing students ability and perception of their knowledge and skills in the application of EBP.</p>
<p>25.Smith-Strøm et al. (2012). Norway. Knowledge, attitudes, perceptions</p>	<p>14 second year, undergraduate nursing students.</p>	<p>To examine the experiences of undergraduate nursing students in relation to the implementation of EBP in the clinical setting.</p>	<p>Qualitative approach adopting focus groups with second year undergraduate nursing students.</p>	<p>The study found that students were enabled to apply EBP within the course syllabus. The EBP course purposively established collaboration between academic faculty and practice – students applied the EBP process to clinical issues identified from practice. Students were able to apply knowledge of EBP and understood the relationship with quality improvement. However the students reported significant challenges in applying EBP in practice due to lack of time, support from mentors, and knowledge in the clinical setting and focus on other priorities. The leader's commitment to EBP was critical to student's motivation. All students reported that most nurses did not engage in EBP work that the students were undertaking. Nurses viewed learning about the foundations of nursing as more important than time spent researching and reading articles.</p>
<p>26.Tumala and Alshehri (2019). Saudi Arabia. Knowledge, attitudes, perceptions</p>	<p>212 undergraduate nursing students.</p>	<p>To assess the competence of nursing students about EBP and its related factors.</p>	<p>Cross sectional survey.</p>	<p>The majority of students reported a positive attitude toward EBP, 56.6% were not familiar with the process and 63.2% reported that they had received no formal education related to EBP. The majority of participants demonstrated awareness of integrating research with patient care to improve healthcare outcomes. The authors conclude that EBP education is critical to improve attitudes, knowledge and skills but that such education must also improve student's confidence in use of EBP in clinical practice. This could</p>

				include journal clubs, clinical conferences.
27.Wong et al. (2013). Australia. Knowledge, attitudes, perceptions	n/a	To determine the effect size in knowledge, attitudes, behaviour, skills and confidence outcomes following EBP training in degree level programmes.	Peer reviewed systematic review	The review found that there were significant increase in student EBP knowledge, skills and confidence however there were less changes in student attitudes over time – the authors conclude that this may be due to the nature of EBP education focusing on the EBP process at the expense of focus toward influencing student attitudes and behaviours. Given the relatively short duration of many educational interventions it is likely that these approaches will have little impact upon attitudes and behaviours. Attitudes of students toward EBP require longer time to develop and are benefitted with better opportunities to apply knowledge and skills in real clinical settings.

Appendix 3 – Ethical approval letter: HEI Scotland

Mr Neil Johnson
Senior Lecturer
School of Nursing and Midwifery
Robert Gordon University

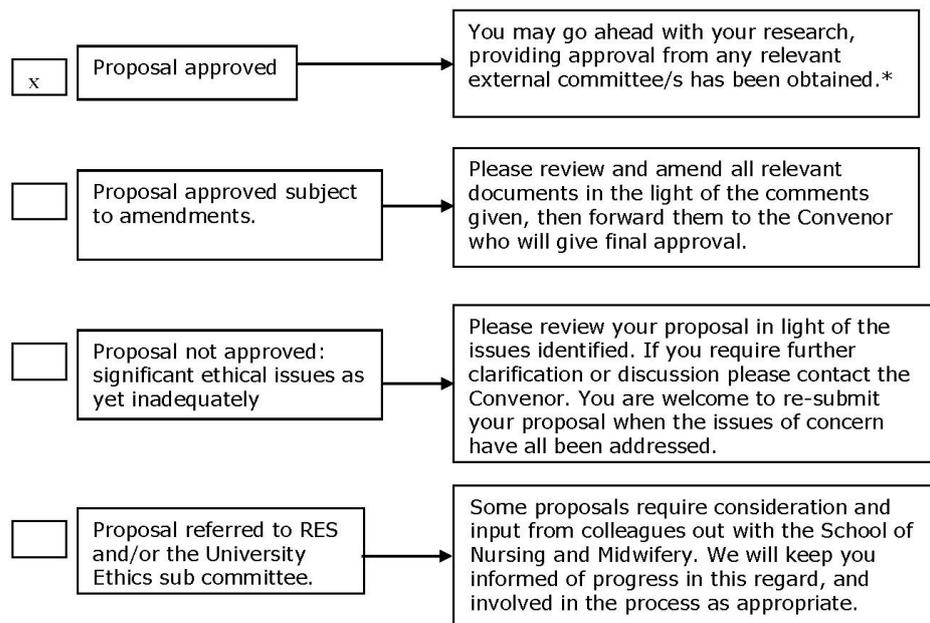
Date: 2/6/16

Research proposal number: 16-08

Research proposal title: *Learning and engaging in research and evidence use in practice learning: perspectives and experiences of undergraduate nursing students - A Grounded Theory study.*

Dear Neil,

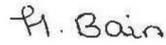
The School of Nursing and Midwifery Ethics Review Panel has now reviewed the above research proposal. Please find details of the outcome and recommended actions below.



Comments

Thank you for these amendments to this research proposal, which the panel considers is worthy of investigation.

We wish you well in your studies

Signatures of Panel members**Position held:****Lecturer****Senior Lecturer**

If you require further information please contact the Panel Convenor, Audrey Stephen, on 01224 263150.

When you have completed your research project, please send a copy of your final report to:

Dr Audrey Stephen
School of Nursing and Midwifery
Robert Gordon University
Garthdee Road
Aberdeen
AB10 7QG

Email: a.i.stephen@rgu.ac.uk

Appendix 4 – Ethical approval letter: HEI England



University of Essex

14 February 2017

MR NEIL JOHNSON
HEAD OF UNDERGRADUATE STUDIES
SCHOOL OF NURSING AND MIDWIFERY
ROBERT GORDON UNIVERSITY
ABERDEEN
AB10 7QG

Dear Neil,

Re: Ethical Approval Application (Ref 16040)

Further to your application for ethical approval, please find enclosed a copy of your application which has now been approved by the School Ethics Representative on behalf of the Faculty Ethics Committee.

Yours sincerely,

Lisa McKee
Ethics Administrator
School of Health and Human Sciences

cc. Research Governance and Planning Manager, REO
Supervisor

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Appendix 5 – Written information for participants



Information sheet for participants

Project Title: Engaging in research and evidence use in practice learning: perspectives and experiences of undergraduate nursing students - A Grounded Theory study.

I am writing to invite you to participate in a research study involving 3rd year undergraduate student nurses. As Head of Undergraduate Studies at Robert Gordon University in Aberdeen, I am interested in how students learn about the use of research and evidence based approaches to nursing, specifically within the practice placement elements of the programme.

The study has been granted approval by the University of Essex, Ethics Committee.

The study aims to explore undergraduate student nurses experiences and perspectives of their clinical practice placement learning. In particular the study focuses upon how students learn about research and evidence based practice in their practice placements and in the delivery of direct care.

Participation in this study is **voluntary** and if you choose to take part you will be asked to complete a short questionnaire and sign a consent form.

You can elect to withdraw from this study at any time should you wish to do so. This will have no implications for you as a student.

The study will consist of focus group interviews which will last between 45 minutes and an hour. These interviews will be recorded electronically and will then be translated into a written format in a Microsoft Word file to enable analysis of the data. The interviews will be held at the University of Essex from March 2017 onwards. Due to the research method adopted in this study there may be a need to follow up some participants following the initial interview with a further interview. Participants will also be asked to complete a very short demographic details form which will assist in the presentation of the study findings.

All information provided will be stored securely in accordance with the Data Protection Act and participant confidentiality will be maintained at all times. In regard to both interview data and the demographic details form, focus groups will be assigned a four digit numerical code. In the presentation of the study findings no participants will be identified by name nor reference that may imply your identity e.g. reference to specific placement areas, mentors, or academic staff.

In participating, the research will inform understanding and educational approaches to support student learning in relation to research and evidence based practice will serves to develop the preparation of nurses who are able to engage in the provision of safe, effective, person centred care.

The outcomes of the study will be disseminated at local and national events e.g. conferences and seminars as well as submitted for publication in relevant journals. The study will also be disseminated as part of a Doctoral thesis.



Information sheet for participants (18-03-16 Ref 01)

Project Title: Learning and engaging in research and evidence use in practice learning: perspectives and experiences of undergraduate nursing students - A Grounded Theory study.

I am writing to invite you to participate in a research study involving 3rd and 4th year undergraduate student nurses. As Head of Pre-registration Nursing and Midwifery, I am interested in how students learn about the use of research and evidence based approaches to nursing, specifically within the practice placement elements of the programme.

The study has been granted approval by the School of Nursing and Midwifery, School Ethics Review Panel, Robert Gordon University.

The study aims to explore undergraduate student nurses experiences and perspectives of their clinical practice placement learning. In particular the study focuses upon how students learn about research and evidence based practice in their practice placements and in the delivery of direct care.

Participation in this study is **voluntary** and if you choose to take part you will be asked to complete a short questionnaire and sign a consent form.

You can elect to withdraw from this study at any time should you wish to do so. This will have no implications for you as a student.

The study will consist of individual face to face interviews which will last between 30 minutes and an hour. These interviews will be recorded electronically and the interviews will then be translated into a written format in a Microsoft Word file format to enable analysis of the data. The interviews will be held at Robert Gordon University from July 2016 onwards. Due to the research method adopted in this study there may be a need to follow up some participants following the initial interview via further interview. Participants will also be asked to complete a very short demographic details form which will assist in the presentation of the study findings.

All information provided will be stored securely in accordance with the Data Protection act and participant confidentiality will be maintained at all times. In regard to both interview data and the demographic details form, participants will be assigned a four digit numerical code. In the presentation of the study findings no participants will be identified by name nor reference that may imply your identity e.g. reference to specific placement areas, mentors, academic staff.

In participating, the research will inform understanding and educational approaches to support student learning in relation to research and evidence based practice will serves to develop the preparation of nurses who are able to engage in the provision of safe, effective, persona centred care.

The outcomes of the study will be disseminated at local and national events e.g. conferences and seminars as well as submitted for publication in relevant Nurse Education journals. The study will also be disseminated as part of a Doctoral thesis.

Appendix 6 Consent form

[Type here]



Participant - CONSENT FORM

Project Title: Engaging in research and evidence use in practice learning: perspectives and experiences of undergraduate nursing students - A Grounded Theory study.

Please initial in the box provided

- 1 I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information contained within this sheet. I am satisfied with the information provided. I also acknowledge that a contact telephone number and e-mail address is available should I have any further questions.

- 2 I understand that my participation is completely voluntary and that I am free to withdraw at any time prior to or during focus group interviews or to have my participation withdrawn in the subsequent phases of this study i.e. data analysis and presentation of findings, without giving any reason. I have been provided with a contact e-mail and telephone number should I wish to do so at any time.

- 3 I understand that data collected during the study may accessed by academic supervisors from Robert Gordon University, Aberdeen and/or external examiners/reviewers for this study. I give permission for these individuals to have access to the data collected.

- 4 I understand and accept that personal information and data gathered in the course of this study will be kept in accordance with the Data Protection Act 1998 i.e. locked in a secure unit or stored on electronic devices with password protection or encryption.

- 5 I understand that I will be participating in a focus group interview which will be recorded on an audio device and that this recording will then be translated into a written format. I understand that this information will form part of the data of this study and will be subject to analysis. I also understand that my personal identity will be protected at all stages in the study.

- 6 I agree to take part in the above study.

Name of participant (please print)

Date

Signature

(Participant No: 0001)

Neil Johnson (Researcher)

Date

Signature



Participant - CONSENT FORM

Project Title: Learning and engaging in research and evidence use in practice learning: perspectives and experiences of undergraduate nursing students - A Grounded Theory study.

Please initial in the box provided

1 I confirm that I have read and understand the information sheet dated 18-03-16 (Ref 01) for the above study. I have had the opportunity to consider the information contained within this sheet. I am satisfied with the information provided. I also acknowledge that a contact telephone number and e-mail address is available should I have any further questions.

2 I understand that my participation is completely voluntary and that I am free to withdraw at any time prior to or during interviews or to have my participation withdrawn in the subsequent phases of this study i.e. data analysis and presentation of findings, without giving any reason. I have been provided with a contact e-mail and telephone number should I wish to do so at any time.

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4 I understand and accept that personal information and data gathered in the course of this study will be kept in accordance with the Data Protection Act 1998 i.e. locked in a secure unit or stored on electronic devices with password protection or encryption.

5 I understand that I will be participating in an individual interview which will be recorded on an audio device and that this recording will then be translated into a written format. I understand that this information will form part of the data of this study and will be subject to analysis. I also understand that my personal identity will be protected at all stages in the study.

6 I agree to take part in the above study.

Name of participant (please print)

Date

Signature

(Participant No: 0001)

Neil Johnson (Researcher)

Date

Signature

Appendix 7 Memo – data analysis

Throughout the study, the researcher kept a journal of written memos which was initially viewed as a diary or place to put down thoughts. Initially difficult in the early stages, memos helped in writing thoughts and feelings about the research ranging from feelings and potential personal assumptions about the research, reflections upon literature read, reflection upon challenges and concerns as well as memos during the steps of coding and categorising data. The following memo related to the initial reading of the first interview transcript – the focus group interview. It is drawn from one part of the interview where participants were discussing perceptions around EBP in the placement setting and their observations. As the researcher worked through the transcripts and read and re - read these, memos were guided by the thoughts of the researcher at specific parts of the interview.

Memo – September 10th 2017. Focus group interview: HEI England.

Interview extract (Focus group interview (student 1) :

Q: Do you have any other thoughts as to how the evidence takes the individual into account?

R: I don't really relate to the question in some sense because em when I, when I, when evidence is spoken of I think of evidence, it is almost like a power exchange really. What you are saying is that we have the evidence therefore it will be done this way and that why we do it this way. And so, when people talk about evidence it means that they are using "should" language aren't they in a way and then finding what should be going on. It is not really as interactive as you are making it sound. Em, and I think, you know, there will be different contexts of words in different cultures about something that is evidence led. The evidence that good care should be person centred ... well maybe it is but maybe some environments are simply better than others, some leaders are better than others. You know and I think that is probably more important. When I think of a hierarchy, I do think is somebody making a power play and the weaker members of any team, less important people are less likely to interpret evidence properly that for the more important people. So, you are simply going through the motions at the bottom of the pyramid towards the top where people can perhaps evaluate the evidence more fluently. It feels like nurses tend to be more turn the hand or see what comes out as evidence than for example doctors and more the senior nurses are more prepared to do it because perhaps they are less scared of being corrected. Evidence is about power really, as far as I can see, more about the talk it's, not a real lived thing.

Memo extract:

The participant is describing evidence almost in the sense of it being a myth, an entity which is described and talked about but in reality, does not translate in the way that perhaps education and literature portray. It also appears to be variable in its implementation, dependent upon place and location. There is a perception of hierarchy – the nurses that we extol the virtues of evidence upon from this extract seem passive in its play. What is evidence? There is a strong sense of helplessness vs power here. Are nurses simply going through the motions? Sense of “power and “hierarchy” and those “prepared to do it” rather than those who are perceived as being “scared of being corrected” convey an opposing reality to my assumptions about education and the transfer of learning in practice. “It's not a real thing” – it appears as some fantasy. Is this the reality or perception?

Appendix 8 Memo – literature review phase 2

The researcher wrote the following memo after initial second scoping review and reading literature which aimed to sensitise him to the extent and range of existing data in the form of publications and writings related to preregistration nursing education and the position of research and EBP. It also offered a means of maintaining reflexivity during the research study. It also, as reading related to the use of literature in Straussian grounded theory, helped to clarify ongoing definitions and concepts as well as identifying the boundaries of extant literature and comparison to emergent codes and categories in data analysis. As in grounded theory, engagement with extant literature was also informed following identification of codes and categories. At this point the research had read 13 papers identified through the scoping review criteria.

Memo – February 1st 2016

Reflection on literature review

The literature reviewed so far has highlighted useful insights which in some way extend upon much of the published literature read prior to my suspension of study. Returning to explore or check how this has changed is somewhat challenging yet interesting. Nothing much has changed out there. There is in some instances little development around understanding what actually happens in the practice placement setting. There is a continued trend in some instances of studies which provide evidence that effective pedagogical approaches improve knowledge and attitudes. What is new here, what does this add to what I already knew? Probably very little and little apparent recognition of the complexities nursing as a profession faces in achieving implementation of evidence in practice or evidence of nurse's engagement in research. Here, in what I have read, there seems to be recognition and acceptance of the importance of research and EBP in preregistration nursing education. The studies appear to be led by education providers. Given what I know from my work on implementation is there a narrow focus here? Some acknowledgement of where research and EBP fits in the bigger picture might help. If we know barriers exist how do educational providers tailor this into approaches to learning? Classroom v practice. Practice - real world. Recognition of real world. Classroom – theory. Lack of connection. Lack of awareness. Lack of connection. Lack of insights. This issue is important. The practice learning environment is complex. There is evidence here that students still do not see relevance or evidence of evidence in practice. Very silo like sources of literature.

Appendix 9 Extract of coding of data

The following examples provide extracts from the transcribed data. Within the extracted sections, the researcher has provided evidence from notes of examples of open coding and how, given the limited data (but rich data) collected, analysis was applied.

Worked example – using open coding. Focus group interview: HEI England.

R: I don't really relate to the question in some sense. Most of us love what we are doing and love the way we explore issues whether that is evidence – based or not [enjoying learning]. It's also like living in two separate worlds [separate worlds], em, we have two separate parts there [separation]. It does feel as if we are popping back and forth [back and forth]. We might learn to do something in a certain way in the university and then there is a completely different way when we actually get to placement [conflicting learning]. And that can be something as simple as blood sugars.

Worked example – using open coding. Individual interview (1) which took place some - time following the focus group interview.

R: I mean I have had some tricky conversations [difficult conversations] in clinical areas about what I am being taught in university and what's happening out in clinical areas. As they say "we are not doing that here" [no connection] [conflicting learning]. And it's not because they are challenging the evidence, it's then been a rebuttal and it's been a reasonable one in terms of, well this is the ideal, this is practice [idealism v realism] so I get to the clinical area and I see something different happening [conflicting learning] and so I present that [resilience] and I actually show then the evidence and I phone up XXXX and I say, look I found this [looking for evidence], you know, because we know that the research, there is a lag between the research and its implementation in the NHS [conflicting learning].

Memo extract: February 2017

When coding interviews and reflecting and reading guidance on coding procedures, it was quite difficult at first to know where to start. Reading, reflecting and in some instances memo writing assisted in this process. I drew from the writing of Strauss and Corbin in viewing coding as working on a puzzle, sorting the pieces by identifying potential concepts, abstracting the data by breaking it into incidents, statements or in some cases from the words of participants themselves (in vivo codes). As interviews progressed similar incidents, events, statements or references were identified – in these instances these were assigned codes or similar codes following reflection. With unstructured interview and basing questions on participant responses or emergence of early concepts

(concepts being identified from codes deemed to share similar characteristics) once analysis progressed, concepts themselves were then grouped into what the researcher saw as appropriate categories.

Worked example – early comparative analysis

The excerpts from the interviews “We might learn to do something in a certain way in the university and then there is a completely different way when we actually get to placement [conflicting learning]. And that can be something as simple as blood sugars” and “I mean I have had some tricky conversations [difficult conversations] in clinical areas about what I am being taught in university and what’s happening out in clinical areas. As they say “we are not doing that here” were analytically connected to the code “no connection”. It was then noted that this code along with other codes e.g. fitting in, focused on tasks, separate worlds, following orders related to one another. The researcher felt that these codes, given their prominence in all interview transcript analysis should be subsumed under a category heading of “Experiencing practice” as they conveyed the main aspect of meaning the students attached to learning in practice – factors influencing experience.