Title  How do nurses and midwives gain their research skills in relation to: understanding research and applying research findings to practice?

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'How do nurses and midwives gain their research skills in relation to:

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Master of Philosophy

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April 2003
Abstract

This study explores how nurses/midwives gain their research skills (defined as understanding research and applying research findings to practice) by looking at reading practices, formal research courses and participation in research. The study was undertaken in three phases, the first phase - an enquiry audit, the second phase - a survey and the final phase - interviews and focus groups.

The initial part of the study was undertaken in the form of an enquiry audit to explore the developmental stages that nursing and midwifery research had taken between 1980 - 1995 and whether in 1999 these changes were continuing. This phase revealed that the professional influences and practice changes in nursing and midwifery were reflected in the research of this period. It also confirmed that a substantial percentage of authors were either professorial or senior nurse/midwives, not practice based staff. The number of studies increased significantly with the transference of professional education into higher education. The recognition of evidence-based care in nursing and midwifery became evident. The written style of research papers changed under the influence of academia. In conclusion it could be seen that published research during this period had progressed through several developmental stages.

The enquiry audit results produced a framework for the second phase; in that it highlighted the need for all nurses and midwives to develop skills to both understand research and apply the findings to practice. This resulted in the construction of a survey to discover how nurses/midwives gained these research skills. The survey was conducted over a three-year period. It considered the research skills of nurses/midwives entering the profession who qualified through certificate, diploma or degree courses. The results showed that the majority of nurses/midwives do not actively read. Formal research courses enable knowledge to be gained but not retained, because the skills acquired frequently were not used in practice, so over time they were lost. Participation in research in the clinical areas was limited, and more often it was restricted to one facet such as handing out questionnaires or collecting data. This did not enable the complete understanding of the research process. The degree/diploma results were marginally better than the results of the certificated nurses/midwives. Many barriers to the understanding of research were cited and likewise in relation to the implementation of research, for example the resistance of using new research in practice, lack of support by senior
managers, and medical staff considering research was not nurses/midwives territory. The final phase was designed to establish whether the findings in the survey could be supported. The first part of phase three used interviews these results were then compared to the survey results, endorsing those results. Then the focus groups considered the same questions. The results from the focus groups reinforced and confirmed the previous findings.

The recommendations from the study are firstly that all students completing a first degree or higher degree should undertake a research module. Research modules should become more interactive enabling a deeper understanding of the process and application of research. Through this experiential learning it would be expected that the research skills would be retained for a longer period. Secondly to establish within a Trust or group of Trusts Nursing and Midwifery Research Units, to enhance the role of nursing and midwifery research. It would be anticipated that the research nurses/midwives together with the consultant nurses/midwives would become actively engaged in research initiatives within the clinical areas. Finally, and vitally important is to construct collaborative and meaningful partnerships between Universities and NHS Research Units to support and develop new initiatives.
Acknowledgements

The author wishes to acknowledge the help, advice and support of John Paley, her supervisor and Sandra Jowett in enabling the completion of this thesis after John moved from the University. Also Angus Duncan for his editing.

The advice and support from the Royal College of Nursing and Royal College of Midwifery, and the participating Universities and NHS Trusts within Manchester, Luton and London.

The assistance rendered by the editorial team of the Journal of Advanced Nursing.

Also to my family for their forbearance who feel the critical review is a true reflection (see appendix 9).
Declaration

I declare that this thesis is my own unaided work. It is being submitted for the degree of Master of Philosophy at the University of Luton. It has not been submitted before any other degree examination in any other University.

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Date: 23rd April 2003.
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Chapter 1

Introduction
INTRODUCTION

Preface
Crow (2001) writes that many midwives (nurses) are attempting to come to terms with what comprises evidence-based practice. However Spiby and Monro (2001) argue that the barrier to research utilisation and the issues which midwives and nurses have in regard to research can be a powerful constraint to the use of research in practice. Fletcher and Kopp (2001) suggest that this then is a dichotomy for the profession.

Justification
The aim of the study is to explore readiness of the profession to assess and use research in underpinning evidenced-based practice. In order for this to be achieved nurses and midwives need to develop the skills of critically analysing published research and the confidence to use research findings to develop evidenced-based practice. Nursing and midwifery have entered a new century with many demands and challenges, amongst these is the implementing of the NHS Plan, 2000, clinical governance and clinical supervision. To achieve this, research based knowledge must be an integral part of the future.

Preparation
In order to define and design this study a critical examination and an evaluation of research within nursing and midwifery is undertaken. The results of this review establish the focus and design of the study.
Chapter 2

Background Review
BACKGROUND REVIEW

Reviewing educational research teaching

Nursing and midwifery teachers/lecturers would perhaps argue that research has been linked to practice since formal education began (Norris 1995). It is possible that this is indeed so, but the student population probably did not recognise it. Having looked at my own student notes, dating from 1963-1966, I can now see that research was referred to frequently. Written clearly in my notes are statements such as: Prof. Chalmers from his work has said "Diabetes should be treated today with a combination of short and long acting insulin, no longer should modern treatment rely on one method" or Mr. Rogers said "now following his trial we will use 'OP site' following surgery on all small wounds as this aids healing and reduces infection". Research was implicitly referred to. However, I doubt that my fellow students or I, would have had any idea that these comments were based on research studies. Even if the word 'research' had been mentioned (and it is not in any of my notes), would I have known what it meant? The answer is 'no'. The ability to identify, understand and integrate research into practice was not part of my nurse education; nor was it part of my midwifery programme two years later. Sadly, when I was completing the Advanced Diploma in Midwifery in 1974, the only difference, which could be noted, was that most of my notes stated: 'research said'. But this did not reflect any advancement in my knowledge or understanding. However in my Midwifery Teaching Diploma (1976) I had my first formal introduction to research. From this date my understanding steadily grew and in 1982 I undertook one of the first research awareness courses for midwives at Manchester University.

In reviewing the CMB and GNC requirements for educational programmes, I found no direct mention of teaching research in any curriculum document until 1977, when the period for midwifery training was moving from twelve to eighteen months. Mr. R. Fenney, Secretary to the CMB, wrote: "This extension in time will go some way towards meeting the recommendations made in the Department paper on the 'Future Role of Midwives' issued in April 1976. A revised syllabus has been drawn up and is enclosed with this letter". The syllabus read: "Research - introduction to the methods used, interpretation and application of results in the maternity service". The beginning of the 1980s saw most schools moving toward the inclusion of some research. In the school where I was teaching during this period, the curriculum document for 1984 stated that we would apply research findings to practice. Even at this time, it must said, the students
could hardly have known what we are talking about if they did not have the necessary research skills; and there is no reference in this curriculum to enabling students to understand research.

It was hard to define at what point the curriculum incorporated research teaching. In the more enlightened schools, the inclusion was much earlier, especially if they were teaching degree based programmes, attached to medical schools or the teaching was multi-disciplinary. However, research education as a requirement, did not occur nationally until the advent of Project 2000 (PK2) which was introduced across the country from 1986 and completed by 1995. Having said this, the requirement then was that research should be considered in light of the subject being taught. So student appreciation and significant understanding could be a very 'hit and miss' affair (which may be the reason some PK2 students are now undertaking the English National Board for Nurses, Midwives and Health Visitors: An Introduction to the Understanding and Application of Research (ENB 870 appendix 1). Where I was teaching, the specification for research education did not come until 1991, when it was suggested that the following sessions should be included:

1. What is research?
2. The process of research
3. Collecting and analysis data
4. Research in practice
5. Interrogation (enquiry) research
6. Implementing change through research

It would still be difficult to affirm that all trained staff with twelve years experience would have received this education. However, today the students do receive an understanding of research in its broadest sense, and how to integrate and apply it to practice. But, it is wrong to assume that the student population, on qualification, are research literate. Teaching experience suggests this is not the case, two main reasons can be offered. Firstly, the students find research difficult to understand. It presents a challenge, a different language, and one which, they do not use in everyday clinical practice. So interest in research has to be generated. Secondly the way research is taught may need to be reviewed as it is seen as formal and dull rather than interactive and interesting. Teaching needs to illustrate how research is/can be applied, making it more applicable to the students' clinical practice.
The historical position
Before considering how important research should be within the Nursing and Midwifery profession it is worth taking a few moments to look briefly at the history of research within the profession.

Nursing and midwifery has a long history. However, nurses and midwives were seen as roughly equivalent to domestic servants or prostitutes until the middle to late 19th century (Norris 1995). The reformers, namely Fry and Nightingale, established the first schools of nursing and began to formalise the idea of training for nurses and midwives. When nursing and midwifery registration evolved the professions fell under the purview of the Medical Act (1858), they worked to medical instruction and were subordinate to medical knowledge (Norris 1995). The Central Midwives Board (CBM) was formed in 1902 and the General Nursing Council (GNC) in 1918. At this stage, nursing and midwifery education was centred on tasks that were required to be skilfully accomplished but the underpinning theoretical knowledge remained medical.

Nightingale's writings can be seen as using evidenced based practice and this is particularly so in her Ladies Leaflets where she addresses many practical issues such as washing the skin and dealing with fleas, in her endeavour to encourage personal hygiene. In the late 1870s Louisa Hubbard took to publishing articles from both Nightingale and Vietch in her Woman's Gazette. These were to do with public health but also professional issues. For example the article by Vietch concerned with improvement of midwifery standards (Cowell and Wainwright 1981). Although these writing could hardly be called research in today's terms they were based on what worked. It was more usual to write following practical applications, as was the case after Queen Victoria used chloroform for the birth of her eighth child. So once evidence was gained it was published. The publication Nursing Notes frequently organised medical lectures to increase the knowledge of their readers. Subsequent publications continued this. Over the next six decades, which contained the two World Wars, it can be seen that research become more important, and also more transparent.

Education and higher education
Nurses and midwives in the first part of the last century were still seen as working for rather than with the medical staff. Norris (1995) describes how they used and relied heavily on medical research to inform their practice. During the 1960s, undergraduate
programmes in nursing were developed in Manchester and Edinburgh. These showed a
definite need for nurses and midwives to change their professional perceptions. As a
consequence the same universities set up their own nursing research units, to develop and
establish a scientific basis for nursing and midwifery practice. During this period (and
led by American nursing) models of care were evolving and their use spread widely
throughout the United Kingdom (UK). This prompted nurses and midwives to realise
that they were generating knowledge, in a modest way; and this encouraged the belief that
nursing and midwifery knowledge could enhance care. These initiatives culminated in
the introduction of Project 2000 (PK2) since it was seen that to educate entrants to a
higher level was paramount to becoming a profession. This programme of education
gave nurses, on qualification, their professional nursing registration and a diploma in
higher education.

The United Kingdom Central Council (UKCC) (1990) states "P2000 is good for nursing
because it will raise the status of nursing education and the profession", (p7). They
further suggested that the student would benefit from receiving specialist lectures from
other disciplines such as psychology and sociology. Norris (1995) considered that the
future status of the profession would also be enhanced by joint validation between the
professional bodies and higher education. Although the documentation on PK2 educated
nurses state they would have a broader understanding of how society functions, and that
this knowledge would increase the nurses' awareness and ability to provide holistic care,
there is no mention of a need for research awareness to underpin this enhanced
knowledge base. The PK2 programme, Durgahee (1992) noted, was designed to produce
knowledgeable doers, and to enable the nurse to become the initiator of both personal and
professional development through reflection. This transference of nursing and midwifery
education from schools of nursing and midwifery into the university sector increased the
number of degree-based programmes and highlighted the need to establish a unique body
of knowledge for nursing and midwifery. Research came (gradually) to be seen as an
essential element to underpin nursing and midwifery educational programmes and
practice.

Nurse and midwives relationship to research
Norris (1995) argued that research has always underpinned medical knowledge so whilst
nurses and midwives were subjected to the "medical model", they appeared to accept that
research was the prerogative of doctors. Tierney (1988) concluded that during this period
nurses and midwives could participate in research in various ways, but they could not be autonomous researchers, any more than they were regarded as autonomous professionals. Change began in the 1970s, when graduate programmes began to be more popular amongst (students) nurses and midwives. Tierney (1988) suggests that the demand for graduate programmes was the turning point for nursing and midwifery research. However, despite developments over the last thirty years, he states that nursing and midwifery research is still a relatively new activity.

If nursing and midwifery research is to continue to grow it is dependent on two conditions. Firstly, nurses and midwives must recognise the value of research to the profession; secondly, they must recognise that nurses and/or midwives can, and should, undertake research projects. The early attempts at research, although published, were not always viewed as good quality (Gunn 1998). It is, in hindsight, very difficult to say whether these studies had much impact on nursing and midwifery practice, because practice was extremely medically dominated (Norris 1995).

It was not until the 1980s that the practice-based nurse or midwife could access a module or short course on research awareness. Therefore most of the profession were not conversant with the skills required to understand research, or able to implement research in practice. They certainly could not undertake an independent study. The changes within the profession since this period have resulted in a rapid growth in nursing and midwifery research. Rafferty and Traynor (2000) reviewed UK research studies published between 1988 and 1995, and discovered that nursing research represents the fastest growing biomedical sub-field in that period. They concluded "that some of this increase might be accounted for by the move of nurse training into higher education and to responses to the Research Assessment Exercise in universities" (p.26). If this is so, the move to higher education can be seen as a gateway and stimulus to academic credibility through research. Secondly, it can be seen as generating nursing and midwifery knowledge in order to support evidenced-based care.

Evidence-based healthcare and research
Bonell (1999) states: "In recent years, there have been calls within the United Kingdom's National Health Service (NHS) for evidenced-based health care. These resonate with long-standing calls for nursing and midwifery to become a research based profession" (p.18). When exploring the issues surrounding evidenced-based health care, one can only
see advantages for the nursing and midwifery profession. It would result in the generation of specific nursing and/or midwifery knowledge and allow nurses and midwives to demonstrate their ability to actively contribute to the health care outcomes in relation to their patients/clients.

Bonell (1999) says that the profession needs to stop arguing about the merits of quantitative and qualitative research. He says they should select the type of research they need to undertake for their study and not be swayed by whether it is politically correct. Moreover, Bonell (1999) says that if we are to become research aware the profession needs to encompass all research methodologies, instead of, as at present, suggesting that some cannot be used. He states that some authors within what he calls ‘new nursing’ have influenced others by offering stereotypical views of what types of research should be used. These authors regard quantitative and experimental research as problematic in nursing research (which, Bonell suggests, has resulted from a flawed understanding of such research). However, it would appear that such views have infiltrated the wider population of nurses and midwives, which could result in nursing and midwifery research becoming marginalised in the wider academic community. If this happens, he claims other health care groups will become the initiators of evidence-based health care. If this is true, then nursing and midwifery has not yet understood that research takes many forms (Rudy and Kerr 2001).

Alternatively, the NHS Executive document entitled 'Effect on evidence-based practice of general health policy measures' (1998) states "Research in this area might use case studies to examine particular policy initiatives and explore the factors affecting changes in health care", which embraces qualitative research. However, the Research and Development Directorate of the Department of Health, in February 2000, states that: "The Policy Research Programme aims to help ensure that decision making in the policy domain is informed by all available and robust scientific evidence". This therefore should indicate to nursing and midwifery that they should embrace all research methodologies, to create and establish evidence-based health care.

**Why research?**

Norris (1995) said that although nursing and midwifery and medicine are inextricably linked, their fortunes and status are very different. Medicine has always been considered a profession, whereas nursing and midwifery has failed to achieve this status, although
this is still a strong aspiration. Trinder (2000) concluded that to achieve this outcome the profession must establish a true research culture. This must include the ability to integrate research from other disciplines to underpin care. Johnson (1972), Pyne (1981), and Trinder (2000) stated that the body of professional knowledge (based on research) that would underpin nursing and midwifery practice, to produce evidenced-based care must be worked toward as a matter of great importance. This could result in the establishment of reflective practitioners, obtain academic recognition, and enable the new leaders to be developed. Removing the tradition of being led by becoming the innovators.

To summarise, if nursing and midwifery accept that evidence-based practice is long overdue and that only twenty percent of care is researched-based at present (Trinder 2000), this leaves a great opportunity for nursing and midwifery research. In order to move forward nursing and midwifery must take up this challenge and find ways of overcoming perceived barriers, such as: Where are the guidelines for evidence-based research? Whose evidence will take priority? Will the evidence have the rigour of a scientific evaluation and receive a 'gold standard mark' (kite mark)?

Some answers have already been offered. At the first Evidence Based Midwifery Conference in September 2001, Rogers (2001) presented 'Guidelines for Intrapartum Care'. Exploring the framework for evidenced based midwifery they presented 12 guidelines covering the birth environment, the latent phase of labour and assessing fetal wellbeing. Wainwright (2001) offers guidelines for the management of symphysis pubis dysfunction. Many similar papers were presented and Sinclair (2001) concluded that "the conference papers demonstrated the concerns of the profession to conduct valid and reliable research and to engage in participatory approaches to decision-making in relation to utilising best evidence and writing evidenced-based guidelines and protocols" (p.365).

**The quality of nursing and midwifery research skills**

For nurses and midwives to take up these challenges, by initially assessing quality and implementing findings into practice one has to consider whether they have the required research skills. de Jong's (1998) research discovered that nurses and midwives do not appear to update their practice by reading. He said that without the skills to read widely the ability to understand research papers might not be universally developed. Rudy and Kerr (2000) expressed the danger that nurses and midwives who lack discerning reading
skills may be naïve, believing anything published in a recognised journal to be true and needing to be implemented,

The quality of nursing and midwifery research has recently been under scrutiny. Smith (1994) looked at past research papers and suggested that nursing and midwifery research does not appear very impressive when compared to that of other professions with a traditional research background. She noted that the implementation of results is delayed or ignored. This should not be surprising, because the profession has only really just started to consider the benefits of research, despite some early pioneering nurse and midwifery researchers. Rudy and Kerr (2000) raised concerns about the credibility of health care research which surprised the profession, stating that "attention was being given to reports of misconduct, fraud, and unethical behaviour in biomedical research, it appears timely for nurse researchers to engage in an organised method of peer review" (p.117).

Notwithstanding the importance of this statement, in defence it must be said that the profession was not ready to be catapulted into academic research, even in the early 1980's. So the genteel articles of the 1970s and 1980s were considered right for the time, and nobody really questioned their rigour until Smith (1994) and Anthony (1996) reviewed the statistical content. Both papers raised concerns in relation to the quality of nursing and midwifery research. However, there has been a shift since the beginning of the 1990s, with the transfer of nursing and midwifery education into higher education and more rigour has been introduced.

**Distribution of research**

If the majority of the profession do not update themselves by professional reading how can research be disseminated? (de Jong 1998). No formal means of distribution can be found within most NHS Trusts, so disclosure is a 'hit and miss' affair. Too often medical staff are relied upon to offer their interpretation. Not all wards have a budget to buy journals, and there is inequitable access to libraries on sites. Although postgraduate libraries have extended opening hours they are not all accessible to all nursing and midwifery staff and a few remain the prerogative of the medical staff. Papers are presented at conferences, however delegates are not often requested to write reports or offer feed back to colleagues. Other studies often fall by the wayside. Among these are
locally based studies where even other internal practice areas are unaware they have been undertaken.

A conference presentation could be seen as a 'one-off', but do the studies published in professional journals fare any better? What about the major studies that are commissioned, do they reach the target audience any more effectively? If they reach their audience, implementation may not occur if a change in practice has a cost implication. A classic example of this, from the perspective of many midwives is "Changing Childbirth" (Midwives Chronicle December 2000). Most midwives would agree with the sentiments of the paper, and are willing to execute and implement the changes suggested. But the responses in practice are very patchy throughout the country, especially in relation to continuity of carer (Midwives Chronicle December 2000). Other studies have had an impact, but it is often a number of years before change is delivered. For example, in midwifery midwives adopted the work of Sleep (1990) on postnatal perineal care (problems with micturition) over a period of five years.

The last two decades has seen research disseminated by other means, via research nurses, specialist nurses, link practitioners, research development officers and more recently the health related 'Internet' sites. As the nursing consultants, become a greater force in the profession it is anticipated that research is more effectively utilised. Stenfors (2000) confirms that nursing and midwifery continue to prefer the spoken to the written word so these new ways of dissemination may be more successful. The challenge remains twofold: firstly, if research is to be effectively considered it must engage its intended audience. Secondly, nurses and midwives in these new roles will need to take the lead initially in translating research to the clinical practice. The expected future should be that the profession begins to see the advantages of research, especially in relation to evidenced-based care.

Nursing and midwifery have a long history of caring, but a short history in research and engaging with the benefits. Nursing and midwifery is beginning to develop a new urgency to provide evidenced-based care. This review reinforces the need for all nurses and midwives to develop research skills in order to integrate the research findings into practice. The question is how far has this been achieved? Before exploring this issue one must consider how far advanced nurses and midwives are in gaining their required research skills.
Research awareness

The profession may only have begun to take action on research education during the 1980s, but the idea had been around for much longer. One of the earlier reports form the International Council of Nurses held in Geneva in 1960, was a paper by Brotherston (1960) 'Learning to Investigate Problems' in which he said: "whereas the ability and opportunity to carry out research must be limited to a minority in any profession, an urgent sense of need for research should be part of the mental equipment of every member of any profession worthy of the name. Research-mindedness is the opposite of prejudice, stereotyped thinking and rule of the thumb action; and all of us are more or less creatures of prejudice, with a preference for imitating the traditional customs and necessary things in certain circumstances, but they can be dangerous limitations to the search for knowledge and improvement of methods of applying existing knowledge". (p.2).

However, little progress was made until the 'Report of the Committee on Nursing' (DHSS 1972), which stated in paragraph 307: "Nursing should become a research-based profession; a sense of the need for research should become part of the mental equipment of every practising nurse and midwife". Later, in paragraph 726, there is an altered emphasis and the report states: "nursing must become a research-based profession". The change of emphasis from 'should' to 'must' appears to indicate that it has to happen. This report was used by the profession to initiate and promote an awareness of the importance of research in nursing and midwifery. It is possible that from this report the phrase 'research awareness' was coined, later becoming a popular title for many modules.

By 1975 there was still only discussion. The report continued to be discussed. The King's Fund organised a two-day event, inviting nurse tutors across the country to meet with educational officers from the statutory bodies and Government NHS members to discuss the meaning, future, and implications of the proposal that nursing and midwifery should become a research-based profession. Lancaster (1975) wrote later: "one point that was repeatedly stressed was that if nursing were to become a researched-based profession, professional attitudes would have to change. Positive attitudes are clearly essential if the challenge of encouraging nurses to use research findings is to be successful", (p.42). There was continued discussion, but little practical evidence that research was being introduced. The 1980's brought more comments, Hockey (1982) suggested that nursing research must not become the activity of an elite; and Baroness
McFarlene (1984) reminded the profession of the need for nursing research: "every nurse, whether clinician, educator, manager or researcher has a responsibility to research, neglect of that responsibility could be classed as a professional negligence", (1984 Forward - The Research Process in Nursing). Finally in November 1987 the ENB developed a research awareness short course entitled 'Introduction to the understanding and application of research' (ENB 870 - see appendix 1) in response to the growing demand. Moreover, it was not until 1989 and 1990 that significant numbers of nurses and midwives were able to access the course. During this period individual modules run by the RCN, RCM, Colleges and Universities became available.

Why research awareness?
The implication of being a 'research-aware' profession needs now to be seriously considered. Clark (1987) argued one implication is that it requires nurses and midwives to understand research issues without carrying out research themselves; she concluded that research evidence provides nurses and midwives with a basis for the evaluation of their practice. This does not imply that research takes away the need for professional judgement. Rather, being research-aware will equip nurses and midwives with the tools required to review and revise their practice regularly in the light of new findings (Clark 1987).

There are clearly different degrees of involvement in research. Arguably, all nurses and midwives require knowledge about research; but they may develop different sets of skills, leading some to use research and others to become professional researchers. However, Lancaster (1975) stated that all professionals should be able to identify areas of nursing or midwifery where research is needed. He maintains they should also be aware of the boundaries of their own knowledge and of situations in which a lack of information is a serious detriment to effective decision making or clinical practice. This suggests that practitioners have an important additional role: collaborating with researchers and initiating research in their own clinical areas. The implication is not necessarily that nurses and midwives would undertake the research themselves; but they would bring researchable questions to the attention of those with the relevant skills.

Nevertheless, being research-aware can also empower the nurse or midwife. Professionals should no longer accept uncritically any 'authority' whether in the form of a journal article, nursing textbooks, or clinical policies but should instead explore and
evaluate new ideas which result from research and decide if they provide a reliable basis for clinical practice. Now that there is a developing body of research-based knowledge relevant to nursing and midwifery, the priority is to help practising nurses and midwives appreciate the importance of this research, and share the responsibility of using research findings in professional practice. Wherever possible, all teaching in relation to clinical practice whether on the wards, in the community or in the classroom should be reliably based on research findings. This has far-reaching implications for the nurses and midwives who act as mentors, preceptors and assessors. Research is not a separate academic activity, divorced from every day nursing and midwifery activities.

In summary research in nursing and midwifery is not an optional extra. Research is every nurse's and midwife's business, although the type and level of involvement is bound to vary according to interest, aptitude, ambition, and opportunity. Job specifications now require appointees to participate in research as required since practice seeks to be evidence-based. Research awareness can no longer be the prerogative of a few in the profession, but is essential at some level for all nurses and midwives.

**How do nurses and midwives gain research awareness skills?**

In order to investigate this area a literature review was undertaken using the Bath Information Data Service (BIDS) through Ingenta. The keywords inserted were 'nursing', 'research', 'education', 'teaching' and 'learning', between 1997 and 2001. The first combination of nursing, research and education yielded 418 articles. Once the abstracts were read, only 6 papers related to the subject of how research skills were gained. The second combination 'nursing', 'research', 'teaching' and 'learning' yielded 2,022 articles: again, once the abstracts were read; this was reduced to 127 papers. In cross checking the two searches, the second search contained all the articles from the first search. Finally, 40 papers were selected for review since these related specifically to how research skills were gained. These were drawn mainly from the *Journal of Advanced Nursing, Nurse Education Today*, and *Nurse Education*. The papers were written predominately with reference to experiences in the UK, America and Australia. The papers could be divided into three areas, on the basis of the setting in which nurses and midwives gained their knowledge of research: (i) formal education, (ii) practice, and (iii) direct involvement in research initiatives.
Formal education programmes

It has already been noted that research was not formally taught in the majority of pre-registration courses before the mid 1980s (Norris 1995). The General Nursing Council for England and Wales put out 'A Statement of Educational Policy' in July 1977 which set out new directives in line with the Nursing Directives of the European Economic Community. However, there is no mention of research either implicitly or explicitly. This paper was updated in June 1983, and in the section headed nursing education there is no mention of research. A month earlier the Joint Board of Clinical Nursing Studies produced a paper entitled 'The research Objectives in the Joint Board Courses, A Guide for Teachers' (1983). The introduction states: "the purpose is to promote the development of an inquiring attitude of mind, a logical approach to problems relating to nursing and midwifery, an appreciation of the ethical implications of research, an awareness of the existence of research reports, and the ability to read, evaluate, select and make use of relevant findings", (p.2).

The document continues to make suggestions for a research programme, which would not be seen as dissimilar to research programmes to day:

apply a questioning approach to clinical practice
carry out a small literature search
describe briefly the stages of the research process
discuss selected research reports and consider their implications for clinical practice
discuss the ethical and legal implications of research
participate in research studies being undertaken in the clinical areas (p.3).

The document concludes by stating:
"as nurses, midwives and teachers develop an interest in research it is hoped that an opportunity is afforded to them to attend a course in research appreciation which will help them build on their existing knowledge", (p.9).

Unfortunately this document had limited circulation, according to the ENB's archivist it only went to the Regional Nurse Education forums. Four years (1987) later Clark began compiling the first module of the 'Research Awareness' series for the South Bank Polytechnic. She approached a number of post registration students who were living and working in South East England as she wished to ascertain their thoughts in relation to
research (they were not doing a research course at the time). Some of their remarks are recorded below:

- **Nursing research may be relevant to patient care, but I don't know how to find out about it and I don't seem to have any spare time either.**

- **I trained a few years ago and I now recognise that some of the things that I was taught to do then were based on research findings, although I didn't know this at the time. For example, we were taught to always store thermometers dry whilst many of my colleagues left them in some antiseptic to sterilise them.**

- **I once tried to read a research article but I found it ever so difficult to understand. A pity really, because it looked quite interesting.**

- **I went on a three-day introductory research course last year. It was really interesting. It helped me to become less subjective. (That's a new word I've learned!) And I've started to question things. In fact, I'm hoping to attend the ENB research awareness course next year.**

- **I really don't know enough about research but I think it could help nurses to become more professional.**

- **I haven't really thought about it before. I suppose it's a good thing.**

- **I'm fed up with hearing the word 'research' - my tutor was always on about it. Doesn't seem to make any difference to me.**

- **I sometimes read the research articles in the nursing press but I don't know how to tell whether they are good or not (p.9).**

From the comments it can be seen that research had a mixed response. Clark (1988) then wrote, with colleagues, a full series of teaching materials called 'Research Awareness' (1988) which became the recommend text for the majority of early courses. Despite the fact that the Joint Board of Clinical Nursing Studies document was published in 1983 the profession has been very slow to react, until these texts were universally available. In 1989 the ENB's Project 2000 proposal stated in paragraph 3.3: "Integration of theory and practice necessary for the achievement of the course outcomes should be underpinned by the relevant research" (p.12). This focus on research continued with statements found in ENB's document 'Creating Life Long Learners, partnership for care' (1994). Followed by more comments in the ENB's report 'Education in Focus, Strengthening Pre-registration Nursing and Midwifery Education' (2000). This states in section three that evidence-based practice and learning means: "searching the evidence base, critiquing relevant research, contributing to the evidence-base, disseminating research findings, using the
evidence and adapting it where necessary. This must be reflected throughout all programmes of preparation", (p.5).

It could be said that the research education the students received was limited before this document specifically stated that an understanding of the research process would be taught. From the year 2000 all pre-registration students should therefore gain better research skills. Clifford (1997) stressed that when the early courses were available to trained staff one of the main problem areas was that the educators themselves may have been teaching research awareness with only a limited practical understanding of research, and the skills required to utilise research.

If Clark's survey was undertaken today would it elicit the same responses from the present qualified staff? Because it appears that pre-registration training up to 1999 may not have been entirely successful in enabling nurses and midwives to become research-aware. The work of Le May and Mulhall (1998) would suggest that in some cases it might not have engendered a positive attitude to research. The profession now needs to ask how long it should wait for the majority of nurses and midwives to gain the required research skills.

Research teaching
Clifford (1997) reviewed current literature addressing the teaching of research. These papers indicated that there was definitely an increased emphasis on the need to develop research skills among nurses and midwives. However in relation to this need there was recognition that there were concerns amongst teachers. Many did not feel adequately prepared to teach research. She says: "there is clearly a need for clarification and evaluation of the 'best ways' to teach research in order to help students to learn in a meaningful way that will contribute towards research developments in nursing practice", (p.115).

Clifford (1997) continued by saying that three approaches to teaching have been widely used: helping students to learn about research by learning to critique; learning by 'proposing to do', and learning by doing. However, she argues that, despite their widespread use, there is little evidence that these approaches do develop research skills in nursing or midwifery, or that they are contributing to changes in practice. In contrast to the UK, where there has been no national strategy to enable the nurse or midwifery
lecturers to develop their research teaching and so educate the practitioners, the North American faculties have chosen to actively prepare their staff for research teaching. In the UK the 'Research Assessment Exercise' which looks at measuring the outcomes of research and how they have influenced practice has awakened many nursing and midwifery departments to consider the research skills and studies conducted by their staff. However no official response has been forthcoming from the former ENB or the new Nursing and Midwifery Council.

Clifford's (1997) study then explored the research role of teachers, using a questionnaire that included twelve Likert-scaled items related to research. An example question was "I feel confident that I can tell the difference between a poor and an adequate research report", (p.116). A convenience sample of 245 teachers from four colleges was the basis of the study. Although the outcome of the study was positive in that the majority did claim to have the required skills, the teachers' own research education, whether at degree or masters level, varied considerably. Therefore she suggested that one implication for nurse education is that research skills, rather than qualifications, should be audited when seeking to identify the level of teachers' research knowledge.

Clifford (1997) argued "for only specialist teachers to teach research: a lack of integration of theory with practice in research may be linked to the grouping of a passive orientation to research and the perception of limited impact held in the grouping", (p 119). She concluded that where teachers hold a passive orientation to research rather than a confident one, this alters their skills as teachers. The challenge of the future is to discover how to tap this passive energy and skill teachers to benefit practice and education. She concluded that for all teachers it was equally important to their own personal development as individual teachers to have these skills since, in future, all teachers are firmly judged on the quality of their research activity.

Clifford's question about the quality of the teachers' own research education was taken up by Crow et al (1997), who conducted five focus groups (20-30 respondents) at the English National Board. Each group explored teachers' experiences in research and how future developments could meet their professional and academic needs (to fulfil the requirements of both the Research Assessment Exercise, and the NHS Research and Development strategy). Many issues were raised by the focus groups such as increasing skills of teachers to teach research. Unfortunately it would appear that although in 2003,
little has changed for the majority of teachers engaged in teaching research at a basic level.

The sentiment of Clifford's study is supported by the work of Camiah (1998). He considered that new skills were required by teachers to teach PK2 students. His study looked at two pilot schemes, using a case study approach to assess the needs of the teaching staff. The number of respondents was 115. PK2 students were expected, in each curriculum, to acquire and develop basic skills in nursing research, in order to examine the place of research in practice, and utilise findings within the clinical area. Camiah’s (1998) results showed that a number of teachers lacked basic research skills themselves, and were unable to help students transfer research findings to practice. He argues that all teachers should undertake a course in research awareness, but stops short of suggesting that they all need to complete a degree, or a research project. The paper does not indicate the percentage of teachers who lack the necessary expertise: however, in a personal communication, he has said that a larger study would show that it varies between 30% and 40%. If the results of this study were to be replicated nation-wide, we might well conclude that there is a serious deficit in skills, which is especially concerning as these teachers were also teaching on postgraduate courses.

A further study by Dyson (1997) determines whether different teaching methods would help students to maintain positive attitudes to research. From his literature review, he discovered that the greatest barrier to the students' understanding of research is the way it is taught. He therefore modified the teaching and learning strategies in order to overcome this problem. His alternative teaching strategies enabled the students to become critical readers of research papers and ensured their exposure to research reports/articles was increased. Subsequently, he distributed a questionnaire to 61 students undertaking degree and diploma programmes. The results showed that there was a definite shift towards a positive attitude towards research. His conclusion was that it was not the students that were at fault, but the teaching strategies, and when these were changed, it changed the results. Also Beck's (1997) study looked at equipping nurses to become knowledgeable consumers of research. His work was similar to that of Dyson (1997) in that he considered the students must be able to critically read research papers, so as to determine the value of what they have read, and decide whether it should influence practice. To achieve this, Beck (1997) introduced two teaching strategies, based on the use of meta-
analysis, to improve their critiquing skill technique. Again, the findings were similar to that of Dyson, in that a change of strategy produces good results.

Another initiative in relation to teaching strategies was described by Ailinger et al (1997), this used a national data set on CD-ROM for teaching students research. The students (groups 10-15) used these data sets in computer laboratories, where sessions were held to teach them to extract data and use the Statistical Package for the Social Sciences (SPSS) to analyse their findings. It was considered that this was an inexpensive and underused approach in nursing. The results were striking: students gained a better understanding of the process of research, and its potential use and application within the clinical area. Similar initiatives are found in many papers. Another example is the work of Duggleby (1998). He split students into two groups (20), one of which participated in collecting data and analysing it, while the others did not. The group who were actively involved showed increased awareness and learning in relation to the research process. In a study by Moule's et al (1998), students undertaking both the PK2 and ENB 870 used poster presentations in groups of 12-16 and this was seen as enhancing crucial research literacy skills. This learning strategy was seen to be successful, and the retention of skills due to self-involvement was high. A strategy used in the adult branch of PK2 by Burrows and Baillie (1997) involved students learning in-groups (45-50 students), through journal clubs and small group presentations. The study showed this to be an equally beneficial method.

A French paper, by Stevens and Valiga (1999) looked at the possibility of having a national framework to strengthen the teaching of research. They discussed the need to expand the scientific foundation of nurse education, and stated that the National League for Nursing had been established to consider a national agenda for research in education. This, they considered, was a major step forward in that it defined the research priorities, which would serve as a rallying point for education researchers across France. The central aim of this project was to develop a consensus around research education, so that a core of knowledge could be achieved, bridging training and practice. It is possible that the UK might benefit from a similar initiative. One practical outcome would be that students who undertook the same module in another institution would have received similar content. However, could we be certain this would be the case? As an example, the ENB 870, has a national framework but it is open to interpretation, therefore it is taught at level two and three and the course credit level varies from 30-90.
The sentiment of the Stevens and Valiga (1999) paper is supported by Bower's (1999) study in the USA, where he conducted a survey investigating the research experience of Masters' students (304: 222 returned the questionnaire). The study illustrated that the degree to which research was taught differed considerably, from none to a very comprehensive programme. The timing and amount of research teaching in the programmes differed from, only in the initial part, to a continual theme throughout the programme. This study concluded by making several suggestions in relation to these programmes, mainly as to when research should be taught and ultimately stressing the need for nurse teachers to come together and agree the content and level to which these students should be educated.

Since there is no national framework at present for post-graduate research or teaching strategies there is a need to address both these areas so that teaching strategies would actively engage students. Perhaps it could be based on the work of Hitchcock and Murphy (1999) who used active participation in teaching research to undergraduate students. This strategy involved students becoming data collectors in a study investigating lay people's perception of health. They felt that the active participation was successful and stated: "the project generated considerable interest and served to foster positive attitudes toward nursing research while concurrently increasing students' comfort level with the total process", (p.120).

Supporting this notion of teaching was the paper by Thorpe and Smutko (1999). They considered the need of the American degree nurse (ADN) students to become actively involved in research during their courses. This would enable the knowledge that they acquired to be more effectively used in the clinical setting. They concluded that where students were introduced not only to the theory but its application, their understanding and comprehension was increased, and they were more likely to recognise that research was part of their role. The work of Andrews (1997) in the USA supports the proposal that students will learn more effectively if they participate, and that their learning is life-long.

Parahoo (1999) raised similar issues; he compared PK2 and non-PK2 students' perception of their research training, research needs, and use of research in clinical areas. At the beginning of the paper, he notes that Overfield and Duffy (1984) lamented the lack of research into research teaching strategies and that teaching approaches have become similar throughout all courses and time honoured regardless of whether they work
successfully. He says that, recently, researchers have concentrated on teaching strategies, at the expense of assessing the impact of research courses on knowledge and attitudes (which he considers more important). He cites a paper from the USA, by Harrison *et al* (1991), in which the authors looked at the attitudes and knowledge of baccalaureate nursing students at the beginning of their course and again at the end. They discovered that, although there was an increase in their positive attitudes, there was no increase in knowledge, suggesting that the teaching methods used had been more successful in fostering attitudes than in achieving long-term gains. Parahoo (1999) argues that there is a need to undertake more research of this type, since the most recent studies suggest that there is an increase in knowledge shortly after module completion, which is not necessarily sustained thereafter.

Parahoo's own research was in the form of a survey. A convenience sample of 2600 respondents from 14 trusts, covering 23 hospitals, received a questionnaire. 1368 questionnaires were returned (52.6% response rate). Two thirds were registered general nurses (RGNs), one fifth were registered mental nurses (RMNs) just over 10% were PK2 nurses, the grading distribution was from D to G. The PK2 nurses reported that a greater degree of preparation in relation to research had been undertaken in their pre-registrations programmes. The preparation differed between the two groups, in that the pre-PK2 had been introduced to research by using project work, while the PK2 group had sessions on critiquing, and on writing proposals. However, the PK2 nurses did not report higher rates of research awareness or utilisation compared to the non-PK2 students. He concluded that the type of activity influenced successful retention. Neile and Jolley (1997) used a similar framework of project work in their teaching as they said it was a good means of learning. They stated that there was evidence to suggest that, where postgraduate students (43) were able to undertake a small piece of clinical research, they were significantly more likely to continue research activities after qualification.

An interesting finding from the work of Parahoo's was illustrated by the point made that a higher number of PK2 students felt the need to have an introductory training in aspects of research after qualification. Could this be perhaps that the PK2 students have a clear understanding of their own research skills and a better recognition of their true abilities? Or could it be that the level of experience since qualification resulted in the non-PK2 students having gained this experience as trained staff? Or that the non-PK2 trained staff do not have an insight into the need for research skills? All these conjectures could be
partly true. However an American study by Radjenovic and Chally (1998) suggested that this need may be a true situation. Their research was related to baccalaureate students who after completing an introductory research course were not able to critique research studies skilfully and this might have determined their potential use of research in professional practice. One has to consider if this may be a possibility for some PK2 trained staff.

Parahoo (1999) concluded that we should be concerned about the learning strategies used in education programmes. He made two further suggestions. Firstly, was that perhaps it was time for the Trusts to identify those people who need this preparation. Secondly, in relationship to the use of research in practice if nurses and midwives in senior positions (who are influential over the changes in nursing practice) have no enthusiasm or become obstructive, this reflects on the degree and quality of research undertaken, but more importantly pervades the staff’s attitude to research. His final comment was that if the goal of achieving evidenced-based practice relies on formal education programmes, then the preparation of nurses and midwives for this role needs to be strengthened.

To summarise these studies it can be seen that they raise several important issues. Firstly, the majority of nurse educators are not particular well equipped to teach research; and the risk is that they inadvertently discourage and deter nurses and midwives. Individual nurses and midwives need to contemplate deficiencies in their own research skills according to these papers. Secondly, learning and teaching strategies should include active participation, especially in the initial introductory courses. Lastly, it must be emphasised that all nurses and midwives have a role to play in research. Education in the formal sense is only one part of learning, another area where learning takes place is the clinical area. The international perspective offers a similar picture amongst their trained staff to that found in the UK.

Clinical practice learning
Research awareness may be introduced as part of a course, but the learning available in the ward environment reinforces it. Teaching and learning occurs between peers, medical staff and other professionals. Incidental learning comes from reading professional journals, and more specific learning is to be found in the formation of policies and protocols. Some wards participate in research studies, whilst others may undertake care
audits. All of these are additional ways in which a nurse and midwife can continue to expand their knowledge.

Le May and Mulhall (1998) used a phenomenological approach to investigate the research culture amongst nurses, midwives and health visitors. Using a semi-structured interview technique, they spoke to 21 staff and 9 managers all of whom were self selected. What materialised was that the reasons for the theory-practice gap were very complex indeed. There was not one simple solution. The Le May and Mulhall (1998) interviews covered fourteen themes, which included attitudes, organisational issues, staff development, and inter-professional relationships. Their findings reflected those of other studies such as McSherry (1997). Many factors appear to argue against the development of a research culture. Examples were lack of co-operation and motivation; resistance to change; ritualised practice. Medical staff and nurse managers used verbal blocking by saying 'we have always done it this way', 'we are not changing', and 'the next lot of research will say something different', lack of time: heavy workload and research not seen as relevant to the practice area. Moreover, nurses in certain areas (theatres, for example) felt isolated: they have their own world and space, and do not perceive themselves as being integrated.

The analysis by Le May and Mulhall (1998) identifies various barriers to the utilisation of research in practice making eight recommendations. In particular, they suggest that interdisciplinary working may develop a professional partnership, which if all respondents are seen as equals, will foster collaborative research. The main emphasis of the recommendations is on collaboration, working towards more research-based practice, so that an organisational research culture develops. From this study, it is clear that a nurse and midwife may commence with a desire to develop and expand their research knowledge, but be inhibited by the culture.

Arguably even more barriers to the utilisation of research can be included. A study by Bostrom et al (1989) suggested that the junior nurses have limited independence. This lack of power, according to Bostrom (1998) is compounded by a lack of support and commitment from managers and other senior staff in many organisations (Funk et al 1991b, 1995, Pettengill et al 1994 and Hicks (1996). McSherry (1997) and Le May and Mulhall (1998) agree that nurses' attitudes also represent a barrier. This important element was cited by Meah et al (1996). The 'power' issue and the research skill deficit
are reported in many other papers (for example, Brown 1995, Nilsson Kajermo et al 1998).

The profession is not complacent about these findings, and the issues have been widely discussed (Rolfe 1993, Mogensen 1994, Hewison and Wilderman 1996, Pryjmachuk 1996, Rafferty et al 1996). One point that many writers agree on (for example, Wise 1994 and Mulhall 1997, Bostrom) is that there needs to be the recognition of the different cultures in which all the respondents work. Both Closs and Cheater (1994) and Flunk (1995), argue that there is a need to create a research-friendly climate within the management and organisation as a whole.

Flunk et al (1991a) devised a questionnaire concerned with nurses' research skills and awareness, the characteristics of the organisation, the quality of the research as presented or accessible to the staff and the communication of research findings. The same questionnaire has been used in various studies, including Caroll et al (1997), Walsh (1997 a, b and c) Dunn et al (1998), Nilsson Kajermo et al (1998) and Routledge et al (1998). In all cases, the findings were similar, in that they found the initial obstacle to research was the organisation. This, in turn, affected the way research was considered, presented and made available. On the other hand research by Barta's (1995) and Funk et al (1995) showed that nurse teachers and nurse managers believe the main problem to be the nurses' skills and awareness. It seems that we have to consider both the quality of training and the creation of a conducive organisational culture.

Supporting these comments is a study undertaken in Stockholm by (2000). This paper reviews the current literature, and asks why this issue, the creation of a conducive organisational culture, has become such a great concern. Nilsson Kajermo et al (1988) state that one of the advantages in Sweden is that their physicians have often supervised nurse-researchers in their doctoral thesis. This study sees this as a positive step in breaking down barriers. The Nilsson Kajermo et al (1988) study looked at two groups. One was a mixed group of 37 nursing teachers, 160 nursing students, 33 nursing administrators, and 127 physicians; the other group consisted of 237 nurse clinicians. In both groups, the nurses were in agreement that the main barriers to research utilisation were firstly the organisation and secondly communication. However, the nurses in the mixed group considered that the nurses' competence and awareness was more of a problem than the nurse clinicians did, although both considered it to be an important
factor. The group that differed in its results was the physicians they did not perceive any of the barriers as strongly as the other groups. So it would appear from this study that medical staff in Sweden are not seen as obstructive, which is different to how they are often perceived in the UK according to Dunn et al (1998). However, other significant areas were highlighted, these included nurses' expertise, the ability to communicate (especially when the nurses feel isolated within their clinical areas: theatres), and organisational problems.

Alexander (2000) explored the question of expertise. She asked if midwives were critical consumers, arguing that "there is no question that research needs to be consumed critically", (p.34). She continued by saying that midwives needed to become true critical consumers in order to assemble findings from a variety of sources, and underpin evidence-based care. One of the ways to accomplish this is for staff to undertake higher degrees; and this also applied to the teachers, whom she said, should be prepared to undertake PhDs. Her study found that the link teacher's role is a key role and can be critical to the use of research in the clinical areas. In an earlier French paper, Ducharme (1998) argued that the process of transferring knowledge from research into practice should be accelerated supporting Clark's (1988) comments. Ducharme (1998) suggested that various models could be used which would foster greater co-operation between clinicians, researchers and teachers.

Many studies regard the role of lecturer practitioners as critical to research implementation. Murphy (2000) considers the use of a model to develop the role of the teacher in the clinical area. She commences her paper by saying that the integration of nurse education with higher education has left considerable uncertainty over the role of the link teacher. She undertook an action research project to look at this situation, focusing on four elements in particular: liaison, teaching, practical and clinical credibility, and finally research. The data reflected upon these activities and showed positive results regarding research activities where the teacher remained skilled. Their collaboration with clinical areas enabled the development of research studies to have mutual benefit for staff, patients/clients and the teacher. What is not stated in the paper was the hours required by the teacher to fulfill their research collaboration, and how it fitted in with other aspects of their role. The English National Board's (1998) directive states that 20% of teaching time should be in practice. Murphy (2000) comments if this were to happen it would work towards the aims of the report 'Integrating Theory and Practice in Nursing' commissioned
by the Chief Nursing Officer for England and Wales in 1998. If achieved it will not only enhance research awareness but also begin to build evidence-based care. To achieve this type of arrangement universally requires it to be underwritten in the higher education contracts.

Another very practical difficulty is that there appears to be little cohesion between the three main constituencies within the profession: those undertaking research, those involved in practice development research, and the practitioners. Clarke and Proctor (1999) looked at this dilemma as part of a larger study, using ten focus groups (10-20 respondents) in the North East of England. They saw this loss of linkage between practice development research (practice-based) and main stream research (academically based) as a divisive situation (in relation to evidence based practice). Brown (1995) and Kitchen (1997) have also raised this concern. They stated that, although the responsibility for daily patient care is paramount, who is responsible for implementing change is not clear. There would appear to be considerable ambivalence as to who is responsible for change and who stimulates the opportunities to develop these changes and implementation. Both authors felt that opportunities for research and research application were being missed as a result of lack of leadership. Fish (1998) states that research and practice developments are not always seen as part of the same health-care agenda, and that this relationship is central to the ability of the profession to define its own knowledge base.

One way of bridging the gap between different constituencies was found in the paper by Adolph and Gorres (1997). Adolph and Gorres (1997) offered an unusual way of considering this aspect by stating that the two languages were not compatible. Research did not appear to speak to practice, or practice to research. Frequently, practitioners considered the research undertaken had no bearing on the real world of care. This is a barrier perhaps created by the consideration that only the few undertake research, and nobody understands them.

Many aspects of the research-practice gap have been explored (Hunt 1987, Clark and Sleep 1991, Mander 1992, Perkins 1992, Kitson et al 1996). MacVicar (1998) considered research activities, and the experience that students had in their practice placements. He describes an ethnographic study, which took place over a three-year period and involved 60 students. These students had received their education in research from a small
development team, and were supported in the clinical area by this team. However, in the clinical areas they received mixed messages about research and its usefulness. MacVicar (1998) states: "the word research is commonly used but some practitioners were seen to be learning about research for degrees and diplomas with little or no sense of the need for it", (p.1313). The students reported that their personal theoretical research knowledge could not replace real experience, although experience could be seen as functional without a linkage to research. However, the students demonstrated an ability to use the research process, and showed intellectual development. They also realised the importance of educating students in research. But the study indicated a laissez-faire attitude among nursing staff at ward and managerial level, and various bureaucratic and organisational impediments to the effective use of research in practice.

In considering clinical practice learning it can be seen from the studies cited that a mixed situation exists. Nevertheless, the overriding factor highlighted was the influence of the management or organisational structure. Where these are positive, research awareness and skill flourish. To conclude, research has to be seen as a top down process, this then will allow research to prosper and original studies to be initiated.

**Direct involvement s in research initiatives**

Over the last two decades many initiatives have been designed to increase research awareness amongst nurses. One of the greatest opportunities was the adoption of the nursing process (de la Cuesta 1983). This soon became a symbol of good nursing care and spread rapidly into every clinical area (Fonteyn and Cooper 1994). Henderson (1987) stated that one advantage of the system would result in staff being able to recognise the application of research findings in practice, and deliver high quality care as a result (Richards and Lambert 1987). However, because of the way in which it was introduced, its application of research has been muted. Models should have been a template for good care, but unfortunately they become a tick list to the staff and the linkage with research was lost (Henderson 1987). Despite this comment, it was still felt by Mason and Attree (1997) to achieve its purpose: "the theoretical basis from which the nursing process was derived, together with the theoretical developments in diagnostic and intervention studies, has established the nursing process as a key element of the nurse's role in research, education and practice" (p.1049). They suggested, however, that the nursing process is now becoming outdated and that the profession should consider other diagnostic tools such as NANDA's taxonomy (Rantz and Lemone 1995). Rantz and Lemone (1995)
concluded their discussion by commenting that there is a need for a theoretical underpinning, which would constantly enable research to be at the forefront of care, and therefore an integral part of every nurse and midwife. Barnum (1994) supported this notion.

Several papers have argued that when both students and trained staff are undergoing their studies, they should be involved in small scale clinical research - since they are significantly more likely to continue research activities after this experience. Neille and Jolley (1997) looked at the experience of student midwives at Hull University. There were two groups, one of which studied research from a theoretical viewpoint, while the other were active respondents in a small-scale study. Despite various concerns (the value of the work was questioned, as was the students' ability to conduct even a small-scale research study), the conclusions were positive. The authors stated that the opportunity to undertake this type of project engages the student in the process of primary data collection and these aspects alone increase their motivation to continue to research and publish. However, they do add a rider to the effect that this can only be regarded as one contributory factor amongst others.

A more recent development is the introduction of nurse-led areas of care. Lindsay and Wheatley (1998) explore how a nurse-led team in Glasgow acted on research findings to alter patient/client care in relation to heart surgery. The nurses reviewed the patients/clients waiting for heart surgery in relation to improving risk factors - for example, smoking. They then designed a randomised controlled trial involving 49 in one group and 48 in the other. The intervention in the trial group was flexible, visiting at home if required and monthly family-centred health education and counselling sessions related to the patient/clients needs. They assessed the results using the HAD questionnaire (Zigmond and Snaith 1983) which measures anxiety and depression. The results indicated the effectiveness of the programme. It is noted that the patients/clients felt more personally cared for. The authors concluded by saying: "this study shows that nurses can lead innovative practice through the use of research findings and the integration of academic nursing into clinical practice", (p46). Zigmond and Snaith (1983) following their study concluded that these staff would automatically be more active in research, as they extended their research awareness.
Browne (1998) argued that the Culyer Report (1994) was in favour of the NHS Research and Development Strategy (1993) and the creation of research and development (R and D) officers. He states that the role of the R and D officers is to provide a bridge between different professional groups, and Riley (1998) extends this by saying that the role should enhance multi-professional collaboration. One of the objectives is to assist nurses and midwives to become involved in multi-professional audits and research projects and, equally, to help analyse the data and evaluate the findings. Browne (1998) comments that if nurses are to use this service, they should be educated to realise their full potential (this also requires a service that wishes to move nursing research forward). The UK has moved towards this direction, whilst the USA has moved to setting up research co-ordinators. This network system enables clinical research nurses to co-ordinate forums for education, problem solving, benchmarking, and support. The system, as described by Ecklund (1999), appears to be a more user-friendly way of encouraging participation. Eckland (1999) continues by stating that nursing administrators have both a professional and a legal responsibility to ensure that the nursing staff have their educational needs met, and this includes not only enabling all staff to be research aware but to use research findings in practice.

Kitson (1997) similarly discusses the merit of using a framework to integrate research and developments in practice. He describes an extension to the research co-ordinators process, by applying a model like structure in his study. This would engage nurses actively and so underpin the principle of the framework in order to generate knowledge, implement research in practice, and evaluate its effectiveness. The conclusion of the study was that this is a robust tool that worked. Van Mullem et al (1999) used a similar method, which they called 'train the trainers'. Educational and experiential sessions were designed for nurse leaders to gain experience and so become trainers. The trainers then requested all new staff that were employed within their health area to complete a research self-assessment questionnaire to discover how they incorporated research into practice. Following this the trainers would explore and analyse the results and enable the nurses to further develop their research skills. Perhaps this more proactive approach is one that could be incorporated into the role of research nurses throughout the UK with managerial support.

To conclude, these studies indicated that direct involvement in research initiatives enhance both research awareness and skills, and where the research is successful it
stimulates active engagement in the next research study. However, it would appear that these studies indicate that the way forward is by direct involvement, which then needs to be encouraged, and planned for, in all NHS Trusts.

Other professions
Arguably, the difficulties that face nursing and midwifery are similar to those in other professions, such as teaching and social work. A review of the literature in these fields suggests that, while nursing is profoundly concerned with the idea of all nurses becoming research literate, in the other two professions this appears to be just one of many issues and not a major consideration.

In the previous three-year period, no articles were found that compared with those reviewed in nursing and midwifery fields. The articles mainly covered the need for teachers to complete higher degrees (though presumably this might make them more research literate). For social workers, the impetus was coming from the Government to enable social workers to become more aware of research in specific areas but also to be aware of research in the more general context. Traynor (1998) states that nursing is in a similar position to other relatively new disciplines, he cites social policy and sociology but states that nursing is a few years behind them.

Conclusion
It is difficult to summarise this review, as it is clear that how nurses and midwives extend their personal knowledge in research is dependent on many factors. We are looking at a complex maze, rather than one or two major issues. The main points include: the way in which research is taught and, in particular, teaching and learning strategies; the experiences and opportunities available to clinical practitioners; the degree of involvement in research that nurses and midwives have; and the level of organisational support. These were common themes across the studies reviewed.

Since the nature and degree of the issues are very complex, this study will focus only on how nurses and midwives gain their research skills. This is explored by looking at the acquisition of knowledge through reading, the strengths and weaknesses of the courses, and finally the experience gained in the clinical area.
Chapter 3

Methodology
METHODOLGY

Introduction
The literature review highlights the complex way in which nursing and midwifery staff may gain their research skills. Equally where additional research would fulfil a useful role, in enabling research skills to be obtained. An example would be the investigation into alternative teaching strategies in relation to how research could be taught. However, this study will focus on how nurses and midwives gain their research skills rather than on a specific area. The areas for investigation have been defined by the literature review being the acquisition of knowledge through reading, the strengths and weaknesses of research courses and the experience gained in the clinical area.

The research question
The starting point for any research, according to Baker (1994), is the 'issue'. This having been determined, the next step is to decide how a question can be formulated. The 'issue' for this project arose, as a result of my teaching experience, and the expectation that post-registration students would have gained a basic knowledge of research. Despite PK2 this expectation appears to have remained unfulfilled – an observation that is broadly confirmed by the literature review.

The research question needs to be formulated and Robson (1993) notes that there is no foolproof and automatic way to generate a research question, but there must be a specific focus. Remenyi et al (1998) add that the question should be worded in such a way as to avoid ambiguity, and that concepts should be fully capable of being operationalised. As Dewey (1944) observes, a problem that is well defined is half-solved. However, an appropriate definition may require several stages of modification and refinement before the research question is acceptable (Cormack 1991). Eventually this fine tuning should result in precise wording and a single specific question. Wright (1999) states that a research question is by nature one that is a concise, interrogative statement, worded in the present tense, which includes one or more variables or concepts.

Clark (1997) says that there are three types of research question: 'how', 'what' and 'why'. Brink (1994) used a typology, suggesting that the questions can be defined as the 'what are?', 'what is the relationship?' and finally the 'why?' questions. 'What are?' questions are 'level one', since they are most appropriate when there appears to be a limited literature
available, and the purpose of the research is to identify or describe a particular state of affairs. A ‘level two’ question is ‘what is the relationship?’ This type of question is looking at an area where there is preliminary knowledge available, and the researcher seeks to explore the relationship among variables. A ‘level three’ question asks ‘why?’ and seeks to test a theory.

The research question is ‘how nurses and midwives gain their research skills’. However, this could be seen as imprecise, so it needs to be refined down to what is explored. The two aspects in relation to research skills to be examined are firstly, can nurses and midwives understand the research papers they read. Secondly, can they use the findings in practice? Both these skills are essential if evidenced-based care is to be achieved. So the question is ‘How do nurses and midwives gain their research skills in relation to: understanding research and applying research findings to practice?’

The proposed study is then exploratory in nature, and involves a ‘level one’ question: ‘To what extent, and in what ways, do nurses and midwives understand research and apply research findings to practice?’ Brink (1994) says that all level one questions are exploratory, and aim to provide a more complete picture. She adds that level one questions ask ‘what are?’ and ‘what is?’ about the subject. So that these become phrases, the characteristic ‘stem’ of all the questions related to the main research question. Each phase of the proposed study, then – if it is to reflect Brink’s (1994) framework – will spell out both the concept to be explored and the sample that permits this exploration to take place. Having established the research question to a precise and manageable entity, the methodology to be utilised needs to be explored.

Methodologies
Researchers must consider the most appropriate methodology for the study. It is generally accepted that they have a choice between two paradigms or research strategies – qualitative and quantitative (Hunt 1991, Burns and Grove 1993, Polit, Beck and Hungler (2001). Rees (1997) explains that qualitative and quantitative methodologies are based on different underpinning philosophies and approaches to research. Sandlewoski et al (1997) stated that quantitative research, which emerged from physical science, is based on the belief that the natural (or real) world is outside the experience of the individual so can be controlled. Lobiondo-Wood and Haber (1998) state that one is looking for answers which are founded from scientific investigations, using a system which is objective in
nature, systematic in process, formal in context, and which provides numerical data that can be used to quantify the findings. The data produced from deductive reasoning can then be tested against existing knowledge, by means of a hypothesis. Moreover, the methodology is capable of being replicated. Polit, Beck and Hungler (2001) say that this approach aims to control and eliminate extraneous variables, to enhance the reliability and validity of the study, so that cause and effect between variables can be established.

Nieswiadomy (1998) described the qualitative, or naturalistic, approach as the one which aims to bridge gaps created by the quantitative approach, since the latter provides only facts and figures without indicating meanings. Niesiadomy (1998) reasons that there is no intention to quantify the type of data; rather, the idea is to employ language appropriate to describing the phenomenon concerned. This knowledge deficit highlighted by Nieswiadomy (1998) needs to be bridged, Banks (1999) writes, if the wholeness of the study is to be achieved. He adds that by collecting in-depth data, related to human phenomena, one can hope to understand personal experiences; and this allows an understanding of how people represent their lives, this is also supported by Hunt (1991), Cormack (1991) and Carr (1994). This view is supported by Streubert and Carpenter (1999) but rejected by Polit, Beck and Hungler (2001) who suggest that facts and figures are open to interpretation.

Couchman and Dawson (1990) describe the data as 'soft data', and suggest that qualitative research is a form of induction, in which the researcher is guided by issues, perspectives and observations. They continue by saying that the data are descriptive, rather than explanatory, and are exploratory rather than testing. Therefore it is a non-scientific approach, which encompasses exploration, according to Cormack (1991). Cormack (1991) states that the problem of subjectivity remains a concern since this type of approach does not incorporate a systematic, objective protocol designed to prevent bias. So it would be difficult to arrive at certainty using this approach, as each person’s account may differ. However, Couchman and Dawson (1990) concur it would by nature support information gained from the quantitative data by enabling gaps to be closed in relation to how people live their lives.

Polit, Beck and Hungler (2001) proposed that the differences between the approaches can also be used to enrich the research process, since the strengths of each paradigm can be utilised to contribute to a body of knowledge. Shih (1998), together with Marshall and
Rossman (1995), declared that, in order to enhance the generalisability of qualitative research, triangulation can act as a bridge by using more than one source of data. Baker (1994) argued that the data collected in this manner could be used to corroborate, elaborate or illuminate the findings in relation to the question being asked. Designing a study in this way should strengthen the study's ultimate usefulness, according to Silverman (1997). It is therefore appropriate to explain the use of both qualitative and quantitative approaches in this study.

Research design

The research design refers to the overall structure, or plan, of the research to be undertaken; so it can be said that the design is concerned with turning the research into a project that will answer the research question (Baker 1994, Marshall and Rossman 1995, Silverman 1997). In the planning stage it is important to keep the research question uppermost so that the focus is not lost. Manstead and Semin (1988) made the point that the strategies and tactics selected in carrying out a piece of research depend upon the type of research question that is being answered. This study is exploratory by nature. The features of exploratory research, as described by Robson (1993), are:

- To find out what is happening
- To seek new insights
- To ask questions
- To assess phenomena in a new light

These characteristics form the basis on which to begin the initial construction of the design. Clarke (1997) and Brink (1994) maintain that an exploratory research design provides an opportunity to examine all the issues surrounding the problem. Allowing for the build up of knowledge in relationship to the issue, this may alter the direction of the research as a pattern emerges. Therefore, as the data are collected and examined the process can be realigned with the information gained. Brink (1994) states that this is an advantage of the exploratory research design, because it is intrinsically flexible. According to Brink (1994) this flexibility allows modifications during studies, avoiding a rigid design.

In view of this, it is necessary first, to find out what is happening. Several studies in the literature review noted that research is the prerogative of a few (Dyson 1997). That the subjects researched are not, in all cases, relevant to practice. Some studies are frequently difficult to read. Research is often not enacted in practice quickly or at all. Initially,
these beliefs need to be tested, so it is necessary to review the research that has been published in the nursing and midwifery literature. This is ‘phase one’. The literature review suggests that the nurses and midwives have not (in general) developed much personal understanding of research. Asking how far this is true is ‘phase two’, which will use a questionnaire. Finally, asking about the experience nurses and midwives have had in acquiring (or seeking to acquire) research skills within practice, and how effective was this learning. This is ‘phase three’, and is approached in two ways: (i) interviews with nurses and midwives to discover their views on research learning; and (ii) focus groups to review the material gleaned from the interviews. The three phases represent a series of steps, as the first will provide questions for the second phase, and these are explored further in phase three. The design under consideration then is a survey.

**Survey research design**

Platt (1978) described a survey as a technique for collecting data, by means of a systematic and structured questioning approach. Waksberg (1999) noted that the word ‘survey’ is used most often to describe a method of gathering information from a sample of individuals. The survey is one of the most common methods used for gathering data, and can be conducted in a number of different ways: through interviews, postal questionnaire, or by telephone. The reason for their popularity is that there is no set format, and so they can be designed or modified to meet the needs of the researcher and therefore fit the topic of the research. Platt (1978) comments for this reason, a survey research design is a very flexible instrument, which will enable these issues to be explored effectively.

This approach tends to ask questions which are easily related to the literature review - for example: 'Do nurses and midwives consider research the domain of the elite?' 'Present research is not relevant to the real clinical world?' 'What level of skills do nurses and midwives have?' and 'Where and how do they extend their research skills?'

**The first phase**

This first phase is intended to consider the comments that initiated this study. To explore whether research is the prerogative of a few, whether it is understandable to the clinical practitioner, and whether the topics researched have been relevant to practice. The most obvious strategy to begin this study is to look at the significant increase in the volume of nursing and midwifery research during the last twenty years, therefore to review
published research since 1980. A fifteen-year period should identify any important changes – in topic, readability, format or style.

Which publication should be considered, as representing the changes during this period of time is a difficult question and is addressed later. Nelson (1999) stated: "a systematic review is a literature review that has been prepared using a systematic approach. It seeks to identify and synthesise all the literature on a given topic, rather than only the literature that is easily available or that which agrees with current practice", (p.24). So the first task is to consider how a template which can be devised so that all the significant aspects of published research articles can be studied. Moreover, a definition of ‘research study’, so that studies from the early 1980s can be included, even though they may not have all the recognisable features of today’s research reports. This stage is not intended to judge the quality of the research. Nelson (1999) emphasises "that every step should be taken to minimise bias at all stages during the identification of the research, its appraisal and analysis. Thus it is usual to ask a colleague to check the decisions that have been made on inclusions or exclusions of studies", (p.26). This comment is relevant to some of the earlier studies, where all the standard research pointers are not present and a judgement will need to be made as to their inclusion or exclusion.

Once the template is developed, the work requires painstaking reading, selection and critiquing of the articles. Burns and Grove (1993) consider that this is labour-intensive but very important. Difficulty would arise if the journal choice was a reference journal, and since they are not allowed out of the libraries. Photocopying was considered but this would add to the time and expense in this phase. Further problem envisaged were that the University did not assume responsible for the library system during the whole of the period and equally it was considered that some issues may be missing. This could elongate the process, as noted by Libiondo-Wood and Haber (1998). A further consideration was that there is no way of entering the material into a computer data base as it is read, it would all have to be hand written, and then transferred to a computer package subsequently. Therefore this phase is time-consuming. There are no short cuts if the records are to be accurate and useable. Once every article had been read, and the details extracted, they would finally form a database that could be analysed using the Statistical Package for Social Science (SPSS) software package. This allows comparison with the original comments recorded.
The Second Phase

Phase two fits into the more conventional understanding of a survey, as it will seek to discover how nurses and midwives have expanded their personal knowledge and understanding of research. One of the areas investigated will be: 'Is there any expectance/difference between the trained staff completing their educational programme at certificate, diploma or degree level?' If so how is this to be demonstrated? Equally the sample size needs careful consideration in order that the data will yield significant results.

Sarantakos (1994) explained that the survey approach helps to describe and explain current circumstances or conditions, and that it has therefore become one of the most frequently used methods in all social sciences. Rees (1997) argues that a questionnaire is less intimidating, and that it is seen as more user friendly - both for the researcher and the participant - than other methods of data collection. Gitlin (1994) maintains that the popularity of questionnaires can be explained by the fact that they collect large amounts of data cheaply, and moderately quickly, in comparison to other methods.

Bowling (2002) refers to questionnaires as having a degree of structure. This allows it to be used as the basis of an audit, so it becomes easy to analyse and extract meaning. However, she adds that, if it becomes too broad, it will have a tendency to be superficial and general, or yield too much information, leading to overload. These comments are supported by the work of Wolf and Heinzer (1999). Oppenheim (1992) warns about the difficulty of ensuring validity when using such an approach, since socially acceptable answers may be given: this risk obviously needs to be considered in the design of the questionnaire. In the present study, phase three has been designed to resolve any of these problems.

However, there are also disadvantages, which must be considered carefully. Stone (1999) suggests that the main one is that the approach relies on self-reporting, so the problems associated with self-reporting must be examined and, where possible, minimised. A further problem is the willingness of subjects to participate. Northrup's (1999) criticism of self-reporting, revolves around the relation to the honesty of the answers. Among the categories he defined are the perceived acceptable answers, he says that sometimes nurses and midwives have been known to give answers which, they consider to be professionally
correct. Equally, they have been seen as trying to be helpful to the researcher by telling him or her what they think s/he wants to hear. Other concerns are: that people will leave blanks rather than compromise themselves in giving 'middle of the road' answers or they may be unsure what is being asked, so not answer the question. Occasionally, where choice questions have correct multiple answers, the respondents may know only one correct answer yet choose others rather than leave the answer(s) blank. Again, where a Likert scale is used, respondents may often choose the mid-point - sitting on the fence and therefore not committing themselves.

In this phase a letter to explain the purpose of the study is used. According to Jack and Clarke (1998) both nurses and midwives respond effectively to a well-written letter in which they consider their answers are valued. They have found that there are less problems with professional groups and self-reporting. Where Northrup (1999) found that respondents feel that they must respond in the way the establishment requires them to respond, this was not reflect the practice according to Jack and Clarke (1998). There may equally be a problem with open-ended questions, Jack and Clarke (1998) suggest because of the differing answers.

A further problem is where the questions relate to a specific event and require recall because the intervening time may have distorted the reality as we remember differently according to Jack and Clarke (1998). This type of reporting is known to become more problematic the longer the time interval. Therefore it is necessary in this study to control (where possible) the effects of self-reporting by, firstly, within the questionnaire communicating effectively and matching years and courses for example. Secondly, using each phase to support the other phases, and by limiting the third phase interviews and focus groups to targeted nurses and midwives. In this way use of triangulation should mitigate against the main problems of a self-report study

**Questionnaire**

Jack (1999) and Parahoo (1997) suggested that a questionnaire is an acceptable approach when working with nurses and midwives, because this is a format which, they are familiar with in relation to their work and studies. Generally it is considered user-friendly by the nursing and midwifery profession, a fact which, tends to prompt higher return rates, according to Jack and Clarke (1998). In constructing a questionnaire Czaja and Blair (1996) suggested three criteria that must be met if success is to be achieved. Firstly,
that the target audience should be carefully and clearly identified. Secondly, that the majority of the respondents should be familiar with the topic being researched, and thirdly that they should feel comfortable with their ability to answer questions.

These comments raise fundamental principles in relation to questionnaires, in that the design and selected sample are the key to success (the sample size is discussed later). The construction of the questions and the layout is important for completion by the respondents. When planning a questionnaire a different number of design stages take place according to Bell (1999), Oppenheim (1992) Cazaja and Blair (1996), and Jack (1999). There is no consensus on these stages apart from the fact that they all state designing is a complex process; if one is to achieve a questionnaire which encourages the respondent to complete it accurately.

Burns and Grove (1995) suggested that general aspects have to be carefully considered, alongside the development of the actual questions. If for example the questionnaire is not aesthetically pleasing, it may not even be picked up or opened, no matter how good the design. Consequently, features such as the possible length, typeface, spacing, instructions, overall format, paper, and paper colour and collection/return information need to be recognised as important (Oppenheim 1992, Cazaja and Blair 1996, Parahoo 1997, Jack 1999 and Bell 2000). Matters of format and structure can be resolved during the pilot and revision stage.

Returning to the questions themselves, the questions need to be short and concise because the answers relate to specific areas for example 'when reading research how do you like the research structured?' The format contains closed questions, to elicit biographical details, and also to answer certain questions for example, 'have you undertaken the ENB 870 yes/no'. Closed questions although generally considered easier to answer since the options are limited, serve only a very specific purpose. Where information or comment is required open-ended questions have been included - for example: 'what type of research have you participated in?'. Murray (1999) and McGibbon (1997) suggest when using open-ended questions it must be remembered that new insights can be generated from these answers, taking the study into different directions which will need to be considered or rejected.
Jack (1999) says that, just because the question does not on the surface appear complex, does not mean stringency is not taken during its construction. He said all questions must be carefully constructed so that they do not suggest a particular answer. Parahoo (1997), when discussing question writing said that the question must be related directly to the research – it must have a specific function. Questions must be clear, and mean the same to all the respondents. Oppenheim (1992) Cazaja and Blair (1996), Bell (1999), and Jack (1999) supported these comments. Close attention must be paid to the wording, with professional terms balanced by everyday language, according to Oppenheim (1992). He continued to say the wording must not assume aspects have automatically happened. For example in this study it is necessary to discover which staff have, regardless of years of practice, been involved in research, not to assume that all senior staff are automatically involved by virtue of their position. Oppenheim (1992) and Baker (1994) stated that it is essential to avoid leading (and loaded) questions, or ones that may imply bias. One must consider if questions would be better split into two and what it will do to the sequencing, will it cause the 'flow' to become impeded and extend the length of the questionnaire, as length influences completion. So even the splitting of questions needs to be examined very carefully (Oppenheim 1992, Baker 1994).

Oppenheim (1992), Cazaja and Blair (1996), Parahoo (1997), Bell (1999), Jack (1999), Polit, Beck and Hungler (2001) all stated that reliability and validity are enhanced if careful preparation and planning are undertaken during the design stage. These aspects are discussed later. They also reflect that nurses and midwives are more likely to complete a questionnaire, since they feel a greater sense of anonymity when using this method and generally wish to support the nature of the research.

**Sampling**

Rees (1997), together with LoBiondo-Wood and Haber (1998), insisted that the outcome of the research is dependent on the type and quality of the sample. They all stated that the sample is the proportion of the population that has been selected to represent the total population. Sampling methods differ according to the research design, and can be divided into probability and non-probability methods. Rees (1997) argued that it is important for the researcher to be aware - regardless of design - that the sample must be drawn in such a way as to decrease the bias, and at the same time increase the representativeness.
Probability sampling methods allow generalisations to be made from the study findings to a larger population. Faugiero and Sargeant (1997) consider this method to be more rigorous, since it gives everyone in the population an equal chance of being selected. They say that this allows for more sophisticated statistical tests to be used to analyse the data; therefore it can be used effectively with quantitative research. Although probability sampling can be seen as stronger on reliability and validity, Newel (1996), and Morse and Field (1996) argued that by using a non-probability method one is able to measure aspects in terms of appropriateness and adequacy in relation to what is being sorted. So when deciding on the sample, the aim of the study always has to be borne in mind.

Probability sampling is linked to the likelihood of an equal chance of being selected through randomisation, whereas non-probability sampling relates to a selective sample, which may be covered by a quota, convenience or snowball. Correct categorisation is fundamental to collecting the data. To give every member of the population an equal chance of being selected is very difficult unless the population is very specific in its characteristics. A stratified sample is common in nursing and midwifery since, in very specialised disciplines, there are no large numbers of nurses available. Another sample type could be a cluster sampling, as this uses groups from particular areas, but this would not allow generalisation. However, if one is looking for a predictive sample where specific categories are involved the choice may be a quota sample: then one can select age, sex or class or any combination in relation to a study, for example looking at contraceptive knowledge. More commonly used in nursing and midwifery is a convenience sample, which approaches the nurses or midwives available at a particular time or in a specific place.

In considering this second phase a constraint in design is the sample size and whether the results will differ according to locality or could be generalised. Consultation with the RCN or RCM resolved the issue of locality, different locations for the questionnaire is now established. However it is further to be considered as the results are being analysed and discussed.

**Type of Sample**

Brink (1994) reasons that the majority of nursing research uses a non-probability sample because of necessity. A non-probability sample is particularly useful when the total population is not available since it would be impractical to sample every nurse and...
midwife according to Brink (1994). Therefore in this study, it is impossible to sample anywhere near the total population. Having decided on different locations it is still controlled by the people available there at that time, a convenience sample. In using this type of sample one can plan the number of people from whom data may be collected. Brink (1994) and Baker (1994) commented that there was no way when using this method of estimating the potential bias, but they conceded it was possible to plan for objectivity. Equally the respondents would not be selected by the researcher they would become self selecting. An advantage of this sample according to Brink (1994) and Baker (1994) was that one can decide how quickly the target numbers are achieved, so in fact how long the research could take. This ability to plan is important as this is a small longitudinal study over a two to three year period allowing for any influence of PK2 trained nurses.

**The Sample**

Brink (1994) and Baker (1994) advise novice researcher to use the largest sample they felt able to manage, because when the analysis was completed it was more likely to be a true estimation of the population. They said in this way the chance of error would go down. However, they continued by saying one has to remember the practical considerations attached to both collecting the data and managing it. Sample sizes can be determined by power analysis – which estimates how large the sample will need to be in order to detect real effects and differences. Accepting this, Brink (1994) and Baker (1994) suggested that power analysis is only required when conducting a probability sample, therefore not needed within this proposed sample. However to achieve meaningful data one would look towards a sample of 850 - 1000 respondents over the three-year period. This calculation was also agreed by the RCN, and could be achieved by targeting Conferences. When considering the data collection in the three years previous the attendance at all conferences was 5,000 - 6000, so by aiming for 850 - 1000 the sample would be approximately 15% of the total population.

The sample is self-selecting. The inclusion criteria being that they are registered nurses or midwives in clinical practice. Nurse managers are excluded. Sample error has to be considered as no sample can be seen as perfect according to many writers including, Robson (1993) Parahoo (1997) Bell (1999) and Bowling (2002). Bowling (2002) commented that "sampling error shows the amount by which a sample estimate can be expected to differ from the true value of that variable in the population. --- It points out
the factors which determines the level of sampling error for a particular variable, which are: for a characteristic, the proportion of people who possess it" (p.177). This relates to the fact, as discussed earlier, that the larger the sample the less error it will contain. In this study, it is recognised that the sample may not represent the whole population of nursing and midwifery; however, it is indicative of the population. This study is using 'whole group' population so aspects such as age or sex would not be relevant therefore reducing sample bias. However, one must bear in mind the need to achieve external validity of the sample results. This relates to the generalisability of the results to the wider population. At the same time, internal validity of the questionnaire is important and the pilot results support this aspect.

The Third Phase

This phase of the survey includes interviews and focus groups to explore the findings of the second phase. The best way of gaining an insight into people's experiences is to conduct face-to-face interviews. These might help to address not only the issues raised by the questionnaires, but also those covered in the literature review. For example, did the learning and teaching strategies nurses and midwives meet, influence their understanding of research? Perhaps more importantly, did it influence their attitude to research in the future? So it was decided to adopt an additional strategy. Sims (1998), Morrison and Peoples (1999) agreed that focus groups could be used to corroborate information already gained. In this case, the respondents are not being asked to be experts in the subject; they are being asked to consider how nurses and midwives think and feel (Clark 1999). From past experience, Clark (1999) said this had been a very fruitful line of enquiry.

Since the questionnaire was focused, and the locality of the research enabled a wider audience to be sampled, within this phase this aspect of locality is continued. To restrict this phase to the contractual area of the University, only allows exploring teaching and learning strategies used by one or two Universities and does not cover the full range of hospitals. This is unsatisfactory, so the sample and the demographic profile are similar to that used during the second phase. To this end several Universities were approached.

Having defined the sample area, and obtained university approval, it was necessary to approach the Directors of Nursing and Midwifery for permission to approach students for the third phase. A formal letter (see appendix 2) was sent to all units contracted to each
of the universities. The initial letter also asked about possible Local Research Ethical Committee (LRECs) approval for this phase because it is exploring the issues that had arisen using the techniques of interviews and focus groups with nursing and midwifery staff. Approval was received from all participating Trusts.

**Interviews**

The third phase involves face-to-face interviews, so that the researcher is able to explore a number of questions surrounding the 'issue'. For example, during the interviews it is possible to identify and explore teaching styles within research courses. Interviewing can take many different forms: it can be structured, semi-structured or totally respondent-led. The interview format is structured: there are closed questions, which will equate to the information received from the questionnaire; but there are also be open-ended questions which will directly relate to the respondent's experience - for example, teaching styles. At the same time it provides the means to reflect on the comments, which instigated this study.

The interview, according to Bowling (1994), Brink (1994) and Baker (1994), relies on the interviewer being sensitive enough to establish a good rapport. This requires an ease of manner, which will enable rapport with a wide range of people. They all suggested that the main requirement is the ability to motivate, to remain friendly; to be positive and sensitive to the whole of what is being said; to be a good listener, one who does not interrupt the respondents before they have finished speaking. However, they also said that the interviewer must be committed and persevering; but at the same time should adopt a neutral manner. Finally, s/he must always leave the respondent feeling good and happy in relation to what they have offered or contributed. The reason for these requirements are to avoid bias and ensure - according to Cosper (1972) - that a business-like atmosphere is maintained at all times.

In the present study, the interviews are (with the respondents' permission) audiotaped, and the tapes destroyed at the end of the study. This brings in another aspect of interviewing: the technical side. How good is the researcher with a tape recorder before it can be used effectively? The technique was developed during the pilot interviews. Conversations, which take place once the interview is completed, were also considered and this was covered in consent which, was gained before the interview.
Focus groups

Focus groups were developed, according to Madriz (1998), in the 1940s by Merton when he was asked by Paul Lazarsfeld to review wartime radio programmes in New York. Later, Lazarsfeld continued to use and refine the approach in market research, where it has been used extensively. Over the last two decades, it has become very popular as a tool across the whole range of social sciences, including (more recently) politics and health care. It is possible to define a ‘focus group’ in a number of different ways, but all sources allude to it as a research tool that is part of the interview continuum – in fact, research studies often start with individual interviews, and then proceed to small group interviews. Kitzinger (1994) says that the focus group enables the respondents to feel comfortable as part of a collective activity and to be able to speak freely even where analysis and interpretation are critical to the research. McDouglas (1999) says this tool enables the researcher to gather opinions, insights and perceptions in relation to the particular ‘issue’.

McDouglas (1999) writes that a focus group is "another name for a group interview or group discussion, where the focus is a particular topic of interest", (p.48). This statement is supported by Johnson (1996), Gibbs (1997), and Morgan (1998) who said that focus groups are a form of group interviews where a number of respondents are interviewed together. They recommended that the group number should consist of between 6 and 8 members, and that it should last for 1- 2 hours. Stewart and Shamdasani (1990) argued that the group must have a common interest, and that it should be organised so as to be cohesive, trusting, facilitating and supportive if it is to produce results. Group dynamics will often affect the data collected for analysis, according to Howitz and Kimpel (1998). These points need to be considered during any construction of such groups as these authors argued that the researcher needs to have knowledge of group interactions before using such a tool.

The Data

In the third phase, the interviews and focus groups are audiotaped and then transcribed. Analysis: the material is themed, and used to support and enhance points made in other ways. One needs to be aware of the ethical issues in relation to interview and focus groups. The initial one, highlighted by Gibbs (1997), is that the researcher must ensure that sufficient detail is given to the respondent - with regard to the nature and purpose of the research, and the use of the contributions they will make - so that they can freely give
informed consent. Secondly, the researcher needs to be aware of their own personality, so that they can remain neutral, and not put words into the respondent's mouth, or pressurise them to discuss the topic in a particular way (Gibbs 1997). Howitz and Kimpel (1998) stress the comment/discussion must be handled sensitively and confidentiality for both the interviewees and focus groups to be able to express themselves freely and not be concerned in relation to the analysis. They also point out that in order to achieve this; the data are anonymised in order to give an element of reassurance.

Data collection and analysis

Each phase of the project requires a different data collection tool. The first two phases are quantitative, and the final phase is qualitative. Lynes (1999) advised that, when the data generated are extensive, the means of analysis should be considered as each component of the research is constructed. Rees (1997) explained data analysis as a system of counting, classifying and grouping the individual pieces of data - so that a broad pattern may be distinguished, leading to the emergence of order and comprehension.

In phase one, data will be transferred direct to SPSS. In the second phase, the data are mixed, though the majority is quantitative and can be managed in the same way as the data in phase one. However, the open-ended questions are collected and themed where possible, and checked against the quantitative data to see where it supports and enhances the points made. Phase three yields qualitative data from the interviews and focus groups. This is transcribed, and then themed in relation to previous points established in phase two leading to an overall structure of the findings. Burns and Grove (1993) explained that there are several techniques, which can be used. They all differ slightly, but show a general pattern of moving from the respondents' description to the researcher's analysis, and then a synthesis of all respondents' descriptions. Colaizzi (1978) produced a procedural 'step' process to analyse this type of data, and this is considered when the data are being explored. All the techniques recognise and appreciate that when examining the qualitative data the degree of thinking, reviewing, and reflecting that the researcher must perform. This interpretative and analytic function in relation to the data produces the coherent patterns.
Ethical Considerations

Ethical issues present themselves during the research process in many ways - for example, the rights of respondents; consent; feedback; confidentiality and data storage. Rees (1997) defined ethics as a code of behaviour. Basic ethical principles are enshrined in the Codes and Rules provided by the UKCC (1992, 1996, and 1998) and the NMC (2002). These are supported by the professional organisation of the RCM (1989) and the RCN (1993), reinforcing the responsibility to safeguard the interests of clients in relationship to both clinical practice and research. Tierney (1995) and Nieswiadomy (1998) stated that ethical principles are fundamental to the research process, aiming to protect the rights of the respondents. These principles encompass autonomy, beneficence, non-maleficence, justice and fairness. When considering these issues, the value of the research to nursing and midwifery, the methods by which the information is collected and analysed, the involvement of those in the information collection process, and the potential consequence, they have all to be justified.

In this study during phases two and three the respondents needed to know whether the researcher was adequately qualified and experienced to undertake the study. To remove this uncertainty, a letter was designed to accompany the questionnaire (and requests for interview/focus group members) (appendix 2). This covered the study and its justification, so that the respondents are able to make an informed choice of whether to participate or not. The nurses and midwives who participate in the study are assured of confidentiality and anonymity. Behi (1995) stated that there is no succinct definition in the current literature regarding informed consent. However, informed consent is defined by Polit, Beck and Hungler (2001) as consent by 'self-determination', which means that all respondents have the power of free choice, following adequate and comprehensive information regarding the research. Since this study approaches trained nursing and midwifery staff, their understanding of the accompanying information is without problem, as most staff had been involved in answering or distributing questionnaires. As a matter of courtesy it was necessary to contact all Directors of Nursing firstly to establish their permission, all participating Trusts and then all ethical committees. This enables the participating nurse or midwife to know that permission had been gained from his or her own Trust. Permission was granted prior to the research in all cases where the staff participated.
The questionnaires are unmarked; so, to that extent, confidentiality is ensured. Tierney (1995) and Nieswiadomy (1998) recommended that, once questionnaires had been distributed and returned any identifying information must be deleted, for example numbering system as this prevents any discrimination. The interviewees and focus groups members have additional information, covering their involvement directly and indirectly, before any participation occurs. All the respondents are made aware of their rights in that they are able to withdraw information given and ask for their contribution to be destroyed.

Reliability and validity
All research studies must address two key elements and these are reliability and validity. Reliability is concerned with the consistency of the instrument and the dependability of the measuring instrument it indicates the degree to which it gives the same answers over time and across similar groups and irrespective of who administers the research. Therefore a reliable measuring instrument will always give the same results (within a specific range) on different occasions assuming that what is being measured has not changed during the intervening period (Polit, Beck and Hungler 2001).

The second key element is validity. Validity refers to the accuracy and truth of the data and findings that are produced. It refers to the concepts that are being investigated; the people or objects that are being studied; the methods by which the data are collected; and the findings that are produced. There are several different types of validity (Polit, Beck and Hungler 2001). Firstly face validity which is the extent to which a measuring instrument appears to others to be measuring what it claims to measure. Content validity is similar to face validity except that the researcher deliberately targets individuals acknowledged to be experts in the topic area to give their opinions on the validity of the measure. Criterion-related validity requires the researcher to identify a relevant criterion or 'gold standard', which is itself reliable and valid, to provide an independent check of the new measure (to compare the results from a well established and a new measuring instrument). Construct validity refers to the degree to which a research instrument measures a theoretical concept (or construct) under investigation. Internal validity refers to the extent to which changes in the dependent variable (the observed effects) can be attributed to the independent variable rather than to extraneous variables.
Internal validity considers the instruments used, when using face validity it is concerned with the superficial elements of the questions whilst content validity is looking at a deeper aspect, the balance and the scope of the questions to ensure they measure what is intended. External validity refers to the degree to which the results of a study are generalisable beyond the immediate study sample and setting to other samples and settings. Polit, Beck and Hungler (2001) state it is important to consider these two elements throughout the study in order to avoid errors or basis which would lead to the results being invalid.

These concepts are carefully considered in each phase as the demands differ. Phase One - Enquiry Audit this requires a well-established tool/model that enables the creation of a set of criteria to match the requirements. The tool must enable the collection of the correct data and be able to offer similar results regardless of the researcher. This means that its accreditation is important in discerning that a paper is a research article and not a review of research. Phase Two - Survey uses a questionnaire that needs to be scrutinised then piloted before it can be said to obtain the anticipated responses. The questionnaire must also be consistent over the time period and in the geographical locations. The Third Phase - Interviews and Focus Groups here the establishment of reliability and validity is more difficult. Reliability is dependent on the interviewing technique used, and the semi-structured approach, which will cover the same thematic areas. What can be assessed when using this method is whether the data collection consistently achieves the same results?

Conclusion

If the study is to be robust then meticulous planning has to take place. In designing the study the phased approach allows for each section to be separate, but at the same time provides the information for the next stage. The initial stage being the enquiry audit, this seeks to answers some of the questions posed from the initial comments received and those identified by literature review. Once that information is established the second phase considers at what stage nurses and midwives are in the process of acquiring research skills and finally the third phase aims to clarify and refine answers received in the second phase.
Chapter 4

Phase One - Enquiry Audit
PHASE ONE - ENQUIRY AUDIT

Introduction
The first phase of the study is based on an enquiry audit (as described by Guba, 1981). It is necessary to consider the needs and possible outcomes of this section before any decisions can be made (see table 1 next page).

However before a framework can be determined, the type of journal to be selected needs to be decided. Which publication should be considered, as best representing the changes during this period of time, is a difficult question. Level one journals for example the Nursing Times and the Nursing Standard have not been considered because they reflect current affairs in a similar way to weekly magazines. The second level journals such as Professional Nurse, Midwifery Practice are specialist journals relating to specific areas of care and for this reason have not considered as are not likely to reflect trends or changes within the profession. A third level journal and one of the ten most read nursing journals was selected. Foreign journals were excluded, as they also would not reflect changes in the UK.

After much deliberation, a small-scale investigation in the form of a pilot study involving six journals and discussion with the RCN, RCM, colleagues, my supervisor and other researchers it was decided that the Journal of Advanced Nursing (JAN) be selected. It was deemed that this journal would cover all the changes. However, to assess whether the changes could be located across all the publications three other journals the Journal of Advanced Midwifery, Nursing Research, Nurse Education Today were chosen to be reviewed at pre determined times. The years considered were 1980 to 1995 and 1999 the compared years were 1985, 1990, 1995 and 1999. One criticism of the choice might be that more specialised articles are likely to be published in specialist journals; but, on the other hand, according to Nelson (1998) McCaughan (1999) most of the major developments in nursing and midwifery are covered by this type of generic journal, Journal of Advanced Nursing: the choice is related to the fact that it was a third-level journal, it is international, and the articles cover a broad range of subjects that are pertinent to the profession. Therefore the articles should reveal the evolution of academic nursing/midwifery writings, the research developments occurring in nursing and midwifery and the professional changes during the selected period of 1980-95.
<table>
<thead>
<tr>
<th>First</th>
<th>Time scale - Process</th>
<th>Phase One - Needs and Possible Outcomes</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framework for the Audit</td>
<td>Review audit tools</td>
<td>Select Audit Tool, consider any modifications</td>
<td>Use modify tool for pilot review, and on finally selected Journal for acceptability</td>
</tr>
<tr>
<td>Second</td>
<td></td>
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</tr>
<tr>
<td>Selection of Journal</td>
<td>Level of Journal and Journal to be selected Advice from University Library, RCM, &amp; RCN</td>
<td>Selection process, pilot review on suggested Journals and three comparative journals to be used at pre determined intervals</td>
<td>Decision on the years to be covered</td>
</tr>
<tr>
<td>Third</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Access to Journals</td>
<td>University Libraries will only cover the last 6 years</td>
<td>The first four years to access Trust Libraries</td>
<td>Missing editions, access the RCN library</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review of articles</td>
<td>Journal is reference only, no allowance</td>
<td>All work to be undertaken in the library</td>
<td>No computer, all by long hand Notes to be made, read and re-checked</td>
</tr>
<tr>
<td>Fifth</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Analysis</td>
<td>Code data initially</td>
<td>Check, refine coding</td>
<td>Enter on computer using SPSS Review findings, refine entries</td>
</tr>
</tbody>
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Therefore the aim is to analyse the research papers published in the *Journal of Advanced Nursing* between the years 1980 - 1995 considering the extent to which they exhibit progress in terms of nurses' and midwives' understanding of research techniques and concepts. To see if these changes have continued to evolve the 1999 issues were also analysed. The audit is also designed to assess the degree to which research reports confirmed the views of the nurses and midwives whose initial comments began this study - that academic journals are difficult to read, even more difficult to understand, and not relevant to everyday practice, the research is undertaken by the elite.

Guba (1981) identified two requirements that an enquiry audit should meet. One is that the audit must follow a clear, systematic, and well-documented procedure, which will provide a safeguard against any bias. The second is a dependability test. This arises from his argument that if one concentrates on the credibility then dependability will follow automatically. However, Robson (1993), in considering this point of view, suggested that triangulation should always be considered in order to achieve validity and reliability. This requirement is discussed in phases two and three.

**Method**

In planning the audit, a critique of the literature on critically evaluating research papers was undertaken. Discussions of this nature have appeared in nursing and midwifery for thirty years: for example, Lancaster (1975), Ward and Fetler (1979), Hawthorn (1983), Walker (1984), Duffy (1985), Clark *et al* (1991), Parhoo and Reid (1998), Nelson (1998) and Sandelowski (1999). A paper by Smith and Stullenarger (1991) discussed the use of a prototype for integrative reviews and meta-analysis of nursing research. It reviews the development of meta-analysis, stating that it dates back to the work of Fisher and Pearson in the 1930s. The authors stated "in 1990 a Medline search for meta-analyses of clinical research revealed 159 citations from 18 countries", (p.1272). They mentioned that the first appearance of meta-analysis in the nursing literature was by O'Flynn (1982). The technique subsequently was widely used throughout the 1980s. The authors maintained: "the model serves as a prototype for application to a variety of topical areas of interest. Generic elements contained in the prototype may be tailored to specific topics with relative ease. Resources and time required for topic development from conceptualisation through to dissemination can be considerably reduced by adaptation of the generic elements", (p.1272).
Smith and Stullenarger (1991) argued that this prototype enabled the synthesis of both descriptive and experimental research, and that its generic nature permits its use in any specific area of interest. They explored the way in which data are normally collected, and how a tool can be designed to produce what they called a 'superstructure'. They concluded the paper by saying: "the prototype elements here are offered to facilitate implementation of research synthesis on a specific topic. Readers are invited to use materials presented in this paper to enhance scientific rigour in research synthesis on topic of clinical interest", (p.1275) (see appendix 3). It appeared that this method would serve the purpose of the audit more effectively than a standard critical appraisal tool – although it would be a challenge to use, as some of the variables need to be modified by changing the headings, whilst others are not directly relevant to this study so could not be used (appendix 4).

**Reliability and validity**

The principles in relation to these two concepts are discussed on page 49 however these principles need to be applied to each phase. Therefore the template to be used for this phase - enquiry audit must be robust enough that it could be used again and offer similar results. So the selection has been very important, the rigorous review of audit tools resulted in the Smith and Stullenarger (1990) meta-analysis model being the one of choice, because it is a model/template. This allows for modification to be made to suit the research being undertaken. The tool is both comprehensive and flexible, but more importantly stalwart enough to distinguish between research studies and other papers when it was piloted.

The piloting allows for a few minor modifications to be made for example the addition of a comment column, where specific details could be entered, which may be relevant when aspects showed signs of change. Using the modified tool (criteria) during the piloting review conducted by two colleagues and myself when reviewing the same articles the results were the same. So it could be said that same tool could be used on other occasions and give similar results. This feature was of prime importance when considering the articles in the early 1980s. It is therefore, essential on assessing doubtful articles, since on first reading it is difficult to determine whether some are evidence-based reports, reviews, commentaries on professional issues, or document reviews.

The second key element is validity. Validity refers to the accuracy and truth of the data, which is important as this phase, will allow the formulation of the next two phases.
Already the pilot review had shown that the data collected by three people (group) enabled the same results to be achieved this in itself suggested the data collected are accurate. However, during the assessment of articles where it was unclear immediately if they were research studies the group reviewed these. To ensure this remained so throughout the audit the articles were reviewed at regular intervals by the group and compared to the data collected. On each occasion the data had been found to be accurate. It is proposed by this rigour that validity be maintained.

Access
The method for the audit having been chosen, the next step is to locate the articles. Once discovered the content pages and first page of each article were photocopied (after permission was granted appendix 2). This proved to be more time consuming than originally expected, since it was impossible to obtain a complete set of copies in the local seven libraries. However, after visits to both the Royal College of Nursing Library and the British Library, this initial stage was completed.

The journal content pages and the first page of articles were read. Initially 2087 papers were considered as possible candidates for the analysis, but on deeper reading and closer examination this was reduced to 1548. A further 127 were in doubt. These were all early articles. So they were reviewed by a group of researchers and my supervisor before a final decision was made as to whether they fitted the criteria: being a piece of research. Some were rejected, as they did not appear to fit the criteria. The critiquing template established a list of the expected elements that indicated a research process had been used. A further refinement of the criteria occurred after reviewing the doubtful papers resulted in the selection of 1184 articles.

All the details were recorded in the individual libraries. Each article was scrutinised, then left and rechecked later to remove the possibility of mistake/error. The next step was to enter the recorded data in to a computer package, the chosen package being the SPSS. The entry and checking of the data was a lengthy process as there were between forty and sixty entries - depending on, for example, the number of authors, methods, types of analysis. For every entry there is a ‘year’, ‘month’ and ‘remarks’ space, so that significant points can be noted from the reading of the research - for example, the style, readability, statistical displays and any other aspect that would distinguish the paper or indicate change. Although the variables were not changed, some of the labels were computed
because, in the free-hand transcription, some variables had over sixty labels. This required a matching process so most variables were reduced finally to eight to ten value labels.

**Analysis**

Initially, the data were analysed by means of frequencies to establish patterns and directions. The entry of the data produced a pattern of the change in the degree to which the research process became evident in the text. An example of change was in relation to the literature review becoming part of the article. This aspect made a gradual appearance initially all that was found was a few sentences about the topic. Then the articles began saying current research/papers supports the topic, however the name of research/writer was not included. This was followed by a very pedantic period were everything was cited, and the literature reviews become overloaded but by 1999 the relevant material was reviewed and stated clearly. So the initial analysis explored the style of the articles, and these could be said to have gone through a maturing process according to Bowling (2002).

At the same time the comment column was compared throughout the analysis of this period to see if it supported these changes. Comparisons between the data and the comments confirmed the change. This dual checking was used throughout the analysis.

**Results of the enquiry audit - General points**

During the selected period, there have been several significant changes. First, and most easily identified, is the change in the number of research studies included in the journal. At the beginning of the 1980s, research articles represented, on average, 2% of the publications. This increased to 15% by 1995; and, by 1999, research studies represented about 20% of the total content of the journal. This increase reflects the discipline's growing commitment to research. As Smith (1994) stated, there is "a need for academics to publish or perish", (p.388).

An analysis of the articles at the beginning of the 1980s shows that these papers contain less detail in relation to research methodology used than is found in the 1999 articles. The style changes throughout this period in parallel to the developments within the profession. The articles published in the first half of the 1980s differ only slightly from the general articles. Although the research process has been observed it is not always explicit. These early papers are comparatively easy to read. The research language has not crept in. However, between 1986 and 1995, the articles take on the distinctive format of a research paper: the correct language is used (though frequently not explained). They become less
"reader friendly", and more incomprehensible to the nurses and midwives who do not know this new language, according to Pettengill et al (1994), Veeramah (1995) and Dyson (1997). This appeared to reflect the academic influences during the initial transfer of nursing and midwifery education to higher education according to McKenna (1999). By 1999 the research articles published become more structured in format, leading for the most part to an easier, and more readable style. The Journal of Advanced Nursing editorial panel said that these changes had been a deliberate move in order to engage more successfully with the reader.

To assess reader reaction to research reports appearing at different times during the selected period, a very small investigation took place, two student groups (40 qualified staff) evaluated four research articles on the same theme. They were taken from 1982, 1989, 1993 and 1999, and broadly in the same style. The majority (95%) of students preferred the 1982 article, but did comment on the lack of research methodology in that paper. The 1999 article was the next most popular: "it had all the correct features, but was a little less easy to read". But the other two papers were generally disliked, as they seemed to be "trying to make it impossible for the subject to be understood", they were "cluttered by research methodology", and "impossible to understand". Another comment was "it was just like the article we had to critique for our 870". When it was discovered the second choice was a recent article, the students were surprised: they accepted the general "myth" that the journal is not really readable. They did say - despite giving it a "clean bill of health" - that improvements could be made to attract the average nurse or midwife. Their suggestions were in relation to the way the statistics were presented in the text (about 50% of the group had ignored the statistics altogether). Though this modest exercise can hardly be seen as a robust research finding, it reflects comments made by other respondents in the study.

The research
The vast majority of articles were written in the UK (49%), showing that nursing and midwifery research is recognised as an effective instrument in changing UK practice, and is not always led by American papers (JAN, though edited in the UK, is an international journal). The American contribution is less than expected (17%); and the proportion of Canadian papers are also lower than expected (12%). Scandinavian papers account for 9%. Unexpectedly the Australasian papers represent only 4.5%. Papers from other European countries represent 4%. Country of origin is similar in the 1999 publications,
which means although there is a perception that America dominates the UK, the truth may be different.

In relation to the European literature, one would have expected a greater influence because of its proximity to the UK and the UK's relationship with the European Union (EU). The main reason this has not happened is that most of the European countries publish in their own language, and UK journals only accept papers written in English (checked with the editorial team of the JAN, who confirmed that original papers have to be received in English). This omission has resulted in little literature being read from the European countries, though Scandinavian authors often publish in English, as there is a strong research tradition there. This is a loss: it reduces the extent of dissemination and cross-national discussion of nursing practice. There is a need to discover whether European countries' practice is similar or different to that of the UK, so that we can learn from each other. Also we are sufficiently near to undertake collaborative research.

The researchers

Who are the researchers and what are their backgrounds? Here the analysis points to the lead person being a senior or junior academic (61%); of this percentage the title professor, associate professor or emeritus professor accounted for 29%, and a range of other academic titles for 32% was noted. In considering the possible reasons for a high percentage of papers being written by academics, it is observed that persons completing higher degrees wrote many articles. The papers would state, for example, that the research was undertaken "as part of my PhD" or "as a result of my Masters Degree". This no doubt reflects the fact that, during this period, nursing and midwifery teachers were transferring to higher education centres, and being offered the opportunity to complete a higher qualification. This move also required improvements in the research status of teachers to maintain their creditability in higher education, and therefore there was a need to publish. Parallel to this, there is an increasing awareness that practising nurses and midwives would need to obtain higher degrees if they were to take leading positions (nurse or midwife consultants) within clinical practice and advance evidence-based care.

Persons who label themselves as a "nurse researcher", or "midwife researcher", wrote a further 15% of the articles. However in many articles it is not clear what is the author's background. 11% of the research published is attributed to clinical practitioners; but, again, it was not always clear whether the researcher was totally practice-based, or
whether the person had a mixed role (in these papers, too, there was frequent reference to higher degrees). A small number of the papers state that the publication is part of a larger study, or a pilot for a forthcoming study.

The fact that many authors were (or had been) studying for higher degrees may explain why nearly 50% of the papers have a single author (49%), while rather more than half this number have two authors (29%). Several papers have six authors, usually from several different sites. However, multi-authored papers appear not to differ – in terms of the shape and type of research – from those written by one or two authors. It is noticeable that degree students are more likely to research the popular issues, whilst the team of researchers are undertaking research which is related to improving practice or education.

**Topics**

As expected, with regard to the topics of research education ranks the highest (80%), with clinical disciplines (referred to as, for example, medicine and surgery) amounting to 7%. Specialities such as midwifery, mental health, and health visiting, account for 6%. Authors with a background in caring for older people represent 3.5%. Speciality is, generally, an indicator of the type of research undertaken, but the actual field of research is also included in the analysis. Nursing and midwifery education (28%) is the most frequently investigated area, while other aspects of education are incorporated in the speciality headings. Other fields, totalling about 22%, include elderly care, mental health, ITU, accident and emergency, obstetrics and gynaecology, and surgery.

Educational titles cover the majority of articles (35%), with research related to all types of health care next (20%). The third category covers all aspect of organisational structures (13%), with nursing and midwifery staff (12%) working practices the last major group. In considering these titles further, it is to be anticipated that education are highest, due to the many changes in the profession and patient care, and that general health care are the main concern of the practice-based and midwives. However, it was difficult when considering the title names and reading the papers to know whether the typical nurse or midwife would realise how much these articles had initiated change, apart from a few well known studies. The analysis concluded that 77% of the research studies were undertaken to enable enhancements in nursing and midwifery education and practice.
In looking at titles and the study type, it is interesting to note that it appears to have become acceptable practice in nursing and midwifery research, for a similar paper to be written within a 4-5 year period of the initial successful paper. In some cases, perhaps, the original study is the first of its kind, and therefore needs to be replicated before any recommendations, based on the findings, can be considered in the profession. Hence, further studies are justified.

Methodologies
There is a strong tendency to adopt survey methods (62%) the extent to which they were used remained fairly constant throughout the selected period (and also in 1999). On the other hand, experimental research is relatively rare compared to ethnographic research, the former constituting 15% and the latter 22%. This has to been seen in light of the growing number of articles which suggest that nurses and midwives should focus on ethnography, as this relates to understanding the issues of caring; it looks at the feelings and attitudes in relation to caring. However, more recently, there have been suggestions in the literature that the profession must not lose sight of the advantages of experiments, and that it needs to gain a better understanding of experimental design according to Bonell (1999). The remainder of the studies incorporated "mixed methods" (triangulation is seen to achieve convergence of results, and mixed methods add scope and breadth to a study, according to Green et al 1989). Each paper was structured - to the extent that one could distinguish the methodology - apart from some of the studies in the very early 1980s, where elements were omitted; but sufficient was evident to enable differentiation between a general article and research study.

Surveys
It is perhaps not surprising that the survey method ranks the highest, since it is the most familiar design in all social research contexts. However, McGibbon (1997) discusses the fact that it is the most popular and familiar method. Although he stated emphatically that this does not mean that it is always the most appropriate one. He continued by saying it is not always used effectively because surveys can be poorly designed.

Here, the term 'survey' is used in the broadest sense, as the vast majority of studies in this category incorporated only convenience samples (95%). Although in some cases the sample concerned may have had specialist knowledge (so that they might be better described as a purposive sample, or even as 'informants'). Random samples are, of course,
much more difficult to achieve, and require a greater degree of co-operation from a larger number of Trusts (not to mention clearance from LRECs). Still, only 4% of studies made use of random samples. The use of this type of sample has reduced due to the high level of qualitative research and the need to research certain groups that are frequently small in number. Of the populations surveyed, 38% were patients or ex-patients, 31% were staff, and 13% were students. The remainder, were family members, carers and specialist groups for example HIV patients, termination patients and elderly patients with leg ulcers.

The most frequently used tool was a questionnaire (44%). The next method was the collection of patient information details (25%), followed by interviews (20%) and only a very limited use of mixed methods (6%). An interesting feature of the surveys was the size of the sample. The smallest sample was 14, but 75% fell into the range 100 – 200. In one case, the UKCC reported 50,000 responses (about a third of the qualified profession). In relation to these variations in size of samples it was often difficult to judge if the research results could really be said to be empirical.

60% of the surveys reported findings based on one site only, while 30% used more than five sites. 5% of the recorded papers were multinational. Hospital areas comprised the largest group (55%), with community sites next (28%) followed by educational institutions (13%). There was a small group of nursing homes. It is noted that a senior person, most commonly a professor, led all multi-sited research. Throughout this fifteen-year period, the ratio remains fairly constant. The percentages remain similar even when the results are broken down into the individual countries. This appears to relate closely to the findings of the article by Tia et al (1998), 'Review of nursing turnover research, 1987-1996', and the paper by Suominen et al (1998), 'Review of Finnish nursing research from 1958-1995'.

**Ethnography**

This period of time saw a growth in the use of ethnographic research. Nieswiadomy (1998) argued that it is a natural method for exploring, explaining, and expounding upon avenues of nursing and midwifery. The reason given by the researchers for the increase in its popularity was that the researchers are involved with a group of people, and through involvement explore the nature of the group or a related aspect. Creswell (1994) stated that the researcher studies an intact cultural group, in a natural setting during a prolonged period of time, by collecting primarily observational data. So the researcher's involvement
revolves around observation and interacting with the group, yielding large amounts of data which have to be unravelled in order to formulate a theory about the phenomena being explored. Although ethnography is the main heading, a small number of researchers describe their work as either grounded theory or phenomenology. These papers are mainly found towards the end of the audit period, which include a few case studies. Grounded research is said to be the researcher's attempt to derive a theory by using multiple stages of data collection, and the refinement and interrelationship of categories of information; while phenomenology looks at human experiences in detail through what are called 'lived experiences' in relation to a phenomena.

Most of these studies have a single author (98%). A high proportion of the studies are directly related to the author's own educational experience, usually a Masters Degree. The conclusions of many of these studies could not be generalised to other institutions and settings, because the number of cases involved was generally under 20 respondents (75%). However, the reader is able to consider the subject from another angle, so enhancing parallel thinking according to Ducharme (1998), Thorpe (1998) and McKenna (1999).

**Experimental**

Experimental research is the third group. The majority of studies could be categorised as pre-/post- testing (80%), then comparative experiments (10%) (these were experimental groups where comparisons were being explored not differences), and the remaining 10% covering all other types of experiment. The respondents in pre-/post- testing experiments are equally split between student/staff and patient groups and 90% were adults. The majority of the student/staff experiments were designed to evaluate changes in education related mainly to knowledge or skills. Though the patient experiments are very diverse, all relate to improvements in patient care. All the comparative studies are patient-related, and linked to care developments. When considering the authors in both groups, the majority (80%) has a nurse or midwife as the lead person working with a mixed team. The authors are mostly senior people (95%): no 'typical' nurses or midwives appear to be actively engaged in the studies.

In comparing the sample and population size in these first two groups, it can be seen that the numbers in the groups are generally smaller than the survey populations, but much larger than those participating in the ethnographic studies. The group sizes are on average 30-60 respondents. Only a small number use more than one site: multi-centre studies are
used where specific disciplines are very small, and not in every hospital - for example, facial plastic surgery - or where similar disciplines were being explored, for example general surgery.

Data analysis
Various methods are adopted, but the majority use is the interrogation of data for themes, word associations, word matching, word linking and categorisation of words. An extensive article by De Santis and Ugarriza (2000) explored the nature of critical and accurate interpretation of qualitative data. They wrote about the identification of themes, interpretation of concepts, and their function in data analysis. They state "the transfer often results in a blending of distinct research methods that compromises methodological rigour in data analysis and theory generation," (p.351). Their article warned that interpretation of qualitative data requires the same rigour as quantitative data. Bearing in mind these comments, it was difficult to make judgements in relation to these studies - even if an account of the analytical procedure was included in any particular study, which for the most part it was not.

Studies that presented quantitative data were published mainly in the later part of the selected period. The earlier papers cited their results, but statistical data were not often presented. The statistical type (and amount) alters as the period progresses, and so did the manner in which it was presented. The analysis shows that by far the most frequently used test is the Chi-square, followed by t-test. In considering whether the statistical evidence was correct, Anthony (1996) suggested that many papers published in JAN have errors in relation to the statistics, but also vis-à-vis the conclusions that were drawn from the analyses. Considering 49% used Chi-square in this audit, his comments are very pertinent. He covered the years 1984-1994, coinciding largely with this audit in the present study. He said: "of the studies which used chi-squared test, none stated whether the Yate's correction was used. Nine studies (20%) failed to state whether a test was paired or unpaired, when either version was possible", (p.1091). He adds that one study used Chi-square as a test when the expected frequency was less than five. In relation to the student's t-test, he said this was one of the main areas of abuse. In addressing the reasons, he warns nurses and midwives to be more aware of the potential problems when handling data that are not ordinal. His article concluded with this comment: "it is not clear that employing a statistician will necessarily help. Many of the errors are generally elementary, a finding
previously recorded in Glantz (1980), and are rectified by a better understanding of basic statistics by authors", (p.1093).

This cautionary tale repeats what has been said previously in other disciplines. Gore et al (1977) reported on 77 papers from the British Medical Journal. Of those where numerical analysis were included (62), 51% contained errors and 8% made claims in their summary that the data did not support. White (1979), using the British Journal of Psychiatry, undertook a similar study. Of the 168 papers reviewed, over half had errors related to the data analysis. McAuthor and Jackson (1984) reviewed studies in the Journal of Infectious Diseases with similar results. Again, Kanter and Taylor (1994) reviewed studies in Transfusion. Here they reviewed 122 papers, and again nearly 50% contains significant errors. Kanter and Taylor (1994) were even more critical and stated that 80% failed to describe the test used. A further problem was that 75% failed to use the correct test, and 22% made recommendations that were not supported by the data. Whether this problem is now completely resolved is unclear, as the most recent study by Rafferty et al (2000) does not explore the nature of the analysis in the papers studied.

Where data is collected, there is frequently no mention of the nature of the criteria used to safeguard its accuracy: so strictness implied in the studies could not be verified. Another omission in most studies is the inclusion/exclusion categories; this may be a small detail but enables the reader to interpret the results and consider the implications. Likewise, in many studies where one would have expected a pilot study, no mention was made of one.

Ethical issues

Equally, little comment relating to ethical issues is found in the early studies. From the mid 1980s ethical issues are discussed, and they have become more elaborate in the period since then, in that they covered (by the end of the period) gatekeepers, confidentiality, consent, and the storage/disposal of the data.

Calabash's et al (1999) study looked at the quality of ethical discussions in published clinical research that involved vulnerable populations. They undertook a structured review of studies published between 1992 and 1996. They devised a structured audit, and scored each paper. Having reviewed the papers, they compared them to the publisher's own criteria for ethical inclusions, and found that they mainly matched the requirements. However, the requirements differed widely. Another point they made was that articles are
sometimes shortened, to accommodate the word limit, and a discussion of ethical issues is likely to be a candidate for cutting. They concluded by suggesting that more emphasis should be placed on the ethical aspect in each study, and that publishers should include this aspect as a hallmark of quality. The JAN editorial team could not say (when contacted) whether in the past ethical discussions had been deleted or reduced; but now there was a definite inclusion policy for all research articles submitted to them.

**What to publish?**

Martin (1998) discussed the need to establish that only quality research is published. He stated that good research does not occur in isolation: reviewers are important to its value/worth because they give peer acknowledgement provides credibility to what is published. He continued by saying these reviewers should be nurtured and one way of achieving this was by establishing a formal relationship between the reviewer and the researcher so that where there are areas of difficulty these can be discussed and potentially resolved. His article supported the value of peer review, and its role in allowing good research to be published (and inferior work to be rejected) to establish the rigour required within nursing midwifery research. He suggested that this process is good, and should be supported, "a good study has enough glory to share with all reviewers, and a poor study is a heavy burden to bear alone", (p.90). Here he was advocating more than one reviewer should be involved. Gunn (1998) in his article supports the need for rigorous peer reviews, to avoid what has happened in the past and he said that "it has become more acute after some published research and broad dissemination was fraudulent", (p.177). Rudy and Kerr (2000) took up this theme in their paper that explored the need "for nurse researchers to engage in an organised method of peer review", (p.117). The main points made in these comments are the need for papers to be expertly reviewed; but, possibly more importantly, collaboration between reviewer and researchers to be established.

**Respondents**

The analysis indicates students had been respondents in 35% of the research studies, of this 35% 80% represented educational research. The remaining studies involve students in the clinical areas. There is always a dilemma in using students as respondents because of the issue of consent: how freely do students feel they give consent? In a trained staff research study day in the local university (June 2000), when exploring the issues of consent, some of the participating midwives and nurses felt that they had been used as subjects when in school or during practice activities. They commented that they could not
refuse to participate because this would jeopardise their future. How can researchers guard against such comments when it is clear more research is needed if teachers are going to be able to match the needs and demands of future students? One group on that study day said: "we did his degree" (this type of comment is discussed in phase three). Away has to be found to allow students not to participate without feeling that their career is adversely affected.

**Participants**

One participant in that study day voiced a different concern. She commented: "when I read the article it was as if I never existed as a person, after two years of being in his clinic not a mention, not even the word nurse". The discovery was, that there were acknowledgements to nurses and midwives, but they were not personally named or thanked; and possibly they feel let down, as, subsequently, they could not prove they had been involved, or add it to their portfolios. Another study day participant said bluntly: "a year or two from now nobody will know I helped as they will have all changed on the ward only the managers but they don't care, but it still hurts". Another continued the theme and said: "I spent two years of my life collecting data and seeing the questionnaires were completed and I did not even receive a thanks, that's me, and my help ended. Why should they get all the glory when the hard work was shared?" Although these comments mainly relate to teams of mixed researchers, will it change, as nurses and midwives become lead researchers? The posts of Consultant Nurse or Midwife will require active involvement in research, so perhaps more staff will see their participation recognised.

**Quality of the research**

The research papers of the early 1980s do not appear to contain the rigour of writing that a research paper exhibits today. However, these early papers reflected the requirements that were acceptable and accessible to readers in the profession at the time; and it is pointless to write in a way which the reader was unable to understand. It is also worth observing that, however significant a particular study was seen to be, little immediate response occurred. Whether this was due to scepticism, or to the view that traditional ways were superior, is difficult to judge. An example of this is the traditional preparation for labour and delivery – namely, a shave and enema as recommended to midwives by the Myles Textbook for Midwives (1981): "it is advisable that the lower bowel is emptied at the beginning of labour...some prefer suppositories... a plain water or disposable enema".
"the traditional procedure of shaving or clipping the pubic hair at the onset of labour", (p.275).

The initial research to refute this practice was undertaken by Romney (1980, 1981). She stated that it was not effective, and certainly shaving could lead to sepsis. Her study was reported in the early 1980s but despite this new knowledge, the practice continued. Most people were influenced by Myles (1972), who noted "that the majority of midwives prefer shaving to be done and many think the patients’ objections have been exaggerated" (p.287 Myles Textbook for Midwives 7th Ed. 1972). The study by Garforth and Garcia (1987) found that more than 50% of the Consultant Units were still using these practices. It was in the late 1980s before all Units abolished this practice after the study by Drayton and Rees (1989). Joyce (2000) who argued: "a major barrier is that there is often poor dissemination of knowledge. When research is carried out, particularly by nursing practitioners, the knowledge gained is often not shared. It is important that projects are written up and published in the most appropriate place. This does not always have to be journals, but may be in local newsletters or at conferences, through a lecture or poster presentation", (p.961).

In the above example, significant findings were disseminated, but the climate was not right. It has to be asked how interested nurses and midwives were in research as a whole in the 1970s and 1980s. Fletcher and Kopp (2001) argue that at this stage, they were possibly not very aware as the need was not made visible, and changes were medically decided and not nurse-led. Another possible reason is that this was the era of the technology ‘explosion’, so other initiatives were not considered. Clinical work in the main was still task orientated, and the medical profession continued to dominate nursing and midwifery care. So progress was slow according to Fletcher and Kopp (2001).

A possible turning point is the introduction of models of nursing care/practice. Although some of the initial work dates back to the 1950s, there was a sudden impetus during this period for the patient/client to be considered as a person in his or her own right (Marriner-Tomey 1989). Levine described holistic care in 1971, and nurses and midwives were slowly initiating changes in practices. Many professionals - for example: Lancaster and Lancaster (1981), Roy (1990), Lauri and Salanteria (1998) and Schaffner et al (1999) - researched these new developments. This research began to advance nursing and midwifery professional knowledge (Dennis 1998). The introduction of the Patients'
Charter (1991) stimulated more nursing and midwifery research in order to meet the challenges set out within that document. Research is now seen as a way of moving clinical practice forward, with evidenced-based practice a natural progressional step according to Fletcher and Kopp (2001).

The Research Assessment Exercise (RAE)

Smith (1994) reviewed nursing research in the year 1992. The research she reviewed had been published in the Journal of Advanced Nursing, the International Journal of Nursing Studies, and the Journal of Clinical Nursing. As a comparison she used the British Medical Journal. All the journals selected were refereed; professionally orientated and leaders in their field. The occasion for the article was the Research Selectivity Exercise reported in "The Times Higher Education Supplement" 1992, which ranked nursing as 2.22 out of a scale of 1-5 (1 is poor and 5 is excellent) seventeen nursing institutions were ranked 1. She does state in her paper that this was the period of transition for many nursing institutions into higher education, so the results were skewed downwards from what would have been expected. Her paper considered the many reasons put forward for the paucity of good quality nursing research. For example, one reason offered is lack of time. This she rebuffs by saying: "time is essential to all academics, but it is how an individual prioritises and how a department chooses to operate its research strategy, that determines how a research policy translates to reality," (p.387). She considered all aspects of research methodology in 258 nursing studies and 124 medical studies. She identified flaws in the articles from the three refereed journals, which included (for example) a lack of information about sampling, validation and analysis. Her conclusion was that: "if we wish to raise the status of nursing research in the UK we are going to have to address the merits of that research. There simply is no point in continuing to write papers concerning the dissemination of research and the implementation of research findings when we fail in a singular fashion to address the merits of the work in the first instance", (p.392).

Her final comment was that we should use where we are as a benchmark for moving forward, and be willing to work with other professional groups in a collaborative manner. Her findings were supported by the work of Hick (1995) in an article entitled 'The shortfall of published research: a study of nurses' research and publication activities'.

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In 1996 a second research selectivity exercise was completed. The Research Assessment Exercise (RAE) was reported in 'The Times Higher Education Supplement'. Again nursing was judged to be the lowest of all the disciplines in the university sectors at 2.7 - when the mean for all the other disciplines was 3.1. Watson (1997) asked whether the reasons for the low RAE results was a reflection on the research being considered as not having sufficient international standard, and the nursing journals were not rated as academic. He further suggested that the profession should insist on a higher standard from these journals. However, if these journals are to increase their level of academic rigour, will they continue to be read? Robinson (1993) argued that the type of journal they read disadvantages nurses and midwives. Banks (1995) said: "there is a considerable gulf between the traditions of university teaching and nurse teaching. Nurse education will, in all probability, remain a Cinderella, academically speaking." (p.31S). Cooke and Green (2000) observed that academic departments now have to consider the development of cultures in relation to research - for both nursing students and nursing academics. This statement has been supported by comments following the RAE 2001 where although Nursing increased its submissions by 20% the overall rate was 2.3, however despite eight scores of 2 which included the Universities of Keele and Brighton University and also the Royal College of Nursing. There were more scores of 3, 4 and 5 the later category was awarded to Universities where research has been practiced for over thirty years and included Manchester and York (DHO 2001, Hero 2001).

Summary

In summary this enquiry audit demonstrates that developments have taken place in nursing and midwifery research during this period. Though progress has been gradual, it can be seen that they have paralleled changes in pre- and post- registration educational programmes and the transfer of educational courses to higher education. These changes have prompted some nurses and midwives to increase their skills in research – in terms of both conducting research and making use of it.

Initially, in the light of today's expectations, some nursing and midwifery research could be said to lack rigour. However, it reflects the limited expectations of the profession as a whole in the early 1980s. From this very basic starting point, developments have occurred. Some of which appear to have attracted the hostility of nurses and midwives, possibly due to the incomprehensible stage where reading and understand the article was
very difficult for the non-researcher. However, by 1999, a more mature stage was reached and articles could now be read and understood again by the non-researcher.

The articles reviewed suggest that the research published reflects the comments that instigated the study in that nursing and midwifery practitioners hardly figured amongst those who undertook the research in the UK. Supporting the fact that research is confined to a relatively small and 'elite' group, in that the lead person frequently holds a senior position and the majority are academics (professors). Arguably, then, research by practice-based nurses and midwives needs to be fostered. Moreover, since the subject, which predominates, is the education of nurses and midwives, there is a case for encouraging researchers to switch their focus to clinical issues.

The methodologies used reflect changes in what is considered to be the best way to portray nursing and midwifery. Consequently, there was a move from experimental design, which has commonly been associated with medicine, to ethnography as this has been seen as depicting a closer alliance with nursing and midwifery care. However the most popular tool was the survey, with convenience samples.

A major concern throughout this period was the value the profession placed on the research, which was difficult to establish. Further, if judged for its quality, in light of the articles quoted, many research papers may not have a very high rating. Nursing and midwifery research has not yet received a good rating in the RAE (2001) except where the Universities have a long record of research activities for example the Universities of Newcastle and Sheffield (scored 5, Hero 2001). However changes are emerging with the increased numbers of submissions up from 36 to 43 and an overall increase in the grading profile. Issues of concern that were raised included comments in relation to the underdeveloped interdisciplinary research, collaborations and funding issues (Hero 2001). On a positive note the Panel Chair Senga Bond (Panel 10 Nursing) stated in 5.2 of the report that "the sector is growing well in spite of many challenges, and is producing some work of real relevance to national priorities. The sector remains very vulnerable; its upward trajectory can only be maintained if the infrastructure funding supports it." (Hero p6.2001).

The consequence of this has been to highlight the need for research rigour - which is now recognised as an essential requirement - to enable the development of nursing and
midwifery knowledge, and to permit the realisation of evidenced-based practice. In turn, this will lead the profession to become a creditable discipline in the eyes of the older, established professions. Once quality research is forthcoming, the next step is to enable the practitioner to read this research and consider it in the light of their present day practices. As Girard (1999) said: "One chapter may be closing, but many more have yet to be opened", (p.17).

Conclusion
To conclude then the enquiry audit established several important changes in relation to nursing and midwifery research. Firstly and foremost over this twenty-year period research has followed an evolutionary process, from its initial simple beginning to a more formalised structure. The changes mirror the growth and learning within the profession, especially in relation to the transfer of educational programmes into higher education. The audit identifies the research in relation to the researcher and the topic, the researchers are predominately academics and educational aspects are the leading topic areas. The populations mainly sampled were adults, which included nursing and midwifery trained and untrained staff, patients/clients and carers.

In looking at the readability of the written presentations these gradually altered in that the rigour of the research study gradually became part of the articles. Another aspect was the quality of the research and its relationship to changes in practice. This could possibly be summarised by Hicks and Hennessy (1997): "in essence it would appear that the problem is dually determined, being caused at the one level by a shortfall in high-quality published research that has the capacity to alter practice (Smith1994) and, the other by failure of the research which does exist to inform practitioners and procedures", (p.596).

The last years of the enquiry audit shows that changes occurred in the quality of the research being undertaken, but has the profession (practice-based practitioners) developed their research skill sufficiently to allow their practice to be informed by these research studies? Gomm and Davies stated (2000): "high quality research that has clear unambiguous implications for practice but fails to effect any change", (p.134). Therefore in conclusion the enquiry audit supports some of the comments which instigated this study but also highlights changes in research papers. So it can be seen that the profession is on the move. The next phase explores the practice-based practitioners' grasp of research skills.
Chapter 5

Phase Two - Survey
PHASE TWO - SURVEY

Introduction
This second phase of the study is designed to explore how nurses and midwives gain their research skills, by looking at reading practices, formal courses and participation in research. A needs analysis was first completed (see table 2 next page). A questionnaire survey as recommended by Baker (1994), Alreck (1995) and Burns and Grove (1997) was selected in order to maximise the responses. The questionnaire is self-administered, as this is the most common means of data collection within the NHS. According to Bowling (1991, 1997 and 2002); the respondents are familiar with this format, and understand what is being requested of them. Couchman and Dawson (1995) stated that prior understanding is one of the keys to a successful survey. The next steps to be taken are the design of the questionnaire, consideration of the sample group and the venues. It is recognised that designing a questionnaire requires a structured approach to be adopted to enable uniformity of presentation (Bell, 1999). The sample and venues are being explored during this construction process.

Questionnaire
Bowling (2002) said that the strength of a structured questionnaire lay in its ability to elicit unambiguous answers, which led to effective quantitative data for analysis. Routine information could be collected easily, according to Converse and Presser (1986): for example, the biographical details of the respondents which, could be used as a point of cross-reference.

Questionnaires can require a degree of recall (Bell, 1999), and the success of the survey depends in part on the saliency and recency of topic to the respondent. An example of a problem highlighted by Bell (1999) was where recall could lead to differing responses in relation to the respondents' recollection, so the quality of a course may be coloured by their willingness to attend the course. It is known that other factors also affect recall. For example, in this study it might be that the respondents' retrospective evaluation of their research courses might reflect not so much the course itself, but the group dynamics or assignment grades. However, Bowling (2002) stated that there was a high degree of concordance with both medical and nursing staff when completing questionnaires where they considered the subject was relevant to practice.
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An example she gave was if the question was perceived as important to the respondents, they would take time to seriously consider their response before answering, rather than just ticking any answer. Fowler and Floyd (1995), in pointing out the disadvantages of this approach, have also considered how they can be resolved. One familiar problem was the idea that, given a series of 'multiple choice' answers some respondents might feel forced into making a choice, which did not, in fact, reflect their real views. However, Fowler and Floyd (1995) suggested the use of a space for free comment, then using the pilot stage to discover whether this is a successful way of combating any possible compromise. Oppenheim (1992) wrote of the pros and cons of this device, and argued that it very much depended on the nature of the questionnaire whether it was appropriate. So the type of information being sought, controls the design. A second concern was in relation to the question stem: can the wording be structured in such a way that the meaning is the same to all respondents? To maximise this possibility, question stems in the questionnaire must be written in such a way that they use unstated 'general knowledge' in relation to the subject. Bowling (2002) stated that this reduces the potential error effect, she noted that unstated general knowledge was not dissimilar to the hidden curriculum, in that everybody knew its meaning. In framing the questions one must be aware of negating against influencing the answer; leading questions must be avoided as these have the potential of demanding a specific response. As Belson (1981) observed if the response is to be maximised, each question and statement needs to be framed correctly.

The proposed questionnaire requires a mixed approach using both open and closed questions in order to blend the information during analysis. This mixed approach allows the setting up of pre-coding for the structured questions leaving the free responses to be interpreted, once the data are collected. At the pilot stage of questionnaire it should be explored that a user friendly and positive image is also being produced. A final consideration in relation to any questionnaire is the aspect of self-reporting. Here again, Stone et al (1999) stated that nurses and midwives are less likely to return fictitious information. Bowling (2002) supported this comment when she stated that nurses and midwives do not usually tick answers randomly but consider the question seriously. Therefore it can be assumed that, if the questionnaire were correctly structured, it would have the capacity to cover a large geographical spread of population relatively quickly and economically, and still be successful (Stone et al 1999).
Design details

The next step is to consider all the other aspects concerning the design and piloting of the questionnaire. The framing of the questions is important when considering Bowling's (2002) comment that they needed to reflect unstated 'general knowledge' (otherwise interpretation would affect and alter the outcome). Both Robson (1993) and Oppenheim (1996) argued that the questionnaire must be painstakingly compiled - very clearly and carefully composed in relation to the wording, and containing unambiguous instructions. The arrangement of questions must take the respondent through a logical sequence, so that he or she was not required to make any sudden and confusing mental shifts. The questionnaire in this study therefore, follows the areas to be explored: initial general reading; research reading; a small section on research; the research course the respondents undertook; any research participation and finally biographical details.

McGibbon (1997) described the pitfalls during the design phase, and reminded his reader to be wary of falling into the well-known traps. To negate some of the traps the majority of the questions are categorised as closed, but there are comment sections permitting free responses. Cohen and Manion (1998) pointed out that "open-ended situations can also result in unexpected or unanticipated answers which may suggest hitherto unthought of relationships or hypotheses" (p.313). So more direct closed questions are chosen to avoid these problems, since the information being sought was specific in nature lending itself to closed questions. However where a variety of answers are required, open ended questions are written especially as Robson (1993) said that the open comment sections would support some of the answers that may look superficial.

Layout is important, according to Remenyi et al (1998), and Polit and Hunger (1997 and 1999) if the questionnaire was to be completed. Moreover, the overall length was kept to a minimum so that all questions answered (according to Murray, 1999, the response was reduced if the question was difficult to answer, obscure in format, or there were simply too many questions). The questions within the questionnaire cover the three main areas in which the nurses and midwives can gain their research skills. The first part explores their general reading and research reading. The second part considers how well they relate to some of the research terminology as this would essential to fully interpret some research papers. The next area explores the biographical details in order to discover how representative the sample is in comparison to the total population. The following section comes back to research and asks if respondents have undertaken the ENB 870 course
(Research Awareness) or a similar course and how would they rank the quality of the course. The reason for specifying the ENB 870 course is because its curriculum was created to enable respondents to gain an insight in research methodologies, critically evaluate studies and reflect on there value in underpinning practice and therefore developing an understanding of evidence-based practice (see appendix 1). Although not all staff undertake this course a large percentage within each clinical area will have completed the course, especially as it is an integral part of all conversion courses. So the staff who have not undertaken the course will be aware of its content because at the time of nominations for courses each course is evaluated in light of the needs within the clinical area. The final section invited the respondents to state whether they had participated in research and in what way. The questions have become mainly closed but open in relation to their personal research achievements. The questionnaire is designed to shed light on how research skills might be gained.

Marketing
The invitation to complete the questionnaire is very important, so the covering letter needs to indicate the aim of the survey and at the same time convey its importance. Baker (1994) said that “whatever the pitch of the covering letter, the researcher must decide how it will sound to potential respondents. Sometimes a very matter-of-fact letter succeeds. If the respondents have very little time it may be wise to stress both how important the data are for studying and how short a period it will take to complete the form” (p.178). Rose (2000) stated the importance of gaining access to respondents, and presentation as the two key areas to success.

The covering letter is short in format, giving basic details to convey the purpose of the study and allow the respondent to make an informed choice to participate or not (appendix 2). The assurance of confidentiality in the letter is of vital importance when considering such a project (Jack et al 1998, and Jack, 1999). This latter aspect is possibly established more effectively by considering the use of conferences as the venue, since it is unlikely I would know many people - if any - and the covering letter clearly stated there was no serial numbers or coding on the questionnaires. Behi (1995) pointed out that consent is an important consideration when using questionnaires, so the ethical implications were discussed with all the conference organisers when considering conferences as the possible venue of choice. The respondents were assured that all questionnaires are destroyed at the end of the research.
Pre-testing

Pre-testing of the questionnaire was used to determine its effectiveness, and identify problems that might arise. Baker (1994) suggested that a preliminary testing should occur before the pre-testing. The author's clinical link area was interested in the study, and offered to provide the preliminary subjects. The ward area had fifteen trained staff, half of whom were full time, while the remainder were part time or permanent bank staff, so reflected a similar population to the profession as a whole. The experience range was eighteen months to twenty-six years, and nine had completed a research module. Newell (1998) said that, at this early stage, the make-up of the testing group needs to reflect the larger sample to whom the questionnaire is administered. The staff were given the covering letter, and asked firstly to complete the questionnaire, and then to make any comment about its design. Over a period of two weeks, all questionnaires were returned. The results yielded the information expected. Only minor revisions were requested, amongst these were the separation of the questions related to research courses. The request was that the ENB 870 was a separate section from other research courses. Another suggestion was to enable staff to tick areas rather than having to write as this takes more time and could lead to non-completion of questionnaires. The colour of the paper used drew more comments: all subjects objected to vivid colours, as being too harsh, and many suggested a pastel shade of green instead (the advice was followed). Once the amendments were completed, the pilot testing occurred.

The pilot was undertaken in a different location to the preliminary test, to ascertain whether the 'general knowledge' aspect (as described by Bowling 2002) are interpreted in the same way. The pilot group consisted of forty nurses and midwives attending a study day in Manchester. They had a similar profile to the preliminary group. At this second testing, it was suggested that the average completion time for the questionnaire should be calculated, in order to check the information on the covering letter. It had been estimated that the completion time was 5-10 minutes, and this proved to be correct; so a change to the covering letter was unnecessary. By the end of the day, all the questionnaires were returned and an analysis was made. Here, again, the information sought did materialise. What was not expected was that the questionnaire had prompted more people to write in the comment spaces than expected, and also on the reverse side of the sheet. These could be grouped equally into positive and negative comments, however amongst these were some useful comments and suggestions about the way the profession could become more research-aware and researcher-effective. Bank (1999) suggested we needed to be
cautious when examining data, and commented that changes should be made for the correct reasons. However, on discussion it was considered that there was no need to change the questionnaire format (appendix 6).

**Reliability and Validity**

Discussion in relation to these concepts has occurred previously (on page 49), however in each phase the way they are considered is different. Each phase needs to be as 'good as possible'. This means that the measurements which are made within this phase should be valid (accurately measure the concept) and reliable (consistent from one measurement to the next) as in the previous phase. Therefore, having drafted the questions and constructed the questionnaire, it is recommended that a preliminary testing should occur prior to the pilot testing. This was carried out and minor modifications in relation to typeface were made. The questions were not modified. The pilot stage was conducted in a different location to check not only the design of the questionnaire but more importantly, that the wording had the same meaning. The questionnaire needed to be robust over both location and time. It was necessary to check that when the data were analysed similar responses were produced. The answer to this question was yes. The subject matter was not one that would cause lead to inaccurate responses. From the preliminary pilot and pilot studies the questions obtained the same/similar answers so it was assumed that the full study would achieve comparable results.

This testing is the lowest level of validity and is called 'face validity'. Had the questionnaire been asking how many cigarettes do you smoke or how many pints of beer do you drink this type of question is frequently incorrectly answered. Since some people do not wish to acknowledge their habits. So the answers might be suspect. Jack and Clarke (1996) reviewed the accuracy of questionnaire answering and found that nurses and midwives are known to answer question accurately when compared to the national population.

Again in relation to the preliminary pilot and the pilot they both demonstrated that the area to be covered by the questionnaire was indeed covered, this type of validity is called 'content validity'. This is an important aspect to be achieved and within this study my supervisor and the group that had previously assisted in the enquiry audit checked the content validity by assessing the preliminary pilot and the pilot study answers. Both these samples were very small and may not be able to show concurrent validity. However, in
using another instrument which, gains similar results in phase three should test true concurrent validity.

Independent and dependent variables must be identified in the survey since the results may establish correlation between various characteristics of the population. In a survey unlike experiments the researcher does not manipulate the independent variable but recognises them. Usually independent variable and the dependent variable, appear in a chronological order. Within this study the independent variable is the 'research' whether a course has been taken or not and which one, the dependent variable is for example the clinical grading, years of clinical experience. Extraneous variables can be controlled by identifying the potential differences between the respondents, here the only exclusion was managers, so the inclusion criterion was all clinical staff as it was the skills of the practice-based nurse or midwife that were being sought.

Reliability refers to the consistency, stability and repeatability of a data collection instrument. So reliability is not responsive to changes for example in environment. If validity could be said to be absolute according to Brink and Wood (2001) there is no need to test for reliability, as the instrument is automatically reliable. However this can never be said, so the questionnaire needs to be checked for stability. Unfortunately this is not possible within the study since it requires the same respondents to be tested over and over again in order to assess that the same answer would always be given. Since the questionnaire is not looking at emotive issues but facts it has to be assumed for this study that this would be the case. However equivalence, is seen when comparing the result form the different venues. Likewise the consistency of the questionnaire should also be covered by the nature of distribution.

Sampling
A further concern is how to obtain a representative sample. The sample type has already been categorised as a non-probability using a convenience sample, which means a minimum number of respondents will be, determined in advance (Brink & Wood 2001). The respondents are those who meet the criteria being non-managers, only practice-based staff, are asked to participate until the number has been reached. These will mean that the first available respondents will be the sample. Baker (1994) argued it could be said that they happen to be available at the time the data is being requested. Sample sizes can be determined by using a power analysis this will estimates how large the sample will need
to be in order to detect real effects and differences. Accepting this, Brink (1994) and Baker (1994) suggested that power analysis is only required when conducting a probability sample, therefore it was not needed within this proposed sample. Nevertheless, to achieve meaningful data the size of sample is between 850 - 1000. This number is to be obtained over a three-year period. On the net returns form the R.C.N. they calculated that the targeted Conferences had had over the previous three-year 5,000 - 6000 attendees. So by aiming for 850 - 1000 the sample is approximately 15% of the total population and achievable within this timescale.

**Distribution**

An important issue is how the questionnaires are to be distributed in order to achieve a good response rate and the desired geographical spread (Schwarz 1995 and 1996, and Schuman 1996). Another aspect to be considered, in relation to the respondents, is that during the last decade the academic level of a qualifying student has changed from certificate to diploma/degree levels. Therefore it is necessary to conduct the survey over more than one year, in order to reflect any impact resulting from this educational change. Discussions took place regarding the distribution of the questionnaires, and the Royal College of Nursing was approached for advice. This led to the selection of conference venues as the location. The advantage of this was that venues could be planned to cover various areas of the country; and, since distribution was to be over more than one year, the likelihood of the same audience being present are reduced. Admittedly, the sample is skewed relative to the profession as a whole. However, since staff attending a conference are more likely to be engaged in extending their knowledge and practice, it would therefore be an appropriate sample. Salant (1994) and Saunders et al (1996) agreed that this type of skewed sample could sometimes be more appropriate.

Conferences are a good opportunity for questionnaire distribution because there are times, during the proceedings, when the delegates have a few minutes to spare and are able to complete a questionnaire – which may not be true at home or in a busy clinical area. Equally, they did not have to find a post box, but could just drop the completed questionnaire into one of the boxes at each exit. From previous experience, the Royal College of Nursing was able to suggest what the response rates might be. If the subject was - as they put it - 'flavour of the month', then about 66% of the delegates would respond. If it was seen as obscure or irrelevant, then the response rate could drop to as low as 10%. This information was important in selecting the conferences to target. One
type of conference not targeted was the research conferences, as this would bias the results even further. The rationale for this decision was that to have included nurses and midwives who were familiar with the research process would distort the findings. The conferences selected were generalist in nature, and not too large (since organisations of large conferences find it very difficult to consider this type of request, and frequently refuse). Small, more locally based, conferences were seen as the ones to approach, as they are more likely to be accommodating.

The arrangements made with each of the selected conferences were, first, that a poster is displayed (appendix 5) explaining the study. Secondly, that the questionnaires are placed on the chairs at the start of the conference; thirdly, that I was offered an opportunity to speak for about five minutes. The opportunity to speak was granted at all but one conference; and at this conference the organising society chose to make the delegates aware of the study themselves. This appeared no less effective in gaining responses and, as with the other conferences, many delegates offered individual comments in relation to the study during the breaks. Only one conference organisation requested payment, which was £50. Twenty conferences were selected as possible venues. Only two declined, and the remainder, were very helpful. The result was more offers than required.

Having chosen this type of venue it would answer some of the questions posed in relation to samples as outlined by Faugier and Sargeant (1997) in their article 'Sampling hard to reach populations'. Coyne (1997) article continued this theme when exploring the issue of samples in relationship to merging and clear boundaries between groups this difficulty was avoided by use of conferences. The conferences targeted were able to profile their delegates enabling similar populations to be accessed. None of the conference organisers wished to be identified, as they did not want to be inundated with similar requests; however, they felt able to meet this request since they considered the study to be worthwhile.

Duration
Over the next two years, four conferences were targeted, and fortunately all the organisers agreed. The geographical spread was wide, covering Newcastle, Brighton, London and Nottingham. The conferences were small and averaged between two hundred and two hundred and fifty delegates. By the end of the two-year period, 854 questionnaires were returned – which, according to the delegate lists, was a 72% response rate. A further
conference was scheduled at the beginning of the third year, but it was considered wise to undertake a preliminary analysis first. The data gained from the questionnaires was comparable across the venues, and similar to the data gained during the pre-testing and the pilot study. The only area of doubt was in relation to whether the respondents considered they could explain different statistical terms to a colleague or student. In this section it was not clear whether they had just ticked all the way down the list or had been selective. Since this was an important area of consideration there was a need to be certain whether those who ticked the answers were making a considered selection. Therefore the questionnaire was modified (appendix 7). By adding a false question, those who were able to describe the terms would realise these were incorrect answers. Since this type of insertion was common place in multiple choice questions it would be considered acceptable by these respondents. It would also show whether the sample population was as discerning as Bowling (2002) suggested.

The first set of questionnaires was then put to one side (Group A = 854). The next conference that took place after the design was changed yielded two hundred and twenty six questionnaires. Analysis was immediately undertaken it appeared satisfactory so it was decided to target three more conferences in order that the two groups are similar in sample size. With all these conferences having been completed by April/June 2000, the number of returns amounted to 1001. This represented an increased response rate of around 80% from these conferences, all of which had about three hundred delegates. The conferences took place in Bedford, Hull, Manchester and Cambridge.

Analysis
The analysis presented was from the data collected using the modified questionnaires (second group = Group B) numbering 1001. Having completed the analysis it was compared with the analysis of the first group (Group A) and found to yield similar results. This suggested that the original questionnaire had not been compromised in relation to the answers in the statistical section. Therefore the analysis could have been conducted combining the group (n=1855). The data in the tables presented parallel the total group results.

The analyses presented is from Group B (n=1001). The data were explored to discover how the nurses and midwives gain their research skill was by considering their reading and understanding of research. In order to consider whether there were different
influences the data were subdivided into groupings. The first two groups were separated into professions, midwives and nurses, and other groups. The other groups contained lecturer practitioners, practice educators, health visitors and community staff. The next two groups were selected to see if experience or academic level influenced the outcomes. So the data were grouped into staff who had 0-6 years experience and the staff with over six years experience. Then the data were divided into staff who qualified at certificate level and the staff who held at diploma or degree level (the nature of the degree was disregarded). It was hoped by dividing the group into these constructs that it could be seen if there were any direct relationships between academic level and research skills. The last grouping singled out those staff who had under taken a research module. This was then subdivided into those who completed the ENB 870 and those who completed a similar module. The analysis conducted used these groupings throughout.

Phase Two results - Biographical details

The first analysis undertaken was to consider how representative the sample was in relation to the whole population of nurses and midwives (Table 3). The sample was comparable to the national profile (DHO 2000), in that the group was divided into 69% nurses and 27% midwives. The remainder covered other professional fields. In relation to the nurses and midwives 62% were full-time, 23% were part-time and the remaining 15% were bank-staff.

These figures correlate closely to the national figures (DHO 2000). Although the biographical details compare to the national figures it must be remembered that the sample may not reflect the profession as a whole in that it differs slightly in one respect all the respondents actively attended conferences. So in comparing the figures although they took similar the sample remains a skewed sample for that reason. There is no correlation between grades and years of experience. The biographical details in group A and B are similar.

![Pie Chart Illustrating Biographical Details by Years of Experience](image_url)

*Figure 1. Illustrates the biographical details by years of experience*
General Reading
The first part of the questionnaire related to the general reading of nurses and midwives. The analysis showed to what extent the profession actively read. Although the data are available for the individual journals it was decided to group them together as described in chapter 3. Level one journals included the *Nursing Times*, *Nursing Standard* and *Nurse*. Level two journals covered Specialist journals and journals similar to the *Professional Nurse*. The final group level 3 journals consisted of for example the *Journal of Advanced Nursing and Midwifery*, research journals and scientific journals.

In considering level one journals the analysis shows that in relation to access, the difference between the professional groups is small (figure 3). Midwives (10%) are marginally higher than the other two groups. However, this small difference could be related to where they work. More concerning is that only just over half of the population access these journals (46-56%). Can it consequently be assumed that 45% of the population do not have any access, therefore do not undertake professional reading to any great extent? If so, this is a serious weakness within the profession.

In reflecting on this point seriously the next step was to ask it if nurses and midwives read level one journals and to what extent? The answer to this question do they read these journals regularly, shows there is a marked drop in the figures from those that access to those who read the journal (figure 4). Although if availability was not considered a problem, the difficulty may still lie in whether the staff are tempted to read these journals.
Figure 3 - illustrates the percentage per defined group who stated they had accessed first level journal.

Figure 4 - illustrates the percentage per defined group who read first level journals.
The reading percentage fell (18-38%) with the other professional groups being the lowest, possibly because as one said: "we are more interested in our field of work this journal gives you more the news items." Which is possibly why the majority stated that they skim read the journals, this enable 'hot topics' to be discovered (figure 5).

![Percentage](image)

**Figure 5** - Illustrates the percentage per defined group who skim read first level journals

One reader said: "it is a bit like reading a woman's magazine you read what you need and leave the rest". The results of the second level journals indicate that the availability of these journals is higher (70-80%) possibly because more clinical areas or people have personal subscriptions (figure 6). The freehand comments would suggest that nurses and midwives are interested in changes with in their discipline, however they are less likely to read another discipline even if they considered the article could have been interesting from a general perspective of their own personal knowledge.

It can be seen from the results that specialising can be narrowing. However, also there is a decrease in the actively read percentage which, ranges from 70 - 79% (figure 7). More interestingly is the fact that these journal articles were read in full (60-70%), which re-enforces the evidence that as a profession we are more likely to be actively involved in our own clinical area (Armstrong et al 1999) and de Jong (1998).
Figure 6 - illustrates the percentage per defined group who accessed second level specialist journals

Figure 7 - illustrates the percentage per defined group who skim read all related articles in the second level specialist
Figure 8 - Illustrates the percentage per defined group who read fully all related articles in the second level specialist journals.

However, the comment received in relation to which journal they read reinforced that where the journal had a wide specialist emphasis they were read in preference to the journals which covered a wider spectrum. The results from the third level journals indicate low accessibility (23-28%) (figure 9). It could be argued that this is due to their cost or the fact they are mainly to be found in the libraries. In the annotations made on the questionnaires there were frequent references to the type of articles they considered were contained in this level of journal. Unfortunately they could be said to fall into several groups.

For example, those who had clearly not recently picked up such a journal or possibly opened one, those who may have been asked to collect articles from a journal and felt they could not understand them and now would not make the effort hiding behind they are not readable, and finally those who had decided they were for the academics and managers not the clinical staff. The comments and results suggest that nurses and midwives are selective in what they read at this level. This is supported by annotation stating that the main reason for reading these types of journals is to acquire information.
in relation to their clinical area (54%). However it is interesting to find the number who consider skim reading is adequate.

![Percentage Chart](image)

Figure 9 - illustrates the percentage per defined group who accessed third level journals

![Percentage Chart](image)

Figure 10 - illustrates the percentage per defined group who skim read articles in the third level journals
If gathering information is the only reason for reading these journals it can be seen that at this level it does not yet engage the reader in reading widely within the journal (figure 11). Therefore, it was only to be expected that an even lower reading rate is seen (16-20%) (figure 10).

When examining journal reading in the other groupings it is noted that the years of experience and levels of qualification taken together produce a similar analysis. In the 0-6 years experience staff the ability to access level one journals between the diplomate staff (50.3%) and the certificated staff (50.1%) varied little. This difference was maintained when analysing both reading and type of reading. The same picture was obtained for level two and three journals. When these figures, are compared to the 7+ years results they are overall marginally better than the 0-6 years results, however the percentage increase was small and ranges between 3-5%. By identifying the groups in this way it can be seen also that there is a smaller percentage increase among the more experienced group in relation to reading. This relates mainly to the specialist journals and the advanced journals.

![Graph](image)

Figure 11 - illustrates the percentage per defined group who read the majority of articles in the third level journals.
It could be argued that these findings parallel the fact that more experienced staff are frequently settled in their discipline area. Whereas the 0-6 year group may still be seeking the stable clinical area, so the level one journals offer a greater range of job advertisements (a comment often made R.C.N. 2002). A regularly note made was that as experience is gained the nurse or midwife becomes more aware of the pitfalls so take their reading more seriously in order to up-date their professional knowledge. Armstrong et al (1999) suggest that whilst the new nurse or midwife is still developing her expertise and enjoying the stimulation of her responsibility.

The diploma/degree groups accessed the journals (35.8%), read the journals (24.6%) and overall their width reading (19.1%) is marginally higher but only in the level three journals. The numbers in each group are too small to generalise throughout the profession however it could possible be a pointer to the future. The last grouping represented staff who had undertaken a research module either the ENB 870 or a similar course. Here the results show the ENB 870 staff have a very slightly higher rating in all categories in the first level journals and second level journals and they were minimally lower than the diploma/degree group when considering the figures in the third level journals. The results indicate that groups who undertook a research module had a tendency to read more actively than the wider population. This is illustrated by the following comment: "I hated the 870, whilst doing it. I thought what a waste of time. I could have been helping on the ward, as I knew they were so busy but I was stuck in the classroom. Learning nothing and very bored it was also difficult to stay awake. But at the end of the course which the research was only one part I discovered I had been taking things in because I understood far of more what I was reading. It started my reading and I have continued but now I realise the benefit to me, I am now always learning".

The numbers who read, or considered they read (read infrequently), a journal equates to just above half of those surveyed; and when considering that this was a skewed sample (conference-goers,) if generalised throughout the profession it would appear to suggest that the profession as a whole read even less. This projected generalisation is similar to the findings of Armstrong et al (1999) and de Jong (1998) where access also was less of a problem but the desire to read was the concern. It would appear that nurses and
midwives equally need an incentive to read. So if research skills were acquired solely by reading only a fraction of the professional population are skilled.

Many reasons were offered as to why they did not read, especially in relation to level three journals, below are just a few examples: "I will pick up and read it if there is something about my area. When it arrives if there is nothing really interesting I often intend to come back to it, but then another month has gone by and the next issue arrives so I would have to be honest and say I might read it when I am attracted to an article. I always intend to read it but some months that minute never comes".

"I think I do not read them (level three) as they have always been put on a pinnacle during our training and I am not very academic so I just think I would not be able to understand them".

"They are not for practice based nurses only the elite or those who want promotion. I think they are stuffy, just ok for the teachers. You cannot expect us to understand them when we spend eight weeks learning how to critique them, we haven't got a hope".

"I have tried but I need such a lot explained to me and there was nobody about and I did not want to look a fool".

However amongst the favourable comments for level three journals the example below was typical: "I would read them if they were on the ward, but I cannot afford to buy them". "I do try if I am in the library but that is not often as it is too far from the wards you cannot just dodge over there".

Over 50% of the questionnaires have comments about reading. The majority could be split into two sections. Firstly the time available and secondly poor reading skills. Most of these comments relate to the fact that staff felt when reading the third level journals they could not understand the articles easily. They perceived a language barrier, in that they could read the article but they were unable to critically appraise it either to use it in practice, or discuss it with other staff. They considered they lacked analytical skills.
Selection of reading

Another area of interest is how staff chose the articles they read. The analysis shows the articles that attracted nurses and midwives are, for the most part those related to their own discipline (52%), however the next most read section is general topics (37%) and the least popular is education (4%). This choice of reading could reflect the perceived need to have an increased level of background knowledge within their personal field. A frequent comment transcribed from the 0-6 years is that they regarded information not related to their field as non-reading. Comments from the other groupings demonstrate that they have a broader understanding of how information could be transferred from one field to another (qualified over 7 years and those who held a degree or diploma). Moreover, the comments suggest that different levels of education or experience enable more lateral thinking. In exploring the relationships with the articles that were speciality-associated the results were as one would expect the more experienced group (whether holding the ENB 870 certificate or not) read primarily about their own field, however they did read outside the field as well. This could be attributed to the fact that their career choice was established and they were not expecting to change fields.

These staff also reflected a need to feel 'comfortable' in their level of knowledge and to know how to relate new knowledge to their particular client group. Reading becomes their source. Nurses and midwives need to recognise their own knowledge level and, in doing so, experienced staff turned to discipline-related articles more readily (figure 12).

Figure 12 - illustrates the percentage per defined group who selected discipline related articles to read.
As one participant (qualified 7+ years) said: "I have done the rounds and now feel comfortable here and do not intend to move, being part-time you find you fit into one area, it's alright for the youngsters to move around, I am happy to stay put. I choose where I am so am going to stay, after ten years you know whether it fits or not. So my reading is related to my discipline and it keeps me up to date".

Interestingly, the reading of current topics is marginally higher in relation to the grouping of the ENB 870 and under 0-6 years (figure13). Could this indicate that at this level of experience, they are assessing their future? The RCN (December 2000) said recently in reply to numbers of nurses leaving that the experience level at which nurses and midwives change fields is generally between six and ten years. Therefore, could it be assumed that the interest might not be in current topics but in the changes in the various fields, as several commented "which way does my future lie, I have been here 5yrs it is comfortable, should I move, if so where?" So it could be argued that it was not so much the current topics but the individual and their future.

![Figure 13 - illustrates the percentage per defined group who selected general topics to read](image)

What is interesting is the low number who would consider the title or abstract a good indication to the content. So how selection is made is not straightforward. The
comments received in relation to choosing an article stated that if the topic appeared in the journal and was selected, then it would only be read if the title was stimulating or if the abstract or the first few lines held their attention and their expectation (figure 14). So the choice of subject is only the first step in a chain which led to the eventual reading or rejection of an article.

Having considered their general reading, the next step is to find out if respondents remember what they have read. Over 40% kept a note of the article if they thought it was important, and 20% kept the reference. The comment made most frequently is "you never know when you might need it again". 60% could locate their reading again if it had been a worthwhile article. Could this be a development within the profession resulting from the changes in educational programmes? Or does it result from the introduction of Post Registration Education and Practice (PREP)?

Research reading
This choice factor is important when considering what respondents read in relation to research. 80% read mainly articles that were discipline-related or general topics, which could be seen to link to their clinical area. 2% stated they followed current debates, as one respondent said: "I like to know what is happening out there". However, the majority thought this is pointless. A common remark is "What is the point since we are powerless
to change it, so why worry about it? I certainly would not read about it, because it will hit us soon enough". Educational research is well down the list, with only 4% admitting to have any interest in this area. Most of the comments added in relation to this area are dismissive. For example: "a waste of space, they don't live in the real world, they tell us what should happen even when they know it is impossible, they should come and work in the wards then they would know what was really happening, rather than what is seen on selected days. If only what was written was true nursing it would be a wonderful job".

The analysis of research reading parallels the analysis of the general reading. The only significant difference is in the comments, which relate to the ability to read these articles. These could, on the whole, be described as negative. It would appear that the new educational programmes have encouraged reading, but have not yet influenced the view that reading research is difficult or only for the knowledgeable. The reading pattern is essentially the same: those who read thoroughly continued to read research in a similar fashion. However, those that skim-read added comments to the effect that this might mean they missed aspects of the research, so did not gain the total picture; whereas others said it enabled them to decide whether to read it more thoroughly or not. What affected the research reading more than any other aspect, is the structure of the paper. 73% wanted to have a very structured paper, with headings that enabled the reader to follow the argument through. This is reinforced by a further 70% who wanted a structured format: so layout does affect the person's perception of the readability.

**Statistical presentation**

Here the results are unexpected in that 69% of respondents wanted the statistics to be displayed, but not stated, only discussed, in the text, whereas 25% wanted the displayed statistics to be stated and discussed in the text. This result correlates closely to two questions asking if they took time to understand the statistics, and whether there is a need to understand the statistics in order to understand the paper: in both cases the respondents reply is yes (60%). This preference of the respondents for stand-alone statistics not reiterated in the text allowing them to transfer this information whilst they read the paper is an unusual result. Further investigated is required, as this is not the normal style.
Figure 15 - illustrates the percentage per defined group who prefer the presentation of statistics as pie charts

Figure 16 - illustrates the percentage per defined group that preferred the presentation of statistics as tables
Figure 17 - illustrates the percentage per defined group who preferred the presentation of statistics as graphs or bar charts.

However, this point makes more sense when seen against the responses related to the question, 'How do you prefer the descriptive statistics to be displayed?' Between 50% and 60% in each group stated that they wished the displays to be visually simple, the most popular form is a pie chart is (figure15). Tables, is the second choice, as these were seen to be clear to understand (figure 16) and charts and graphs are the final choice, equally as these are clear to interpret (figure 17).

Many writers who have been engaged in trying to develop a research culture within the profession (Alexander, 2000) supported this result. When considering the manner of display, preference was given to pie charts only marginally over graphs and tables. These simple displays needed no explanation according to the comments made by most of the respondents. They also felt they engaged with a wider audience instantly, as it was a format, which most people could easily interpret, as suggested by Bowling (2002). How the findings are presented needs consideration if they are to engage the readers and attract new ones.
Figure 18 - Illustrates the percentage per defined group that states they could explain to a colleague what was meant by the term standard deviation.

**Statistical knowledge**

This is the section of the questionnaire that was modified to include inappropriate responses such as 'time'. However, these inclusions made no significant difference in the final analysis of groups A and B.

Here the question is simple, could you explain to a colleague the following terms? The results suggest that less than 30% of the group considered that they have sufficient knowledge and understanding to explain to a colleague or student the meaning of such common terms as standard deviation (figure 18) or correlation (figure 19).
All groups felt more comfortable in relation to describing frequencies (figure20). Another difference is in relation to how they would explain nominal, ordinal, interval and ratio data. Here, the vast majority felt they could explain them (percentage rating of between 70-84%). An explanation for this high percentage is offered by Hutton (1998) and Ruddock (2000) whose work showed that this result was mainly because the participants considered they knew the terms from school linking them to maths. However it would be difficult to establish from the comments whether they had remembered correctly how they could be applied. Therefore this percentage is suspect, without further investigation.

The questions that are related specifically to the nurses and midwives understanding of statistical terminology lead to the highest number of annotations. So it was obvious before analysis that there is a great deal of uncertainty.
Figure 20 - illustrates the percentage per defined group that states they could explain to a colleague what was meant by the term frequencies.

Figure 21 - illustrates the percentage per defined group that states they could explain to a colleague what was meant by the statistically test Chi-square.
Typical comments: "What are these? Do we need to know them? Have I been taught these? Do they exist? You must be joking". So it is no surprise when the analysis reveals a limited understanding of even the basic terms. There appears to be no great consistency in the results, with even the most frequently used techniques receiving very different answers. For example, those who claimed to understand Chi squared (figure 21) were marginally fewer than those who claimed to understand the t-test (figure 22).

![Percentage of understanding of Chi squared and t-test](image)

Figure 22 - illustrates the percentage per defined group that states they could explain to a colleague what was meant by the statistically test t-test

This is a cause for concern, since Chi squared appears twice as often as the t-test in current research papers. Among those who have undertaken courses, the response were slightly better, but these were still very limited, and potentially short-term. "I am sure we did do all this but it is now eighteen months on and I just cannot remember, I have not used them since we finished which is just over a year ago, so to be honest I cannot answer these questions".

Having considered these results, there is concern as to whether nurses and midwives know what the tests relate to, or whether their awareness/understanding relates only to the recognition of the name. Interestingly, the figures show that 85.3% claim to understand

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Pearson's Product Moment correlation, while only 23.5% understand correlation. The Spearman Rank correlation coefficient adds to this uncertainty in relation to their understanding, since when asked about correlation on its own the response rate was 10 and 20% (figure 23).

When breaking the figures by group a similar pattern was found in each group. When comparing the ENB 870 respondents with the non-ENB 870 respondents the data reveal a better level of understanding. In general, the results revealed a need to consider seriously how we engage nurses and midwives in obtaining a basic understanding of statistical terms. Otherwise their reading and total understanding of research will not improve substantially, and their limitations in critically evaluating the studies could affect application to practice. The challenge for the profession is how does it go forward?
The Research Groups

Part of the questionnaire was related to taught research and how these courses enabled research skills to be gained. Of the sample population, 28% held the ENB 870 qualification and 23% had undertaken a similar course (non-ENB 870). In all cases, the courses had been taken during the last ten years. In examining the reasons for undertaking a research course, the following distribution was found (figure 24 and 25).

The comments that are included alongside the reasons for undertaking the courses fell into two categories: the course was either undertaken as a means of gaining promotion, or because of a need to understand the research process more effectively. Other comments were received such as: "there was not another course to send me on; I drew the last straw and it happened to be the ENB 870". The analysis shows that when the requested and offered are added together the majority wished to undertake the course.

The reason for undertaking the course did not correlate with the responses regarding the quality of the courses or the level of participation. For example: "I was amazed how much I liked the course" then in contrast "I wanted to go but it was a disaster, I was not prepared for what had to be done". There would appear to be no link between wanting to participate and whether the course outcomes were seen as successful. However, the quality of the course had the greatest influence on how it was perceived.

In relation to the quality of the courses undertaken, the non-ENB 870 is ranked higher than the ENB 870 courses in all areas, especially in relation to active participation within the course. There was a clear link between the degree of engagement during the course and the respondents' perception of its quality. Several comments were received in
relation to participation. The following is typical: "on each day there was something to do. I learn better that way perhaps because we are active people who don't sit, when we sat all day it was hard not to be bored or drift off."

If participation is seen as an indicator of quality the most recent respondents did not rank the ENB 870 highly (figures 26 and 27). Participation was seen as a cornerstone to understanding by most of the respondents, they described nursing and midwifery as an active profession and they need to be actively taught. In relation to participation the most common comment was they did not want to be lectured at but be active in their learning.

![Figure 26](image1.png)  ![Figure 27](image2.png)

Figures 26 and 27 illustrates how the staff rated the active participation within their course for the academic year 1999

In considering the comments received about the quality of the courses these mainly fell into two categories, very positive or very negative and there is very little written comment in relation to the middle ground. One part of the course, which equally resulted in either negative or positive comments, is the teaching of statistics. It is either considered good and enlightening, or poor, dry, dull and impossible to understand. Most of the comments received were not that the lecturer did not understand the statistics being taught, but that they had the knowledge but could not impart it to the group. Many comments made were in relation to the fact that the lecturer did not discover the students' level of knowledge before they started the sessions; as a consequence, some respondents said they had been lost after the first words. The non-ENB group appears to have been more actively engaged in relation to those taught sessions: comments were made about hands-on data analysis, learning by doing, not being dictated too.
The next comments related to the course as a whole:

"whether it was retrospectively good I am not sure or whether it was re-enforced by the other modules I am not sure, but I would like to think I did gain. But have only gained because it was part of a longer course. Had it been on its own I would not have learned anything that know I feel I have. I needed the rest of the course to discover I had learnt".

"the 870 was the first part of my conversion course, it was difficult and hard work and too much. But by the end of the course I discovered I had taken something in as I could more easily read research, but it could have resulted from the whole course, but I don't think ".

Table 6 shows the initial results of the respondents' ranking of the courses. An analysis is then conducted using the respondents' responses per year for the ENB 870 taking a five-year period from 1995 to 1999, which shows an improving picture (table 7). A second analysis looks at how the respondents had ranked the quality and participation in the ENB 870 over a same period. This produces a similar picture (figures 28 and 29).

![Figures 28 and 29](image)

Figures 28 and 29 illustrate the staff overall ranking for the quality of the course they undertook in the academic year 1999

Tables 3 and 4 represent a significant improvement in how the ENB 870 was rated especially during the last two years. Possibly this is due to an increased level of experience in teaching research, and additionally different teaching strategies being explored. Unfortunately, the numbers who had completed in the last two years were smaller in relation to the total sample: only fourteen out of a total of one hundred and eighty three; so these finding may not be reliable, but could possible be taken as an indicator.
Rating of the ENB 870 course

<table>
<thead>
<tr>
<th>Rating of Good</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>71%</td>
<td>1999</td>
</tr>
<tr>
<td>54%</td>
<td>1998</td>
</tr>
<tr>
<td>21%</td>
<td>1997</td>
</tr>
<tr>
<td>10%</td>
<td>1996</td>
</tr>
<tr>
<td>10%</td>
<td>1995</td>
</tr>
</tbody>
</table>

Table 3 illustrates the staff overall ranking for the course they undertook in the academic years 1995-1999

Analysis of the ENB 870 course

<table>
<thead>
<tr>
<th>Year</th>
<th>Quality</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>85%</td>
<td>71%</td>
</tr>
<tr>
<td>1998</td>
<td>21%</td>
<td>54%</td>
</tr>
<tr>
<td>1997</td>
<td>10%</td>
<td>14%</td>
</tr>
<tr>
<td>1996</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>1995</td>
<td>3%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Table 4 illustrates the staff overall ranking for the quality and participation of the course they undertook in the academic years 1995-1999

Additionally, it can be seen from the results and comments that a stand-alone research module appeared less successful in enabling the nurse or midwife to consolidate her/his knowledge. As expressed by this comment: “the 870 was our first course, a load of rubbish I thought at the time but it had to be done otherwise I could not qualify. It was not until the end that the relevance dawned and it all made sense, but it would not have done so I think if I had not done the other modules. You see it was the constant re-enforcement that found the light at the end of the tunnel”.

The value of stand-alone modules must be questioned when many similar comments were received. Is it possible to change the current pattern of selecting courses? These views were representative in that most of the respondents: felt that when the research was an embedded course such as an ENB pathway, for example the ENB 225 (Gynaecological Nursing 30 weeks), the long term outcome was more effective. Since the principles of research were being used and applied in other modules, theory and application occurred simultaneously which resulted in a more effective learning or understanding.
To summarise the points made in relation to the taught research courses is difficult since there are so many aspects, which colour a person's perception during and after a course. However, it could be conjectured where the research course is more interactive the level of knowledge is retained longer and renewed more easily. In the third phase of this study these results are considered in order to gain a wider interpretation of what they mean and what are the implications. So the true effect of a research course enabling staff to gaining research skills can be identified.

**Participation in research**

The final part of the questionnaire asked what research had staff been engaged in. More staff (31%) had participated in ward research. For the large majority, the research concerned was related to ward audits (14%) or ward questionnaires (10%), and less significantly data collection (4%). The other 3% had assisted medical staff in their research (one had been estimating blood loss, and another taking blood pressure readings). It would appear from the comments that many more would have liked the opportunity to participate, and hoped it would soon occur, while others continued to feel it was only the elite or medical staff that undertook such high powered work. An interesting comment added was: "After the course I was motivated, increased self esteem, I would be participating in research, something that I had previously believed only the elite would perform. And I did it only in a small way but it was wonderful".

Or this:

"I discovered in nursing and midwifery, research is not an optional extra, a luxury reserved for the academically elite who have chosen to opt out of clinical work. I did it and enjoyed it".

A few respondents made comments about being held back by non-progressive clinical managers. One, of many examples was: "what is the good of having a good idea when you know you are knocking your head against a brick wall? It is easier not to try than get a bruised head".

However, it appears that less than 2% are involved in the total process, from the initial stages through to its completion. Mainly, they only participated in a small selected area and were unaware of the total picture. The vast majority was active in what they did, but were not aware of the total process, and some not even the end result. However, this
appeared to be what they wanted: "I did my bit so the ward and they were happy, I got the questionnaires filled in, the doctors could do the rest, my boss was pleased when we collected the information, so that was good". It would appear that participation in this way increases knowledge and understanding, but in a limited way, if these comments are representative of the profession as a whole. The concluding comment is a good summary: "I learnt that research is a tool of science and therefore a means by which specific aspects of our world are systematically explored or investigated and are an important means of professional development and a vital investment in the future of health care".

Summary
The overall analysis supports the fact that reading, for most nurses and midwives, is not a popular pastime. It continues to be seen as a chore. As one respondent commented to me, "reading is worse than ironing; I would more willingly go to the dentist". However, the overall figures suggest that the proportion of the nurses and midwives who read; read a range of journals. These readers read two to three journals: a level-one journal, and either a specialist journal or a professional nursing journal; and, increasingly, an advanced journal.

The analysis indicates that the introduction of PK2 programmes in the mid 1990s, has influenced these changes. This trend needs to be extended if the research conducted by Armstrong et al (1999) and de Jong (1998) achieves the changes they consider necessary by the year 2005 which is a proactive research population. Moving further into this century, there is change in the work force, i.e. increasing numbers of part-time staff, and a proportion of the existing staff will move towards retirement and/or possibly reduced hours. So the challenge for the profession is how to continue to engage all these people in reading since it is a step towards increasing research awareness within the profession. According to Fletcher, (2001) a way forward could be their involvement with evidence-based practice. The results in this phase indicate that when appraising the population of nurses and midwives in relation to how they gain their research skills there is a need to consider the wider picture. This has to take into consideration their pre-registration educational programme and the teaching strategies involved, these all impinge on and influence the learning and personal development. This in turns leads to
the acquisition of life skills, of which reading is one. The results suggested clearly that
the profession, as a whole are not willing/regular readers, but opportunistic or requested
readers. Their reading generally remains level 1 and level 2 journals, with level 3
journals only being read if there was a purpose (to complete an assignment or a ward
protocol). However the degree of reading undertaken clearly relates to their academic
qualification and length of experience. This trend to read professionally should increase
with both the changes in pre-registration educational programmes and the formalisation
of PREP.

These general reading habits correlated with the research on reading habits, Armstrong et
al (1999) and de Jong (1998). So, it is not unexpected that they prefer structured studies
to read and data displayed in basic ways; the more complex the data are the less likely it
is to engage them. Perhaps the problem is related to the mathematical background of the
staff. In Ruddock’s (2000) recent study the suggestion is that the understanding of
statistics is related to original teaching in schools however Hutton’s (1998) study would
suggest that remedial help could be offered to nurses and midwives.

In relation to the courses undertaken, one of the important features is the degree of
interactive teaching. Where this is an integral part, the course is deemed as successful. It
is this aspect which appears to be less successful within the ENB 870. The main
difficulty highlights the extent to which staff are able to retain the skills they had gained,
since once back in the clinical area they are not able to use, maintain or develop them,
despite clinical research being undertaken in their area.

Conclusion

This phase having drawn an initial picture of how nurses and midwives gain their
research skills indicates ways in which future developments could be made. However it
stressed the complex nature of these issues. Having highlighted the issues these are
explored in more depth in the next phase using focus groups and interviews.
Chapter 6

Phase Three

Interviews and Focus Groups
PHASE THREE - INTERVIEWS AND FOCUS GROUPS

Introduction
One of the results from phase two had a substantial bearing on how phase three was designed. This was the analysis of staff grouping, especially when they were subdivided into specific groups. The results from the research group show that they have scores marginally higher than the other groups (age, education and experience). This group's results indicate a wider level of research skills and a longer retention of these skills. It was decided to explore this issue, to see whether these are significant in trying to develop a way forward so that all nurses and midwives could gain the essential research skills. So an analysis of needs and possible outcomes was conducted (see the next page).

The conclusion is that since the study is looking at how nurses and midwives gain their research skills it is appropriate to confine this phase to staff who had undertaken such courses and to consider if these courses had led to the development of their research skills. Initially a literature review was actioned to see if papers had been written related specifically to this area, because it is already known that the ENB 870 course has not been reviewed since its inception. No papers could be found either nationally or internationally. So a second search was conducted to see if similar information was available in other professions, medicine, teaching, social work and psychology - no information was discovered.

Research Courses
From the open-ended comments received on the questionnaire (Phase Two) it can be assumed that the ENB 870 and the non-ENB 870 courses are similar in curricula. The curriculum for the ENB 870 is specific, however it is not possible to know the content of each session. It could be established from the findings that most respondents (75%) undertook the course at certificate level, whereas the results established that all the non-ENB 870 respondents had either a diploma or degree (or were studying to for one). So in the non-ENB 870 courses it could be presumed that the content was not less than that covered by the ENB 870 course and sometimes were at a higher level. The ENB 870 was constructed as a post-basic nursing studies course: entitled 'An introduction to the understanding and application of research' ((ENB 1987).
<table>
<thead>
<tr>
<th>Table 5</th>
<th><strong>Phase Three - Needs and Possible Outcomes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First</strong></td>
<td><strong>Time scale - Process</strong></td>
</tr>
<tr>
<td>Permission Interview and Focus Groups</td>
<td>Approach Gate keepers at Directorate and Trust level with regard to the study and the study requirements, eg audio-taping.</td>
</tr>
<tr>
<td><strong>Second</strong></td>
<td>Make arrangements according to the prescribed procedure</td>
</tr>
<tr>
<td><strong>Third</strong></td>
<td>Interview skills undertake pilot interviews under supervision</td>
</tr>
<tr>
<td><strong>Fourth</strong></td>
<td>Technique already used in previous study, however a pilot to be undertaken</td>
</tr>
<tr>
<td><strong>Fifth</strong></td>
<td>Transcribing, and checking</td>
</tr>
</tbody>
</table>
The preface states:

"The course is an introduction to the understanding and application of research for nurses and midwives. It should be seen as a starting point for continuing and increasing research awareness. Central to this should be the development of an analytical approach to care given by nurses and midwives. It is believed that research into clinical practice; organisational management and education are applicable to all aspects of nursing and midwifery. During the course, course members will be given the opportunity to focus upon their particular interest".

"While, as in other professions, the active pursuit of serious research must be limited to a minority in the profession...a sense of the need for research should become part of the mental equipment of every practising nurse or midwife". (ENB 1987 p.3 see appendix 1)

Although the document sets out the aims and objectives for the course the interpretation of curriculum content was left to each individual institution. This accounts for the variance in length, number of assignments and credits awarded. Since it was a validated course it had to be accepted that at the lowest level the course met the require objectives. Instead of a 'gold standard' for this phase it became a variable dimension. However the one objective most students commented upon in the questionnaires was the evaluation of research. The objective states:

"4. Evaluate research reports and discuss their implications, assess the relevance of the reports for care and treatment of patient's/clients in the nurse's own field of work, separating the research data from the researcher's opinion". (ENB 1987 p.3)

Having understood the intention of the course, which was to enable research skills to be gained or extended it, is possible to consider how this phase is to be constructed. Regardless of how the research courses were ultimately designed the aims and objectives are the same - to be able to understand research and wherever appropriate apply it to practice. Therefore enabling trained staff to gain basic research skills.

Design

Phase three is restricted to those who have completed a research module/unit. This phase is designed to consider the results from phase two and provided a test of the conclusion. Consequently on this recommendation of changes needed are put forward in order to achieve an acceptable level of research skills.
Debate ensued with the 'group' and my supervisor in relation to how this would be undertaken, whether by interviews or the focus group and in what sequence. However, following the review of current literature it was decided to undertake the interviews first and then the focus groups. Gilbert (2001) and Holloway and Wheeler (2002) suggest in doing it this way one can maximise the success of these two methods when used as a combination.

Planning for the phase was just as meticulous as in phase two. Phase two had established the main locations as Manchester, London and Luton, so once the study had been explained there was no problem in discovering the Trust Nurses' names from the Regional Nurses. The Trust Nurses were approached, as the initial gatekeepers. Letters were sent explaining the study and asking for guidance in relation to the selection of staff members and any ethical committee permission. All replied and only two withdrew their Units the others were helpful. However, the procedure differed between Units, in the way the students could be approached, and whether ethical committee approval was required. The Trust Nurse selected the respondents in half the Units, in the other half a list of names was provided.

In relation to the Ethical Committees (twelve) the requirements are very different (see appendix two). All Trust Nurses were sent the application for ethical committee approval. Finally three reported they were not needed, three were agreed by the Chair of the Ethical Committees, four went forward to the Ethical Committees and were agreed, the remaining two required presentation before the agreements could be made. This was time consuming.

The number of staff members to contact was more than required, so allowing for pilot interviews and focus groups. Once permission was granted from all the gatekeepers personal contact was made (see appendix 2), a few declined. Dates, times and venues were established. One or two weeks before the meeting the questionnaire was sent out, forty-eight hours before the event all respondents were re-contacted. All venues were checked and most were ward seminar rooms or small waiting areas. It had been pre arranged with the respondents that all the interviews and focus groups are audiotaped unless they raised objections. Five respondents declined a recorded interview, in these case a speed writer (similar to a person who takes down shorthand) was employed, since it are distracting to take notes and understand all that was said simultaneously.
Skill for this phase

Interviews are possibly one of the most widely used methods because they are seeking to engage with the issues/problem by trying get person's feelings on the topic. Whereas Morgan (1988) noted that: "the hallmark of a focus groups is explicit use of the group interaction to produce an insight that are less accessible without the interaction in a group" (p.12).

Gilbert (2001) and Holloway and Wheeler (2002) suggest that interviewing skills require a controlled technique to be learnt, so that one can remain neutral but engage in conversation without leading the responses. In order to achieve this, preliminary interviews were conducted under supervision. This allowed for corrections in technique, which was mainly the desire to interact when an area of particular interest was raised, even if not related to the subject. The decision had been made to use structured interviews with the questionnaire as the foundation. Following discussion with my supervisor the preliminary interviews were undertaken, when considered successful the pilot interviews were conducted. Once the interviews were transcribed and analysed the data could be seen to yielding material in line with the aims of the phase. The interviews were then undertaken.

The focus group as a method is already a familiar technique, so the pitfalls are already known, hence planning is undertaken carefully. There are three groupings: ENB 870, non-ENB 870, and mixed groups. This it is envisaged would offer a realistic picture as described by Gilbert (2001) and Holloway and Wheeler (2002). What is needed is pertinent material to be forthcoming, in relation to this so it has been decided that the group size is 6-8 people. An initial introduction is offered which included a reminder about confidentiality. Everybody is invited to participate. Finally group members are reminded of the time limit. Otherwise, apart from answering any question or bringing them back to the topic they are self-regulating. The first pilot focus group set up proved successful. A second pilot was equally successful and interestingly a point that materialised in both groups was that although there may have been dominant respondents the group as a whole 'checked them' and all participated. The other outcome was that the subject area is not such an emotive subject to need a debriefing at the end. The transcription demonstrated a wealth of material, which covers all, the expected issues. The ten focus groups would be then conducted. The respondents checked the data
collected from the interviews for accuracy as did the focus groups before this evidence has been considered for use.

**Reliability and Validity**

As with the other stages there is a need to consider these two concepts. The phases one and two had used a quantitative approach whereas this phase will use a qualitative method: interviews and focus groups. Unlike other techniques this cannot be easily replicated. Therefore it is imperative to ensure the process is valid. Interviewing is frequently considered an easy skill, but in fact presents a major challenge (Holloway and Wheeler 2002). The first point to consider is that when there are different interviews the responses may vary so in this study there will only be one interviewer. Secondly with the respondents being different it was necessary for the interview to use a technique that would eliminate any cause for concern, so a structured approach is adopted. This ensures that the wording of the questions and the order in which they are asked are the same in each interview. Gilbert (2001) considers that this is an important feature in relation to interview technique. If is adopted it should mitigate against interviewer bias and the effect it may have on validity and reliability. By conducting preliminary interviews and then pilot interviews this concern should be minimised. These issues also need to be considered in relation to conducting the focus groups (Streubert and Carpenter 1999).

**Ethical Issues**

When gathering data using a qualitative technique it is important that consent is achieved since the material is recorded. All respondents are told that their Trust supported the study, and they would have received a letter to that effect from their Trust Nurse. In consenting the respondents must know what they are consenting to and how to withdraw their permission and have their evidence both withdrawn from the study, and destroyed. They also need to know where the tapes are kept and who would have access to the information they had willing offered. Finally they need to know that at the end of the study both the transcripts and the tapes are destroyed. Those respondents who were to have the process undertaken by a speed writer need to be aware that permission had been granted by their Trust for this method to be used. Safeguarding the participant in qualitative research is important (Gilbert 2001, Holloway and Wheeler 2002).
The process
So phase three consisted of face-to-face interviews, telephone interviews (see below), and focus groups (the latter being used to elaborate and expand the information gained from the interviews). The interviews and focus groups both adopted the questionnaire as a basis for discussion, which gave structure to the questioning, but did not inhibit freedom of comment. When the interviews or the focus groups are considered, the problems of self-reporting had to be borne in mind, though Northrop (1996) suggested that, where professional groups are involved, the degree of error is reduced. Jack and Clark (1998) supported this comment, in relation to nurses and midwives saying the percentage error are less than one percent.

A profile of the respondents is found in appendix 8. Sixteen face-to-face interviews were conducted with nurses and midwives who had participated in an ENB 870 course and a further sixteen were conducted with nurses and midwives who had undertaken a similar course, but not the ENB 870 (non-ENB 870 group). Both groups completed their courses within the last two years. The interviews were divided into groups of four, one set from the three identified locations, and the fourth set from areas in England. The telephone ‘ENB 870’ interviews numbered twelve, two from each of the three locations and six from other areas.

The number of interviews was rather more than originally intended; but the nurses and midwives were interested in the research, so there were more volunteers than expected. The total number of people wishing to participate was sixty. Some of the interviews were conducted on the telephone, because these respondents were either not within easy travelling distance, or more commonly, more than three visits had been made, and on each occasion they had been unavailable on the date in question. This was mainly because they could not be released from the wards having been told they could, but still wished to participate. The Trusts involved insisted the interviews took place on Trust premises and said that the staff would be released from their clinical commitment. However patient/client care must always have precedence, so on many occasions the situation could not have been foreseen. It would have been possible to have discounted these interviews, but it was important to maintain good relations as the focus groups were still to be held. Equally the staff wanted to participate. In reality, unless staff are willing to conduct the interview in their own time this type of challenge will face other researchers.
After the first six interviews were conducted the tapes were transcribed to ensure the relevant material was being obtained. Once transcribed the themes began to emerge and these were enhanced and strengthened with each new transcript. One unexpected feature of the interviews is having terminated the interview the participant frequently (60%) wanted to continue. It is as if they had suddenly remembered another aspect to discuss so a second consent had to be acquired and notes rapidly made after the close.

**Interviews with ENB 870 respondents**

The analysis conducted in this section represented a total of 28 interviews, of which only 16 were audiotaped. In the text each participant was given a pseudonym male or female, as appropriate in order to preserve confidentiality. Additionally, locations were identified as before London (A), Luton (B), Manchester (C), and other locations (D). The final marker indicated whether the participant was interviewed face-to-face (f), or by telephone (t).

**General reading**

The interview began with questions about general reading and then progressed to questions about research reading specifically. In relation to general reading, the majority (90%) said they only read when access was very easy, time permitted or on duty. In this group was Ann Bt who said: "*none to be honest, unless it was marked out to be read by sister, a lot of the articles just do not make sense, and I do not bother because we are never allowed to change anything up here, so new ideas are a waste of time*."

In exploring what this meant a typical answer received is along the following lines: if the clinical area takes the *Nursing Times/Nursing Standard/Specialist Journal*, reading takes place, if somebody has drawn an article to their attention, or they have a free moment. In relation to the phrase being unable to change, may reflect the fact that nursing and midwifery remains as hierarchical as Johnson described in 1972. Bostrum et al (1998) in a study of professions found nurses and midwives have a very limited independence and an organisational structure, which is oppressive in the face of new ideas. Debbie Gould (speaking at the RCM Conference May 2002) said that as the numbers of consultant and lead practitioners increased it is anticipated that this situation should gradually decline. However, Cox and Reyes-Hughes (2001) argued there has to be a willingness in the profession to accept accountability for this to happen.
Sally Dt spoke for several respondents when she said:
"I did very little reading, basically I do not like reading and have to be forced to do it or it is suggested I must".

The analysis by de Jong (1998) found that unless there was an obvious benefit, nurses and midwives did not read as a normal activity. It would appear almost as if they needed to be rewarded to keep up to-date or abreast with changes. Other responses included: "if sitting at the desk when for example with a few minutes to spare perhaps during visiting, in flicking through the pages, if anything looks interesting it will get read, if not it will be put to one side or I read if it is slack".

It could be argued that this will change, as PREP becomes a function of life rather than at present treated as an ‘add on’. Responsibility for professional development lies with the nurse or midwives themselves (NMC 2002). John Df commented: "I do very little, only what I can manage on the ward if it is quiet which it is hardly ever, then it is usually the Nursing Standard". David Cf made a similar point: "mainly the Nursing Standard or Nursing Times, because they lay about on the ward". These responses were common. Joan Ct possibly summed up the feeling of the group towards being asked if they regularly read professional journals: "I never have any time, I always feel I should but I don't". Catherine Dt echoed this sentiment when she said: "life is so busy, I don't, and I often feel bad but I am not alone, most staff are like me".

Not reading at work is common, nevertheless the issues of reading needed to be further investigated: if they were unable to read at work, did they purchase a journal regularly? Most respondents said that it was rare for them to buy a journal regularly but if the headlines caught their eye they may. Their reasons were varied, but the usual sentiment was that it is a waste of money and, in any case, they have no time to read at home. Many asked why they should give any of their free time to work, and some added that they did not want to take work home, which is what reading at home would amount to. It was generally believed that journal articles are not written for practitioners, unless they are particularly ambitious. Many stated they just wanted to do a good job, and then go home and relax, look after the family, and enjoy themselves. At the RCM Conference (May 2002) Nursing and Midwifery Council (NMC) president Jonathan Asbridge reiterated that: "all staff need to increase an awareness of self-development of which reading and research must become integral parts".

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However a small group of respondents (10%) did read professional journals. Rachel Dt said in relation to reading "yes, a great deal, and every type of journal, I need it for work. I have to look as if I know what I am talking about when I go to the hospitals". Mark Ct made a similar comment "I do quite a bit of reading normally, most of the journals, I usually read Nursing Standard as it is on the ward. We also have the Journal of Advanced Nursing, which I also read. I subscribe to surgical journals as well. Yes it is part of my life". Overall these answers represent a challenge for the profession in that the statistical analysis from the second and third phases of the study show only 10% of the profession actively reading. If this is representative of the total population then to turn 10% into the 90% is a formidable task for the profession. de Jong (1998) stated that to be a credible professional, professional reading needs to happen. However, this may already have begun, in checking the academic qualifications of Rachel and Mark they both hold degrees obtained after qualification. So with the establishment of a diplomate profession a percentage increase should be seen, this may rise more steadily/steeply with the number of staff completing degrees after qualification and midwifery now at degree entry.

To investigate whether the qualification of nurses and midwives made any difference to their reading habits a literature search was undertaken. The search produced only six articles (the countries covered were New Zealand, USA, Switzerland, Sweden, and Australia). Two of the in depth studies (USA) by Armstrong et al (1998,1999) investigated the reading activities of nursing students who undertook either the registered nurse (RN) or the degree programme. They explored any parallels or differences between the programmes. The most striking difference was to be found in the degree. By its very nature it required an increased level of self directed learning whereas the RN programme was totally structured. A critical analysis of this personal time in the degree programme revealed how the students managed their own self-learning which included substantial reading. Six months after qualification both groups completed a questionnaire that showed an increased level of reading within the nursing degree group had continued. The RN group had not developed this habit post qualification. However Parahoo (1999) when examining these results in comparison to other professions discovered the level of reading even in this group was below that experienced with other professional groups.

When reviewing the findings of McArthur's (1999) study (New Zealand) Mc Arthur discovered that, for nurses to read there needs to be encouragement (i.e. it could not be expected that nurses will just read). It appears that unless there is a purpose or
advantages most nurses become non-readers. de Jong (1998) looked at what motivated nurses to read or not read specialist literature. The results showed that there was little or no interest to read unless there was an incentive. These incentives could be seen as further studying or promotion. Although de Jong's (1998) study was small, interviewing 13 Dutch nurses. The important factor that emerged from the study was the influence of the working environment this seemed to play a very important role in what or if the nurses read. The more innovative the clinical area, the greater the staff interest which, resulted in an increased level of reading.

If no reading

If you do not have the time to read how do you keep up to date professionally was the next issue considered. Over 50% of the respondents said that many staff do not feel the need to read because "they get a great deal of information from the medical staff, they keep us up to date". John Dt made a similar statement: "I do try to keep up to date, the doctors are good for information. They are always discussing the patient's care and what is best, so we learn. We have the consultants' rounds so we do not miss out on new things. The medical teams all have monthly or bimonthly patient audit meetings where either the housemen/women or registrars present a case and discussion takes place afterwards from usually the doctors sometimes the nurse, so we again learn a 'lot'."

or

"if management thinks something is really important in the clinical area/ward then we have in-service training or up-dates, so reading is not really as essential as people believe".

Another point made was there are always the sessions from the 'reps': "They are good. They update us on the equipment and how it should be used". Finally, there are always study days available - more now since PREP has been a requirement. But it would appear that reading is not seen as adding to the practitioner's knowledge in the same way as other processes. These comments are reflected by some of the studies in the literature review namely those of Pettengill et al (1994), Funk et al (1991b, 1995), Hick (1996), McSherry (1997) and LeMay and Mullhall (1998). It comes back to the practice theory gap: they can do – but do they know why they do? This comment was reflected the findings of de Jong (1998) and McAulthur (1999) implying that unless there are inducements, reading is seen as unnecessary.
If we consider medical staff as the source of knowledge for nursing and midwifery practice as echoed in many of the transcript remarks (55%), it is a worrying factor in creating evidenced-based care within the profession. Smith's (1998) study on reflected learning, stated that there was evidence that the process of learning does occur within the ward team, however the dominance of the medical staff within this process was noted. All professional fields need to recognise this aspect but more so in hospital settings, because although it updates many staff it can be seen as perpetuating the system of hierarchy and the medical model of care. Perhaps a turning point has come with the number of staff undertaking the 'leading an empowered organisation' (LEO) programme. According to Garland and Smith (2002) this programme tackles administration and bureaucracy by challenging the status quo and that with empowerment comes a practical way to move forward and an alteration in where information is accessed. So in due course a reduction in dominance and reliance on the medical staff should transpire.

**The purpose of updating**

If updating can come from alternative sources it was interesting to discover some staff not only, did not read, but also considered the need to be up to date was also a fruitless exercise. For example: "the managers tell us what changes are to be made. So you do not have to think. They only want you to do what they say. They do not want to discuss what we may feel even less what we may be thinking, as we are too lowly!"

This was summed up by John Af: "I am sure they would all prefer that we are robots not people, then there would by no questions, no whys". This indictment on how some nurse managers are seen reflected the views of half the respondents. They did not feel valued as contributors. Professor Newman (September 2000) who is head of the Research Centre at Middlesex University in her recent study discovered a fifth of nurses and midwives are considering leaving the NHS. The notion of not being valued was a common response in relation to managers. It would be interesting to investigate this area in more depth in order to discover what valued meant.

In relation to managers the work of Closs and Cheater (1994) needs to be considered in that they say it must be recognised that there are still people in managerial positions who may not have the underpinning requirements to undertake their role. Managerial courses are not a compulsory requirement before taking up such a position. Elcoat and Roberts (2000) suggest that clinical governance will help resolve this situation. However, clinical
governance has not been introduced in a universal manner so whether this is the resolving influence has yet to be seen. Another point for consideration made by Elcoat and Roberts (2000) is that the managers have to work within a hierarchical system so they have to respond to the medical staff and their managers, both of whom might repress any initiatives. A study by Le May et al (1998) described managers as seeing research and initiatives as needing strategies and planning. Research was considered a luxury but the managers also had to recognise that they should maintain a pro-active stance. Hiding in the background is always the growing concern related to litigation so; if new ideas are tried and fail this might be a potential risk that managers are not prepared to take (Elcoat and Roberts 2000).

According to Maben and Clark (1997) this might change. They indicate that PK2 students, on becoming trained staff have been identified as potential agents for change who are now challenging traditional expectations and so a conflict situation may be smouldering and eventually erupt. Bartlett et al (1999) looked at the aspirations of PK2 qualified nurses and indicated that although they wished to stay in clinical posts they required more autonomy. Both these papers may indicate threats to this contrived stable life. Le May et al (1998) stated that for managers, research was seen as creating a good image, showing that Trusts were innovative, able to attract and maintain dynamic staff. So PK2 qualified staff could be the innovators.

In summary, if the profession is not reading, the reason whether lack of time or inclination needs to be considered. From those interviewed, there was not a common consensus. The main issue appeared to be that it had become a learned habit to rely on someone else for information. This is perpetuated as every new development creates study days or updates therefore avoiding the need for staff to read! Gray et al (1997) question how without this achievement effective evidence-based practice will develop

Level three reading
If reading is a haphazard activity in relation to level one journals the refereed journals are unlikely to be rated very highly and the majority (80%) of responses to this question confirmed that they did not regularly read any level three journals. The only time they read these journals was if information was required. The following are a few of the comments expressing this sentiment: Beverley Df said "only when I want information", Carole's Bf reply was "if one is on the ward at night", while David Dt stated "I do not
have a degree, so how do you expect me to read such stuff", Sally Af offered "it is worse than doing my critique, reading that stuff", and David Cf asked "who do they think they are writing for, certainly not me'. In contrast Phillipa Bf said "yes, more nowadays, because of work", Miranda Df offered "I do now, having completed other courses", whilst Sue Df was very positive "yes, oh yes, my reading is more challenging now and recently it involved reading quite a few pathology and British Medical Journals which are scientific based and although not having understood all of the information that's there, but it is better than it was". However the analysis does confirm that the staff who actively read level one journals frequently read level three journals.

Many (60% of the 80%) of those who had attempted to read the more serious journals described the style of writing as difficult to understand. Whereas the Nursing Times or Nursing Standard were easy to read, more like magazines was the usual statement. Secondly they said there was usually only one article relevant to their field, making it expensive to buy. It would appear from these comments that broadly speaking unless the topic was related to their discipline in the title, for example 'surgery and the kidney'; they appeared not to be able to relate the content of a medical paper, on for example urinary tract infections, to their own discipline, even for a core subject like communication, the same response was recorded in a study by Mc Sherry (1997). Some conceded that they did read the level three journals but only when they wanted a reference for an assignment, or to use the article to support/underpin a procedure or protocol within the clinical area. To summarise the comments the major problems were cost, access, and readability.

Reading habits
Since all the respondents did read even if it was occasionally, it was important to know what attracted them to one article rather than another. The factors that influenced the respondents in their choice of articles are important. It was clear that nearly all (95%) chose the article because it was discipline/topic related. However, that in itself was not sufficient the title had to catch their imagination. Samantha Af said, "it needs to be grabbing if I am going to read it all". If the title lacked imagination or was seen to be a routine subject, or they felt they had read it before or it could be boring, they would not even read the first paragraph.

Having made a selection, about half (45%) said they would read the paper all the way through if they 'got' through the first couple of paragraphs, if not they would discard it.
Of those who read the articles these were some of the comments: David Dt "I am not selective I read what is there, in full" John Dt agreed "I read everything in my line. I read everything thoroughly, how else can you understand the implications of the article? I read very widely". Whilst, 20% always skimmed the article first and then read more thoroughly. Samantha Af in relation to her reading said "I did read mainly surgery, I scanned through it but I didn't read it deeply, always. If it was something I was familiar with or interested I would read more deeply and possibly the entire article". The remainder (35%) would skim the article, as they considered even when doing this they could still obtain the gist of the paper. A frequent comment in relation to skim reading was: Sally Dt stated that "mainly I scan quickly, and only read if I have to. I know I should do more, but I don't have the time, it is not a lack of interest. I have not completed my PREP, but hopefully nobody will notice". In this way they considered they had not wasted their time, since time was a common theme and evidently an important consideration. The notion of 'time' (lack of time) was found in almost 2/3rds of the responses when discussing reading activities.

If according to the respondent's own criteria, it was a good article, what happened once they had read it? Here the majority (85%) was definite in that they would never need the article again however good it was, since nobody else would want to know what they had read. The journals just got thrown away whether a personal copy or ward copies, as they are deemed as out of date. A small number (15%) were more aware that they may in the future perhaps want to use the paper. One person took notes whilst others just took the references. One participant said it is on the 'Internet'.

Research reading

Respondents were asked to consider their reading of research before they embarked on the ENB 870. It was evident that a small percentage (10%) did not read research. Their answer was simple: they did not understand the studies. As Kate Ct stated "it was a bit like reading a foreign language, all the words were peculiar I could not make sense of them". In the study by de Jong (1998) he found that most nurses reported little or no interest in research or studies. The problem of reading research appears widespread. Suzanne Bt spoke for many (75%) who read research when she said "nothing regularly".

In reading research, how did they select what to read? Here the answer was unanimous in that it was either speciality related or had an interesting title. Once they had found an
article that was potentially worthwhile reading, how did they confirm this, by a few lines of the content or the abstract? Here the majority (60% of the 75%) stated the abstract was usually the persuading factor. de Jong's (1998) study supported this type of selection. Possibly this is another aspect of post qualification education that needs to addressed. The majority of nurses and midwives are happy and content with their world, they do not wish to stray into fields unless there is a purpose or a reward (McArthur 1999).

As expected the qualitative research articles were deemed more readable, and a better representation of how respondents viewed nursing and midwifery. Wright and Schmeizer (1997) supported this comment. However the majority of the group (90%) ignored how the results had been established as Sally Af said "I never discovered what was meant by transaction analysis, it just seemed a big word to impress". Neither did the group as a whole worry how the researcher achieved their results. What was generally said was that if it was published it must be 'ok'.

As far as quantitative research articles are concerned, the majority (95%) read what they could and ignore what they regarded as unintelligible. The main reason given was the language used: as some of the respondents stated qualitative research was 'soft' to read whilst quantitative was 'hard'. What they preferred was a structured article, that led/guided the reader through, especially in relation to statistics. Statistical information needed to be presented as a basic visual display to enable understanding. The use of graphs, pie charts or simple tables were their preference, displays in other forms were ignored. The common complaint when discussing reading quantitative research was made by Simon Cf who commented: "that it was not written for the clinically based working nurse/midwife but the academics, they are now a bit like doctors in that they must publish even if it is not relevant to us".

Several others made similar statements, Beverley Df said:

"I read research articles that are in the current nursing press and that was all to be quite honest, but as a ward sister I suppose I should be a little more forward thinking as far as research is considered, but I have not got the time".

When commencing the course did they expect it to help their understanding of research in the future; the answer was yes from everybody, they all had high expectations as Kate Cf said, "yes, that's what the course will do for me".
The Research Courses
The interviews allowed an in-depth exploration of each course to see how they compared and in what way they differed. What could be learnt for the future?

The ENB 870 Course
The reasons for undertaking the course.
The first question in relation to the course was to explore why do nurses and midwives undertake this course, as opposed to any of the other courses available. It appears to attract many applications with the result that the Trusts spend increasingly more funds each year on the course. The responses could be themed as follows for the twenty-eight respondents
- Credit - I felt I must keep my credibility, and it had more credits than other courses
- A core module - Part of another course,
- Second choice - unable to undertake first choice and this was an alternative.
- Requested the course - wanted to know more about research
- Sent by manager - no choice otherwise next time would not get what I wanted
- To achieve promotion.

Miranda’s DF desire was to complete her academic education as quick as possible so she was honest and said “it has more credits than the other ENB Courses”. While, Beverley DF conceded: “well, the courses came round from the Consortium and we could pick and choose what we actually wanted to do. At that time I had not even completed my diploma so I was looking for something that would give me quite a few credits. Also a good sort of basis as well, so the 870 seemed one of the most suitable and one of the ones I should really go for first”.

However Carole BF felt: “well now everything has to be research based I need to understand. You need to have an understanding, and I didn’t understand about research at all”.

The five who said their aim was to achieve promotion were clear that without the ENB 870 within their Trust, you could not gain a ’G’ grade on a ‘decent’ ward. Amongst these five, two would still have completed the course given the opportunity but the other three would have liked to do something more practice-based. The four who considered there was a need to keep and maintain their credibility, were in Trusts where the availability of courses was generally considered easy and there was an expectation that all staff would
further their education in order to grow professionally. Of those who were sent, two reported that their managers had said it would improve the look of our educational audit.

Since the reasons for undertaking such a course are so varied, the next question was how did they find out what the module was like before they started so that they could do some pre course reading? Most (75%) of them had heard from colleagues that it was difficult so they decided that they would just wait and see. They assumed that it was (as they put it) the 'luck of the draw' as to which lecturers you got, and this would determine the amount of work you would have to do. Beverley's Df response summarised the majority of the answers (70%) what was known of the course before starting "nothing, to be quite honest no, I just knew the basic outline, where it was and I did not really know what it involved at all". Carole Bf made another frequently stated response "I was a bit apprehensive about the amount of work I had got to put into it because the research is a lot of hard work I am told, perhaps it will be a challenge I thought". Of the group none undertook, any preparation, nor did they see the need.

The majority (60%) did find the first session explored and explained the aims and objectives of the course, it also covered the distance learning material and the assignments to be accomplished. Beverley Df pointed this out in her interview saying "we were told what was expected from us, what assignments we had to perform so everybody had a rough idea what the course work involved". For twenty-six, the course was designed around distance learning material and a one day per month attendance over two semesters. The two remaining courses were still centred on distance learning material, but attendance was fortnightly.

The distance learning material is either in house or the South Bank Units. The assignments are either four or six in number and this did not correlate with the credits obtained, which varied from thirty to sixty, with one course awarding ninety credits. It is impossible to consider the course as generic with so many variations.

The 40% who did not feel the introduction was at all useful felt they wasted part of the course because they were seeking clarification of what it was to cover, and where the course was going. Carole Bf described her introduction: "we didn't understand what it was about for at least three weeks to a month, but when you did understand you could
then go forward, but it did take me quite a while to understand exactly what research awareness meant".

One of the difficulties that might contribute to this was a change in teaching strategies since the respondents had last studied. Beverley Df remarked: "what I found the most difficult was because I had not done a course for a long, long, time, so self directed learning, more than anything was very difficult. I was used to somebody standing up and saying this is this, this is how you do it. And what I found the most difficult I think was also the one day a month, I just found it was spaced out too far. Because by the time I had got my head around what was said on that day and by the time three weeks had passed and I was back on the course again, I had forgotten it - unless it had stuck".

In asking how they would describe the quality of the course they looked at it in terms of how successful it was for them initially. There were several aspects that appeared to make a course successful for the participant. A major factor was the 'Group' itself. Students can become a 'Group', sometimes they respond and develop into a 'Group', on occasions the 'Group' ethos never works and they are always individuals in a room together. Group size was an issue with several respondents. They felt a group of thirty was right for this type of module, not larger as they said it was like learning a new language, not just a clinical skill. The groups varied in size from six to fifty; therefore the difference in student numbers must have influenced the teaching strategies. Samantha Af said in relation to group sizes "about thirty, which was good, because we then had different views in discussions". Group mix was also an important factor when considering the integration of a group. Beverley Df described her group, which was typical of most groups as: "some were hospital and some community, some had been qualified a long time and some not. Those who had been qualified fairly recently I think they found it the easiest, it was not new to them, as it was us, but we all worked together".

Many of the respondents felt that there were problems being in a group of people who had such very different academic backgrounds. Beverley Df said in relation to her group: "I felt a lot of the time the 'Group' went with the flow because they did not want to say they did not understand. Because they felt they were putting other people out, you know sort of upsetting other people. Letting them down".
David Cf was very critical of the mixed groups because he said: "as a PK2 student the course should have built on my knowledge but in reality nobody gained, as some lecturers concentrated on one group with little or no knowledge whilst another lecturer would concentrate on his group".

Carole Bf said the "group' was ok, as we were all just RGNs, not PK2 people so they came (down) to our level". There was a general consensus that the group should be more carefully selected. Even if you had to wait for the right group, it would have been more beneficial. A few (20%) felt the course had not moved them forward due to the difference in academic mix and they were in groups where the majority fitted into one group or the other and so the lecturers went with the majority.

If the 'Group' was successful it added to the course, as Phillipa Bf explained "it was nice to see how other people were getting on....lot of sharing of articles....general support from each other". The success of the 'Group' was a point raised spontaneously by all the respondents; they definitely considered it as having a positive effect not only on the course but also on how and what they recalled about the course. The aspect of 'Group' interaction is always a concern of any lecturer since it is far easier to facilitate if the 'Group' becomes a 'Group', rather than have opposite spectrums - non respondents and dominant respondents (Wright 1998).

The nurses and midwives were far more outspoken in their comments and had definite opinions on the teaching they had received. Every person had a comment to make about the style of teaching, but before these were discussed they were asked how they like to be taught, as parallels might be drawn. The respondents interviewed were mixed. They had completed different education programmes, and had differing length of experience. Regardless of PK2 or non-PK2 the majority (85%) stated they had been taught in their pre-registration programmes mainly by lectures. However, now only twenty five percent wished to be taught in a similar manner and these were mainly the older respondents. Despite this, the majority (85%) found during the course they were 'lectured at' and were not expected to participate in the sessions. The remainder received a mix of teaching strategies. Analysis of their individual comments in relation to the teaching strategies involved in their courses paralleled the way they liked to be taught.
Examination of teaching styles revealed they did cover the complete range of teaching strategies, throughout all the courses, but these were not always represented in each course. This could not be taken at face value since when asking about the teaching of individual sessions it was clear that a wide variety of teaching strategies were used. In order to fully examine, this area it would have been better to meet more than one student from each cohort so that comparisons and contrasts could have been drawn. However, the majority found their course to contain didactic teaching, as outlined by Beverley Df: "it was mainly lectures we were lectured to, but I did not really get much out of the course although that is the sort of teaching that I am used to. I am used to somebody standing up and saying blah, blah, blah, but I did not get the same from this course at all, no substance".

This was supported by Cepta Af who said: "it was more formal, an overhead for you to take notes, and sometimes the teaching methods left something to be desired, so you did not always grasp the subject. There were long delays in some sessions where we were not sure what was to happen, and it was not helped by being given wrong dates, for small formal discussions with colleagues".

Only 5% of the respondents felt their course teaching matched the session in the way they thought the subject could have been taught. Many saw the teaching as unstimulating. Wendi Df stated several incidents happened similar to this she described. "Some lecturers were worse than others, two people probably who have said they don't want to do this, have actually fallen asleep. We laughed at a joke that was the highlight of the afternoon. Sorry".

One of the most vociferous people was Miranda Df here are some of her criticisms:

- 1. There needs to be inter tutor preparation because we had it all before and we had it all again. I put my hand up halfway through and said we have had all this before and she kind of realised but just carried on because everybody was so busy scribbling.

- 2. I found that the lecturers seemed to have more interest in their own projects they were doing as pieces of research than in their teaching that seemed to come across and they were saying well this project that I am working on blah, blah, blah, going on about it. You sit there and think but that is not what you are paid for, you are paid to
teach us something and they know being a lecturer gives you the right to do your own research but when you are lecturing forget your research, teach us.

• 3. When they actually got into lecturing it was fine but I also think that when you are doing a distance learning course and you are only going in once every two months or once a month you don't need a lecturer who says hey lets finish early, let's have a long lunch break, I am your mate, you don't need that....that was my one day for learning something I would feel that they weren't thinking of that, ....you just want to be taught.

To check whether this was a problem I met with four other group members (selected at random) and they confirmed that the module was as one said "rather poorly taught which was disappointing". Before a judgement can be made it are necessary to know more about the team teaching the group and the type/nature of the group. Wendi Df made comments on the same line: "I can tell you the way they looked as they walked in on the last day, they thanked God it was finished. It was, poor, I was very, very disappointed because I do like research and I am really sort of into statistics and everything since doing my degree and I was disappointed with the course as a whole".

Distance learning material

A large part of the course was supported by distance learning material (most commonly the South Bank Units). Most (65%) respondents said that they had not even been offered replacement articles for those in the text, so up dating what was being considered. The points raised were mixed. Phillipa Bf made the following comment, which represented the minority: "yes I found them good  I have kept them all and still refer to them and if my colleagues ask me when they are doing little projects have I got anything on a particular subject, I can go to the books".

Carole's Bf, comment on the units was: "I put in a lot of hard work, as they were not up to date, I found that I had to go and look for myself. We did a lot for ourselves, a lot of the input wasn't there to be honest they thought it was in the UNITS but it wasn't. I know it is a horrible thing to say, but I did not really have time to do it properly"

Beverley Df summed up the way the majority felt about the distance learning material that had been produced 'in house': "I guess it was sufficient and good in places, good
articles, but I think because the group was so large and we all seemed to be at different levels of understanding so it was value for some and not others. The group went with the flow during discussions on the material because they did not want to say they did not understand any of it, because they felt they were putting other people out Letting people down is not good in nursing!".

Whilst Carole Bf, was exasperated when she spoke about the feedback sessions: "they never knew whether you had done it, they never looked at your books so they never knew whether you had done the activities or not".

A few (10%) of the respondents said one of the advantages of the distance learning material was that they could work at their own pace. However, the remainder considered it was hard work to use distance learning materials because you had to be structured and disciplined, without losing sight of work and home pressures.

**Terminology**

Several questions on the questionnaire related to their understanding of research terminology and whether they were now able to use them. They explored the extent they would now be able to explain to other colleagues or students what specific terminology meant. Also, at the level of defining the concept to give clarity of understanding when they met the term in a text and whether as a result it had enabled them to read research articles with greater understanding. The answers were very varied. Beverley Df considered the teaching to be poor in relation to statistics so she would not be able to offer an explanation. Which is why she added: "if I knew them, that would have been surprising" however she continued by saying: "if I did know them I do not know them now because the trouble is when you do not use them you forget them". This comment came in relation to her remark that having completed the course nobody had ever asked her if she had completed the course or passed.

Carole's Bf point represented many comments in relation to the teaching of statistics when she said: "how could I, because he did not know what we knew so when he finished I was none the wiser, that's the honest truth I wasn't".

Wendi Df went, as far as to say: "I have never heard of the word t Test ...they mentioned something called Chi squared". 138
Beverley Df said her group would support her next comment in relation to statistics: "people weren't really grasping or understanding what was said. He was just way too quick. There was a no sort of recappping or going over and by the time you had gone back the next week you had forgotten everything"

Despite this statement Wendi Df added: "the person who taught us statistics had a passion for it and made it real, every single session interesting. He walked to the window and threw a brick through it, not through the window I mean, out of the window, and said now how many times would we have to do it to hit a white spot on the grass. Once it was plastic ducks in the pond in the grounds. Another very practical task was to go out and count how many frogs were in the pond and what proportion of the frogs had got brown marks. Then we related all these activities back to analytical theories".

Wendi Df felt the basic principles had been taught well, especially such things as averages, but not all statistics. She felt let down when her 'passionate' lecturer went off sick and was replaced by a boring 'mathematical type' and she learnt nothing. Sue Df was equally confused with the terms, she said: "the least enjoyable was the statistics. What do you mean nominal, ordinal? They are what? I do think I might recognise them, but not necessarily have the depth of knowledge to put meaning to them, it's something that I have to keep going back to refresh my memory on, and then I am not sure what I think is correct".

Jackie's Bf comment illustrates the 'poor' way the majority perceived the statistics module was taught: "it was interesting for me to sit there since I felt I wasn't in the room because it didn't mean anything to me. It was just loads of figures just thrown at you. I think he is probably a very, very, good lecturer but it was just over the top. Everybody said the same".

The small number of respondents who had not experienced any problems with the statistics were indeed mathematically minded (all had A level Math/Statistics). This is in line with the research study by Ruddock (2000) (in relation to nurses' poor grasp of maths overall). The profession needs to assess the existence and degree of the problem in order for it to be addressed, since this might have wider implications, for example in drug administration.
Twenty-seven out of twenty-eight respondents on the ENB 870 only received one session on statistics in each module, a total of approximately four hours. This may be the reason a non-mathematical populace has not achieved a basic understanding of the principles in relation to statistics. However there is still a need to be certain where the problem is, whether it is a lack of basic ability or an ineffective teaching strategy. The challenge must be how can these subjects be taught in a more active way, creative teaching styles need to be developed.

The next question related to whether the course had improved their reading of research articles. Did they when reading the terminology, recognise it and was their reading less laboured? These are a few comments that were made which sum up the general points. Beverley Df "I understand it better now but not really well".

Carole Bf "I understand it differently now, the words that I used to come across before, I used to think, well I don't know what they mean, but now I know what the words mean, so I do feel more confident".

When considering changes in their reading of level three journals several references were made to the fact that the chosen paper for their critiquing assignment was from either the Journal of Advanced Nursing or the Journal of Advanced Midwifery. This made many (60%) of them say that if it took all that time to understand one article how could it be understood by just reading it through? Equally if their mark had been low they considered they would never be able to read and understand them easily so had not attempted again.

Assignments
Everybody agreed that the assignments were what they would have expected. Their concerns were not with the but in some cases with the order of the assignment. They would like a literature review first and the research critique last, after they began to understand what research was all about. The other two assignments varied between the respondents, but mainly they were concerned with comparing and contrasting research papers or methodologies. Phillipa's Bf comment represented the majority when she said, "I found them good, but they took a long time to be marked".
Another negative point in relation to the assignment was the level of personal support each person would have liked. Beverley Df was happy "the tutor was quite good in that respect he sort of said bring whatever you had done, then he would read it and give it back which was ok". Carole Bf explained "we did all the work, we didn't get support really you couldn't get hold of them. There were five of us". Self-help groups were a constructive solution. However when the course had many lecturers and no team approach the advice tended to differ. Mary Bf found "I needed more help with the assignments than was offered, and the module needed to be more structured between the tutors in order to give us that help. Also the information was different". Lecturers need to know why they are asking for work to be completed after Miranda Df remarked "I think one of the essays was a bit of a shame because all the answers were in the summary box at the back of the book, if you sussed it out".

Wendi Df was forthright in explaining that she had written in her assignment the following:

"the one thing that stopped nurses going forward in research was the nurses' themselves, because they have such a narrow outlook. And when you look at the level of writing in some of our journals and you compare it with the medical journals it is a bit like comparing a children's book with an adult book. It is not above the intellect of the nurse to produce these articles. Nurses could be there, so why are they not?"

She continued to say her marker had made no comment, she hoped that it would receive some acknowledgement, as she felt it could have been construed as controversial, but they did not seem to bother. Many of the respondents stated the assignment had no comments on its return. One person said you wondered if they were read at all.

**Tutorial support**

Supporting tutorials were a concern, about 20% agreed they had been successfully used, but more remarked similarly to Samantha's: Af "they were informal, but some people took the whole time up themselves which to me is a bit selfish. I think it are better if there were individual tutorials of 10-15 minutes". Ann Bt made a similar comment in that she said, "some people hogged all the time, individual times would have been better". Another problem highlighted in relation to tutorials was the difficulty of getting to them, since the course was paid yet no study leave was granted. In this group of interviewees twenty-six of them had no study leave; they used days off and leave days. Cepta's: Af
summary was indicative of them all. "I had to do the course in my own time and take the implications of trying to get the study day to attend the course. One of the problems was fixed night duty, which meant attending after or before night duty, I know it's wrong but what was the alternative? So tutorials were often out".

All the respondents described the number of lecturers they had during the duration of course, so the make up and size of the teaching teams were an obvious target for remarks. The most successful size was seen as three to four provided they were a team. By which the respondents meant the team met and discussed the information on all aspects that are given to the group. The courses that were 'seen' to have failed were where there was a perceived lack of organisation or strategic thinking. Lectures could be repeated wasting valuable time. Assignment guidelines were altered from the official ones: on the spot by a lecturer's changing the format or the hand in date.

**Quality of the course**

The test of any course is would you do it again and would you recommend it? As expected having read the preceding comments, the answers were mixed. The overriding comment was that if you can get on to a good course it is very well worth doing. Beverley Df commented: "yes more or less, because it covered most of what I thought, it gave me confidence" she continued by saying, "I am try to inspire others, so there are two staff names for the next time".

Cepta Af: yes I have gained from it. I think any course you attend you want something out of it, incidentally you are always picking up things all the time without realising it. I may not have picked up all the things I wanted too from this particular course, but quite a lot. I now read any article, because I look at the abstract differently and I do look at the methods or results, as before I just read the comments, so I have gained."

Interestingly, despite her previous statement Miranda Df said "I really enjoyed the way the course was constructed; I really enjoyed it because you started out understanding what research was about, and you were led quite gently". Difficulties were expressed in that Mary Bf thought "this was a really academic course. It was a different form of learning, full stop, but good.". Samantha Af raised a common concern "I think you could
have more study days than just one per month, really because there was an awful lot of work".

Analysis of the respondent’s results in the ranking of the courses produced mixed results. What they wanted to speak about were: the shortcomings in the teaching of the course, the structure of the course, the lack of regard for the course in the clinical area and as they saw it very limited ability in the future of building on their skills. The majority (80%) considered they had a long way to go to 'feel comfortable' with research even when they could use and understand a few terms. Carole Bf spoke for half the respondents when she said, "to understand the methods such as interviewing, questionnaires etc. we need to do some. Nurses are practical people so the course needs to be practical then it would stick".

One continuing theme throughout the comments was that managers need to be actively involved in using the staff that had undertaken the ENB 870 to avoid reactions similar to Cepta’s Af: "when we got back to the Unit and tried to discuss with the staff what we had actually learned on a particular aspect, or what articles might have been interesting to read, we found the senior staff appeared to feel threatened by the information we were trying to share. And we felt they generally were not able to deal with it. Unfortunately I think all managers need to take some more note of what is happening in research and perhaps encourage staff to look at journals and share their ideas".

Having completed the course some (15%) tried to encourage others. Carole’s Bf commented: "well I know one girl I spoke to and said to her did you want to do the 870, well she said they did part of that, sort of touched on it, when she trained. Because she was PK2 and she couldn't see any point of going further with it. And others said they didn't want to do it because it is too hard. You get lots of different things like that, but to be honest most people would rather do another more interesting course. What does the 870 do for you unless you want promotion, because we do not use it on the ward".

The small number who had continued their interest in research had participated in active courses that had used the distance learning material as an educational tool rather than a passive instrument. Also the groups were similar in background and the size of the group was between twenty-five to thirty. Typically staff undertaking further education find
nobody is really interested, it is to be hoped with active Clinical Supervision this is resolved.

Post course research
The respondents were asked about their research activities since completion of their course. Four have been involved in research, two had conducted their own piece of research, whilst the other two were part of a team. The remainder divided into three groups, those who had been part of an audit team, those who had collected data for mainly medical staff projects and those who had not been actively engaged in any research. One of the researchers looked at 'Does the system reduce the length of stay for Elderly patients?' She was working on a newly commissioned small ward to see if specific care would reduce the time elderly patients required to rehabilitate and go home self-caring. Her local Research and Development Directorate (R&D) supported her project. Halfway through she reported positive findings and the project was allowed to continue. As she was coming to the end and her results continued to show a positive conclusion the ward was closed. She presumes this was for political reasons and she was not allowed by the Trust to publish or comment on her work publicly. Despite her disappointment she discovered the value of research, and would participate again.

Another person had looked at pollution and pollutants in an area of Cheshire. This work was to be presented to the Environmental Health Department. However, she said she had no support until it became crystal-clear that her results showed positive pollution and that there needed to be a larger scale project undertaken such as a Community project. The third person had been part of a medical and nursing team collecting data related to recovery from two different new surgical procedures, which had proved a very beneficial clinical review. The fourth person had been part of a team looking at menorrhagia; she had collected data for two years and found it a challenge although she was very concerned that her name did not appear on the published paper. One of the respondents was looking for a research midwife's post following the ENB 870, or possibly to work in the R & D department as she felt she wanted to learn more and hands on are better than any more courses.

Looking to the future
When asked where they considered changes could be made, the majority (75%) raised the same issue, they felt the emphasis in their ENB 870 was biased toward qualitative
research and they had not had sufficient time spent on quantitative methods. They felt that they had not received a rounded picture of research and how it might apply to nursing and midwifery. Kate Cf said: "you almost got the feeling that we need to be brainwashed into believing that qualitative research was the correct type of methodology for nursing, but they should have remembered that most of the medical research is quantitative with drug trials and investigations of new treatments, so they did us a disservice".

This point of view was supported by David Cf "all the examples used came from qualitative research, what about the quantitative research? Are we supposed to be ignorant of what that means"? The respondents were all rather outspoken on this point. The only other point that received more response was when a few lecturers decided that they had in the 'Group' an audience for their own research or research activities, it was commented upon in 30% of the responses. The overarching comment here was that they wanted a balanced picture and to know more about the benefits of using experiments in research to gain a deeper understanding of which method to use and why.

One of the concluding questions asked if they had no active involvement in some kind of research how would they maintain what they had learned on the ENB 870. Apart from the four who had been very actively engaged in research of some kind, the others were ready to admit that if they had not used what they had learned in the following year or so they would have forgotten a great deal. Already some of the terminology was lost, and they had to look it up. Several said it is a bit like becoming elderly you cannot remember it, yet you know you should. This highlights the need for the Trust's research nurse role to be further developed in order for them to be proactive in clinical areas, taking forward small studies, helping with new protocols or policies. The majority (65%) of respondents wanted to be engaged in something such as audits at ward/department level.

**Interviews with Non ENB 870 respondents**

Before considering the groups together the analysis on the sixteen non-ENB 870 interviews is presented.

**General reading**

In exploring the transcripts of this group it is noted that as a group they read more frequently, because they tended to find reading an enjoyment. This is not related to their initial educational programmes as they are mixed, the majority (60%) are RN/RM, (30%)
were PK2 trained, and 10% of the RN/RM, had undertaken a degree based training. Nigel Dfsaid "it was easy to grab five minutes to read on the ward in a day if you wish". This point divided the group into those working on for example surgical wards where the weekends were a changeover period that left more free time for ward reading (15%), whilst the remainder said it was difficult to read on the ward unless for some reason the ward was slack. This was a rare or unusual event, as Liz Bf explained: "the only ward reading I did was when we were closed with MRSA, then after a while even that looses its appeal, because we all wanted to be busy. So I would say most nurses or midwives do not in to-days NHS get time to read on duty. The whole patient care picture has changed over the last few years".

It is evident amongst people who read, that the clinical environment did not lend itself to even brief snatches of reading. If their reading did not take place in the clinical areas did they purchase a journal? Of the total (45%) this was either the Nursing Times or Nursing Standard, and a similar percentage subscribed to a specialist journal, the most common one cited was the Professional Nurse. The remainder purchased a third level journal that was discipline related. Taking a journal did not mean it was read, so when asked about what they read, some had to confess that they had several issues untouched because they had been so busy. Martin Cf stated, "I like reading but there are just times when I am so tired I do not read at all, so you could say that I have phases when I read a lot, then no time and the reading rather drifts. I know I should not be saying this but it is the honest truth. I feel most of my colleagues would say the same. But we would always read something if it becomes topical.. Or if I felt I must for work".

The following comment would be a good summary of half the respondents, Beth Bfsaid, "my aim is to pick up my journal each month. I do pick it up when it arrives and scan the titles. If they are not inviting then it does get shelved, even though I try to read it. You cannot read sometimes when you are not motivated, or too tired, or just feel a slouch".

To summarise, the non-ENB 780 attendees read more as a pastime, they all declared that they read a range of books at home. The analysis showed that they read more professional journals, as this was seen not as a chore but an interest. One of the main points made by nearly all the respondents (95%) was that there was a need to read in order to fulfil the PREP requirements. It was easy to identify more lateral thinking staff. They felt strongly that nurses and midwives did read as Godfrey Cf said, "you cannot get
by in nursing today without reading". When faced with this comment they were asked if people do not read would they be able to get by without reading, and still consider they were up to date with practice issues. The answer to the question from all respondents was 'yes', each participant reminded me of the medical staff input. Matthew Cf said: "the doctors' rounds are very informative and even if you do not like them, most of the doctors spend hours chatting at the desk and you would be bound to learn, you just could not help but to learn. Then on most wards nowadays there are care audits, which are conducted, and we get together monthly to review these. I know other wards may not do it so frequently but everybody does it nowadays. it's part of quality assessments. So if you are asking me seriously the answer must be yes".

Vivian Bf, said: "I had not thought about the question but it would be very easy on my ward as there were many medical staff talks that we all attend, they are frequently over lunch. So people regularly come in early as they only last half an hour and they are strictly timed which is good. So staff do attend".

Again professional updating may be via the medical staff, which in it self is not a problem as long as the nurses and midwives consider what their part is in the care team. There is an issue as to whether what they pass on to the students is considered to be nursing or midwifery knowledge. Possibly this is another challenge for the profession with regard to how the profession can enable its members too relate to its own field of knowledge more actively.

In asking about how they determine what they read, most confirmed that they would read most things but obviously they were attracted by the title, if it was impressive or if they were engaged by the abstract. Comments were made about the quality of the articles they read, many of which they felt undermined the intelligence of the nursing or midwifery profession. Equally there were several that expressed a view about articles which they described as being of no use to any practitioner. Lynn Af, spoke at length on this point saying: "where do they get the titles from, how could such rubbish be written let alone be printed? It is no wonder nurses’ do not read? So many articles are not relevant to what we do on the wards everyday, nor do they take into consideration what is practical in our type of hospital. Yes if we had the money, time or the support some things could be tried but we do not live in cloud cuckoo land so why publish such rubbish?"
Sian Af said "I have read a lot of trash under the guise of it being a good article, even in so called good journals, so it is not always easy to judge the article until you have almost read it". Even the level 3 journals were felt not to be immune to publishing 'rubbish'. However, in these journals it was related mainly to research and its usefulness. A common retort was that "I suppose those academics have got to publish, they are becoming as bad as the medical staff" was Ross's thoughts.

The group when talking about their general reading automatically integrated research and general reading. Normally they read only research that pertained to their discipline unless tempted by a title or an abstract. They did consider one could readily apply work from one field to another especially when the topic was generic, for example infection control. However during the course of conversation they agreed that they did apply it automatically without really thinking about it. Joan Bf said "I suppose when I read about pain control I automatically consider it relates to us but I know it could equally be any similar group of patients". In general they all considered that to read research successfully the paper needed to be structured and have not only a good title but also an abstract that extends the title and summarises the paper.

All felt that the statistics should be seen both in and apart from the text, since they considered many of the statistics were not easy to understand. Only a small percentage (25%) considered they were in any way literate when it came to statistics Barbara Df, said "I have no problem with statistics as I did it at 'A Level' but I know most of my colleagues have huge problems". Christine Af made an interesting point in that she said "it depends on how you were taught at school or if you dropped maths at fifteen as most of my class did and I attended a good school so there must be greater difficulty for so many others". This later comment would certainly be borne out by the recent publication on maths teaching in schools (Ruddock 2000). For those who admit difficulty with statistics Stephen Af possibly represented their views in saying: "after many attempts I still have difficulties. I have to always look up the meanings and this is a pain when you are reading. So I often guess I know what is being said, I am sure I am like most people. Also I trust that since it is published it has been checked and must be right. How else did it get there? If I had to do anything with statistics the first thing any sane person would do is find a statistician wouldn't they?"

It would appear that statistics and their understanding is a major problem. Reflecting on the points made in the transcripts there was a definite interest in reading as a hobby and
this spilled over into their professional life. However they did not all feel conversant with the statistical information and preferred wherever possible for it to be in as simple a format as possible, and contained in a well structured paper. So it was not surprising that they all consider it much easier to read and understand qualitative research. Hilary Af stated: "this type of research always appears to be what we are doing, whilst the nursing research which is quantitative is frequently difficult to see what bearing if any it has on our practice. It is not like the doctors' research where the clinical outcome can be of use".

Non ENB 870 Courses
Initially it was easy to categorise the type of courses that these respondents had attended; since they were all University based courses. 90% were research methodology courses, the remainder could be divided into research application and understanding research. All were very similar in format being between fifteen to twenty weeks long. However the credits awarded and the number of assignments varied enormously. A common feature was that attendance was either weekly or fortnightly, and all the respondents had selected the course for that reason. Six had funded their course, and a further four had funded half the course because as they explained it was not what the Trust wanted them to attend. The remainder were funded in the usual way which was the course was paid but attendance was in their own time. No one was unhappy with the arrangements they had made.

A major distinction between these courses and the ENB 870 was that any distance learning material used had a specific purpose. Nigel Df said: "when we were doing directed learning I knew exactly what was expected and what had to be done before the next session. Equally it was always reviewed both in class and in the tutorials so we all understood the material by the end, which is what I wanted". Sian Af supported this comment. According to Martin: "the set work was challenged on our return so we had to do it but we wanted to do it, it was sort of exciting. It was good to have a challenge each week it made you learn and we knew if we did not understand it, we would when it was reviewed. Yes perhaps you could say we were mollycoddled but I would argue that's what research needs if I am to understand it". The distance learning material used in all these courses was 'in house' to the University concerned.
The modules

The study sessions were two hours and very structured according to all respondents, the courses were undertaken at graduate level (85%) and at Masters level. The modules were seen as being well presented. A team of two or three lecturers delivered them, and half had a non-team member to lead on statistics. Each day had a theme and sometimes the theme ran over more than one week. All of the respondents said that the strong element of structure made them feel comfortable when learning a subject. Mathew’s Cf comment was "when you are learning a new discipline there needs to be a structure and a lot of it. So you can see where and what you are working towards". Christine Af mentioned structure in relation to the fact that "in this way everybody learns and nobody falls behind or is dominated by others, everybody has to learn".

In asking what size groups they studied in, there was considerable variation: from ten to forty. However each one interviewed felt the group size was 'ok'. They did not feel that the size was detrimental to their learning. Several stated that their group size enabled good discussion and group work. Most of the respondents (85%) felt their group was a group in the full sense of the word, and that they could approach anybody for help if they had a concern. Lynn Af said, "this was initiated from the first day in the way the course was introduced and the atmosphere created by the lecturers". Rosemary Df said "we had lecturers who were full of enthusiasm so the group was good", which is how Ross Df viewed it "a good group, is a course won". Of the remaining fifteen, half felt the group dynamics did not pose a problem, whilst the other half felt that the group was divided. However they did not think it caused any real difficulties. Joan Bf said, "you just found those people who had like minds and worked with them". So although group size was not an issue what was important was to have a harmonious group in order to maximise what could be gained from the course. As Liz Bf said "the nature of the group is always important but more important is how the lecturers handle a group as they can make or mar the group".

In relationship to the assignments most of them (75%) had undertaken a small-scale literature review, and for their second assignment they had written guidelines for a research proposal or similar type of project, whilst the others produced a tool, most frequently a questionnaire. All reflected on the assignments as being an extension to their understanding and therefore very worthwhile. They all considered they were well supported, tutorials were available. Although they recognised that access required the
student to be committed to go, when attended they were seen as valuable. The main problem was that sometimes notification of the tutorials was at short notice and off duty time could not always be altered. Then it was considered by the respondents that managers were not always willing to be helpful even when they had seconded them, and there was a little concern as to how much their course was being valued. Hilary Af was exasperated when speaking about this issue she said: "you would think I wanted the earth not just a shift changed, they never worried too much when I am late off duty, sometimes it all seems one-sided". The delivery of their module was rated highly by all the respondents.

**Benefits form the course**

All respondents felt they had been given a balanced view of where nursing and midwifery research is to-day. The various methodologies were considered in relation to their application so it was easier to see the link to practice. This introduced the need to consider all methods before making their final choice. It was as Rosemary Df remarked, "it was not 'cut and dried', it had to be worked out logically and a rationale provided".

On the benefit of having taken the course the most common comments centred on the feeling of confidence and being able to discuss issues with medical staff in particular. Barbara Df added: "you feel far more confident to talk to other people about research even if you do not want to be a researcher. You know what the medical staff are talking about so do not look blank, and could challenge their understanding if you had to or it was politically allowable". She later explained that there are some medical staff who will not be challenged or it is considered rude to challenge them. This sentiment was echoed by nearly all the respondents, and extended by Christine Af who said: "I am now able to chat to the medical staff and understand what they are saying, rather than before. I just hoped they would not ask me my opinion since I was not always sure what they were talking about, but as my confidence grows I will also do this".

In relation to their personal achievements on completing the course, all had been involved in helping in research although none had undertaken personal research as the ENB 870 respondents had, most felt this was their next step.
Biographical details of the respondents

It was evident that the non-ENB 870 group held significantly higher academic qualifications. The majority (12) had a Masters qualification and degree qualification at 2.1 and above.

The Focus Groups

The focus groups were set up to explore and expand information gained from the personal interviews. Ten focus groups were arranged, four replicated the ENB 870 interview group and a further four the non-ENB 870 interview group, and the final two were mixed groups from other locations. Each group consisted of a similar mix to the personal interviews, in nursing and midwifery experience. The size varied between six and ten with eight groups being eight in number. The Group chose the venue, and the meeting was time limited to one hour. All groups objected to the discussion being audiotaped. Their main concern was that if the tape was lost and someone else listened to it, their voices are recognised. Initially this was a dilemma, but it was quickly resolved by using the services of a 'speed' writer, and this was acceptable to all the self-selecting respondents.

The process was initiated two weeks before the meeting, by sending the questionnaire. The reason for this was so that they where aware of the type of questions and could withdraw from the focus group if they so wished. No person withdrew. The only two problems during the Group discussions were to complete the task and to keeping to time. The groups were identified in a similar manner to the personal respondents. They were E1-4 to represent the ENB 870, N5-8 to indicate the non-ENB 870 group and the two mixed groups were M9 and M10. The location codes remained the same. The final part of the analysis was to use the focus group information/material in relation to that gained from the personal interviews.

General reading

Beginning with general reading the debate developed almost into an argument, not as to whether nurses or midwives read but what or who would benefit from their reading. The comments ranged from self-advancement to advances in evidenced-based care. In relation to reading the consensus was that the profession as a whole did not read. They only read as de Jong (1998) found if there was an incentive. The non-ENB 870 focus group did not agree with the non-ENB 870 interview group on the point of reading. They
said that more of them would read but they did not feel all read, and that generally they
did not read any differently to the rest of nursing. The comments can be summed up by
E3C: "what is read, if reading occurs is the Nursing Times or Nursing Standard, because
the wards often purchase them, or one of the staff may buy them and leave them on the
wards. Specialist journals are read if left about on the ward by other staff, but this is not
always the same for the Lancet or BMA, if the medical staff offer them, because staff feel
the articles are often not readable".

E1A added: "most of the ward copies are quite old by the time the managers let them out
of the office so the event has passed in relation to the news items and staff do not often
probe further".

N8D, commented: "most days there is no time, gone are all the sessions in the overlaps.
They were good, not a waste of time as the management saw it. We used to have our
journal club then, how can you have one now? It was popular and somehow possibly
showed the need to read. What have we got today? You appear to suggest that there is
an advantage in reading, but it is not obvious. Nobody wants intelligent nurses only pairs
of hands, not thinker".

N6B said: "nobody at the moments wants to do anything. They are all interested in just
keeping going, what with the shortage of staff so many changes. Staff were just too tired
to do anything new. We are getting as cynical as the Consultants as one said the other
day why bother with anything, our hands will soon be tied by so called good practice
directives from the Government! This is the problem nobody at present can see a positive
future".

These comments echoed well the report by Professor Newman (2000) who suggested it
was possibly the best time to make a stance and develop a proactive nursing/midwifery
force. The final comment is left to EB2 to say: "most nurses glimpse and glance and do
not read in depth at all unless on a course. If they read at all it is mainly the Nursing
Standard or the Nursing Times, because they lie on the wards. Today you can get all you
want of the 'NET'. It is only the older staff that read!"

If general reading is a thing of the past because of the lost quiet moments on the ward, it
was interesting to note the response to refereed journals. Here a different pattern emerged
in that the ENB 870 groups felt that what they had said reflected all reading regardless of type, this was not the case with the non-ENB 870 Groups. They agreed almost unanimously that staff read more in their own time and therefore read the level 3 journals at home, because they commented it could hardly be called light reading. ED4 represented the ENB groups in their comment: "quite emphatically you can describe most nurses as opportunistic readers. If the journal is there or time is available they will read. Otherwise they are more likely to read regularly a women's magazine, rather than a professional one unless they are forced to, because they are doing a course or something for management".

Whereas N5B expressed the conviction that: "nurses do read even if it is said we as a profession perhaps do not. Even if we do not speak about it, we do read. You have to remember we work in a team and it would do no good always to be seen as making points, or comments or appearing condemning of your colleagues for not having read, would it?"

There were mixed views regarding the profession and its reading habits. The only true way of establishing whether as a profession we are non-readers or unacknowledged readers is to replicate the de Jong (1998) study, using a far larger group. Similar comments were made in the EBN 870 group when they said most staff view research as not for them, the province of medical staff unreadable, not usable. In contrast, the non-ENB 870 made comments such as reading is thought provoking, worth considering, needs to be borne in mind, perhaps it will be useful in the future. These more positive comments correlated with the non ENB 870 interviews.

This start can be seen as similar to that of other professions, for example education and social work as they moved into understanding the usefulness and application of research within their fields (Parahoo 1999). Although nursing and midwifery may be seen as having a research history which has spanned several decades the populace of the profession would not recognise this fact. For them research is perceived as being recent, barely twenty years, and our progress very much parallels social workers, and falls behind teachers. We do the profession an injustice to compare it to medicine and their longer tradition. What is more important is how and in what direction we move forward today. Some of the basic needs such as general reading, followed by research reading in readiness for the leap into research, have first to be achieved.
Teaching of statistics

All groups were outspoken in their views on statistics. This is possibly best summed up by E1A "why do they need to be presented, just tell us in the text what was found and we will believe you. We do not want to know how you got there". Only six people out of the non-ENB 870 groups felt fully conversant with the statistical concepts, most agreed that it was a constant battle to remember them, as they were not used in practice. The NC7 group ventured: "do we really believe the medical staff know any more about them since most of our doctors get the Trust statistician to work them out and they only ever quote the results not the vagaries of the results? So are we setting up the profession to fail on this issue?"

The comments on the courses

Group members spoke at length about the courses they had undertaken and their merits or otherwise. Most of the ENB 870 groups would support this overall comment from E4D: "the courses have become old hat, lack lustre. Nobody wants to teach them today. They are not exciting enough for the people who should teach them. Those that have done research and are good at teaching do not teach us 'cause they feel it is too lowly. The teacher is getting like the medical staff too grand for the clinically based nurses".

E2B was similar in that they felt "the ENB 870 had become a prerequisite for so many things, grading, audits, other courses. The courses were in danger of being churned out and not meeting the needs of the respondents". EA1 took up the last comment and said, "nobody ever seems to remember a large number of us are not PK2 trained. Are we going to get lost like the ENs?" These groups clearly reflect the comments received from the personal interviews.

In one respect the non-ENB 870 Groups differed from the individual interviews. This is with regarding the overall quality of the courses; some (20%) ranked them as satisfactory. "What they all agreed was that the essentials were organisation and structure, good handbooks and the exercise/practical sessions. These came in for excellent reviews, reflecting the personal interviews. NIA spoke highly of their courses in that: "we had distance learning material, it was good, up to date and used in the exercises so everybody got to understand it.... all the statistical exercises were good, we played with computers inputting data, checking it, changing it, doing simple tests, we learned".

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N4D, agreed: "we had good opportunities, we tried writing questionnaires. It was a bit of a disaster but we learned. The same went for those who chose to do an interview. Now we can appreciate how research can be biased and to be honest / dishonest research, it was good fun".

The use of exercises and practical sessions was rated very highly in these transcripts and as cited before, the personal interviews. If the course is to be successful it needs to be very well designed and interactive, both in class as well as in directed learning.

Key points were the 'group' and the 'teaching strategies'. In relation to the group, two features were important to the majority (95%) of the respondents and these were the size and compatibility of the group. If the atmosphere was good then the group size faded into a non issue. However, if there was a non-group then who could share with whom was an issue, sometime as previously stated overcome by self-help groups. But even these failed at times due to distance, off duty being changed and several other reasons: one being "sometimes it is just two doing the work and the others use the results" a comment made by EC3. The second aspect was linked to the team of lecturers and how co-ordinated they were in their approach to the course. "Where mixed messages were received, the group tended to fall apart" according to E1A, but they also said "that a well structured group was more effective".

The members of the group N8D explored in depth the merits or otherwise of teaching teams as opposed to one teacher. They decided that a course such as theirs or the EBN 870 does benefit from a team approach, as not all lecturers are effective in discussing the wide range of research. The strong recommendation they wanted taken forward was that if the ENB 870 is to survive it needs to be upgraded into a course both lecturers want to lecture on and respondents want to attend. They set out a list of recommendations. Amongst these, were to have groups that were academically similar; commence with stating what the course can and cannot do; use up to date distance learning material with supplementary articles; to cover obscure disciplines to make all respondents welcome and not overlooked; and lastly that all sessions be interactive especially the statistical sessions. A further issue relating to the teaching of statistics is to ensure there is a split between the non-maths group and the mathematically able, to meet all the respondents' needs. Their final comment was that unless the course is reconstructed it would continue for many to be a non-course. Groups 9 or 10 raised similar points.
Medical influence

The main discussion within these two groups, (Groups 9 or 10) was regarding the role of the medical staff in education. As G9 explained: "we are bound to be educated by the medical staff all the time in one way or another because of the rounds, where conversation ranges from one thing to another, not necessarily all related to that patient/client. Then there are all the discussions that go on at the desk which are official but different. You just think of all the discussions that take place in a working day that could be productive. Then on top we meet for clinical reviews, which are always interesting, sometimes educative and sometime amusing especially when the Consultants cross one another. Unfortunately nursing input is very limited on these occasions. We do not appear to have the creditability yet, perhaps if we have nurse consultants it will go one way or the other, working together or all out war! So we can keep up to date in our field with our reading but it would not really enhance our research knowledge".

From this comment it can be seen how the medical staff influence the profession. Equally it can be seen from the following remarks that their influence is wider. Here G10, said: "we may do research on the ward but it is doubtful, it always extends your understanding, mainly because we are asked to do x, y, z, but rarely if ever asked to review the data or know what happens to it. So the activity may occur but the process remains unknown".

In answer to why this is the case, they said “honestly the medical staff do not feel we are capable of going any further, even if you try, what you get told is no, you are needed for this bit, we will tell you later what happened. Unless your title is research nurse you are excluded and even some of them are excluded, so there is frequently no extending of research awareness by clinical ward research”.

G9, summarised how both groups felt in saying: "it will be years before we are accepted and doubtful if ever as equals, more like the house officers, somebody they can get to do all the donkey work and then wipe their boots on them and take the credit. Can you see why there is a lack of interest in research at ward level, and in a lot of units nursing research can only be conducted with the blessing of the Director which for us all is one of the Consultants who is medical again? It will be years before we are a force in our own right. We have put a lot of faith as a profession in Nurse Consultants so let's see if they work".
Biographical details of the respondents
In comparing biographical details of both groups (interviews and focus) they had similar profiles in both the ENB 870 and the non-ENB 870 groupings. It can be said when judging the outcomes against one another that there is a match between these groups.

Reflection on the data
The information gained from the focus groups both supported and expanded points raised by the interviews. It contextualised more effectively some of the points that had been only partially formulated. Some of the key areas, which need to be explored, are the extent to which the profession reads and the way in which they participate in ward research, since these can be seen as ways of enhancing research skills. Also the ways in which the ENB 870 should be changed to become interactive and stimulating to trained staff. The Trusts research nurses and midwives need to become engaged in research at ward level, supporting and supported by the Nurse or Midwife Consultants, who together could become a force for change. They should be visionaries in relation to the research that can be conducted, and leaders of the profession, to enhance the professional knowledge base and provide quality evidence-based care.

Conclusion
This third phase confirmed and built on the results from the first two phases. However, when the phases are taken together each increases the value of the individual result and contributes to a fuller understanding of how nurses and midwives gain their research skills. The next step is to examine the issues raised and consider what recommendations should be made.
Chapter 7

Discussion and critical analysis
DISCUSSION AND CRITICAL ANALYSIS

Introduction
This study has been seeking to discover the ways in which nurses and midwives gain their research skills: understand published research and how they translate this knowledge into practice. However when discussing it achievements it is equally important to consider critically limitations.

First Phase
The first phase scrutinised published research over a fifteen-year period and then compared it to the research published in 1999. Although one journal was used for the detailed and extensive review, it was compared with other journals to consider whether there were comparable changes. *Journal of Advanced Midwifery* was chosen, as this would reflect a specialist perspective. *Nursing Research* and *Nurse Education Today* were considered to reflect more generalist content. Then the years examined were 1980 to 1995 with 1999 as the comparative year. In considering this phase in the light of computer access and an 'Athens' account it would undoubtedly be conducted differently. This flexibility would allow more journals to be included and therefore broaden the selection. In hindsight particular years could be targeted following events or changes. This may not offer any different conclusions but it would strengthen the validity and reliability of the phase.

The findings in the years up to 1990 indicated that reading research was difficult if one did not understand the language. This was particularly noticeable between 1990-1995 when the written style changed under the influence of academia and became almost incomprehensible to the practice-based nurse or midwife. This short phase soon gave way to a more readable format. Most articles were written in the early period by the professorial strata or the immediate lower level of the nursing/midwifery hierarchy. This has changed marginally, and in 1999 76% of the published research had authors who could thus be similarly described. Although these points are important the analysis could have looked at the style of writing more critically in order to consider whether some of the formats were more successful than others. This could then be used when helping new writers to publish articles that will be read.
It could hardly be claimed that this study brought about the consideration by editorial teams to publish a wider range of research studies. However, the *Journal of Advanced Nursing* now helps to promote good research, which is poorly presented and in need of refining, in order to be published by buddying the author with a peer (from the panel of reviews) who is willing to guide them in their presentation skills. This action will increase the authorship and possibly the geographical spread. It was evident from comments received in the second and third phases that the format in which research is presented needs to become user friendly, so that the article produced engages with its audience. To do this, readability needs to be addressed by both the publishers and the research authors, since it is in the interest of the authors to disseminate their work.

**Second Phase**

This phase investigated how the nurses and midwives gained their skills and whether marked differences appeared between certificate, diploma or degree level education programmes, length of experience and research modules/courses undertaken. The result shows an increase in research skills amongst nurses and midwives who held a diploma or degree. As all newly registered nurses and midwives will hold these qualifications in future and it could be said a gradual change has begun. However they will not be the majority of the work force for many years to come. Although this phase was conducted over three years, this is too short to reflect the total picture it would be more relevant to the profession if the study were to continue to see if the indicated changes become manifest. The results from this study could be used positively to move the profession forward as the exact direct would have been located. So one could criticise this phase as not being long enough to establish reality rather than trends.

Brink and Wood (1994) suggest that natural curiosity leads to research and explore why is there a professional difficulty. They say: "as ever since the first person said, 'There must be a better way', human beings have been asking questions about the universe and trying to improve the quality of life. The invention of the wheel, the electric light, and the automobile all resulted from painstaking thought, trial and error, problem solving, and research to find that better way. The same is true of new surgical techniques and new drugs - both are products of a need to improve the human environment. The purpose of research is to answer questions, whether they arise from practical need or simple curiosity", (p.2).
Ackerman (1997) stated: "nursing research has become a major force in changing nursing practice by solving practice problems and by increasing the body of nursing knowledge" (p.11). Both these statements indicate the importance of research in nursing and midwifery practice. Nurses and midwives are constantly working with changes and using research. Therefore they need to understand how they are being influenced and are they being influenced correctly. They need to be discerning readers according to Bowling (2002).

The analysis in this work clearly illustrates that both nurses and midwives learn about research from a variety of sources. However, the study shows the depth of knowledge and understanding is very variable regardless of certificate/degree qualification. All the avenues used must link in order to develop and strengthen research skills in nursing and midwifery. No single direction or approach is successful. Many approaches are needed for those who have not achieved a good research foundation to progress through their professional life. However one criticism that could be levelled at the study is that it did not look at the skills to consider which if any was the most influential factor to the learning of these skills.

Third Phase
This phase undertook to explore the issues with staff who had already undertaken a research module or unit to consider how a positive way forward could be achieved. The respondents' experience enabled them to reflect on the progress achieved and the possible way ahead. In this phase the interviews and the focus groups corroborated the comments from the second phase. From the discussion, ways in which research skills could be achieved, maintained, supported and extended were suggested and explored. These ideas are now probed namely, the educational programmes, the role of the research nurses or midwives, specialist practitioners and collaborative ventures. Perhaps this phase could have usefully engaged the focus groups to design their ideal pathway to equipping practice-based nurses or midwives to gain their research skills. It was an opportunity missed.

The future of the ENB 870
The course for trained nurses and midwives to undertake in order to increase their research skills is the ENB 870, because it is the one commissioned and recommended by the ENB most Trust have purchased it. Also it became an integral part of many courses
and all conversion courses (from EN to RN). However, this study suggests that it has not achieved its desired aims, though it did appear to reinforce the knowledge of those nurses and midwives who already had good basic research awareness. This was particularly evident in those whose nursing or midwifery education was at diploma or degree level. Where the ENB 870 did not appear to meet its aim was in enabling the majority to develop an acceptable level of research awareness/skills. It is noteworthy that such an important initiative as trying to skill a profession in research has not been formally evaluated. What was discovered was that many did gain skills during the course. The study could have delved into what the participants had retained and what was lost as this would help with remedial work.

The study gathered much criticism in relation to the ENB 870. For example when being asked about the teaching strategies, several respondents said, "they were just so dull, boring but we knew we had to know it, so you got down and learned it after the sessions. We learned as a group, not from the sessions, no interaction, not positively taught". There is a need for the whole approach to become more interactive. The main problem expressed was retention of skills. There appear to be two main features to be addressed. Firstly it might be that the nurses or midwives have not understood the concepts either as a result of the poor quality of teaching or other factors such as the students' reason for undertaking the course (being sent). Secondly, and possibly far more important, were the many comments relating to the fact that if the knowledge gained was not used then it was lost. A third point, which arises from this last comment, is where the responsibility lies for enabling the skills to be retained, the member of staff or the system. These points would have benefited from a greater degree of exploration. By possibly changing the emphasis of the questionnaire or using a second one to pick up on these points in particular. Likewise it could have been affected by interviews of Focus groups.

This cliche comment was received many times 'if you don't use it you lose it'. Frequently the respondents would comment on the lack of opportunity to use their knowledge. Comments were made as follows, "nobody was interested in what I had learned or had to say, it was as if I had never done the course. I think they feel threatened by my knowledge so I was not able to use what I had learned and now I cannot remember it very well and soon I feel not at all. They consider I am too junior to understand why they are talking about research. The medical staff just ignore me if I want to say something, so why did I bother. Sister told me it was not my place to say that the research they were
using to make changes was not very good, I was told to shut up and get on with my job". The issue raised here is about the role of the nursing and midwifery hierarchy, but it cannot be considered without looking at the influence of the medical hierarchy, and the way in which senior levels engage. Various studies such as Caroll et al (1997), Walsh (1997) Routledge et al (1997) and Murphy (2000) have considered how these barriers should be removed, but so far the professions appear unwilling to heed their comments. If this culture is to change it cannot be left to a single course which, it has been shown some respondents only completed in order to gain promotion. Another way forward has to be introduced. The role of the research nurses needs to be expanded to meet these challenges. The innovations made in primary programmes should be transferred to post qualification programmes. Possibly the study could have looked at the influence that research nurses have already exerted on the profession, unfortunately there are so many avenues if one follows this pathway.

**Improvement of research awareness**

The results of the study suggest the need for change and there are some initial questions the profession has to address. Firstly and foremost the level of knowledge required by practice-based practitioners. The profession needs to decide whether every nurse and midwife has the potential to become a leader, to be inspirational and innovate within their clinical area. If they are all expected to be visionaries then they need to understand research at Masters level. If not, then the basic level of the research knowledge needs to identified. Every workforce must have its leaders and those who wish to be led. The level of research awareness that is the benchmark for practice-based nurses or midwives should be established.

Perhaps staged benchmarks for the profession could be considered, for example every nurse and midwife should initially:

- be able to read research reports with understanding
- be able to explain the application of research to practice
- be able to discuss research studies when considering changes to clinical protocols and procedures
- be able to debate with medical staff research pertaining to their clinical area.

**Nurse and Midwife Education Programmes**

Research is still not always seen as a distinct subject but only as an integral part within diploma/degree programmes or even post-graduate degree programmes so to establish it as a defined subject may take some considerable time to accomplish. Many degree
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programmes do not have a separate research module looking at the broad issues of using/understanding why different methodologies apply. Most use research to illustrate subject material. Personal communication with Mr. Anthony Smith (October 2000) (as was the) Chief Executive of the English National Board for Nursing, Midwifery and Health Visiting said that the Board did not specify 'pure' research to be taught as a subject, but that the elements of research were included in each programme. Of more concern is that several Master's programmes do not contain research as a subject since it is expected the person will already have achieved the required level. Clifford (1997) said that the UKCC's (as was) lack of standardisation across educational programmes has caused many problems in what is taught in relation to research. She said "the level at which students learn about research varies across centres with some academic courses focusing on developing skills in critiquing research and consideration of the application to practice, whilst others take students through the full experience of proposing and developing a project", (p.119). The consequence of these omissions is that there are many senior professionals who may not have a comprehensive knowledge of research. This being the case, there is an issue about how can they support junior staff, or enable them to retain their research awareness skills.

**Setting a Benchmark**

Findings suggest that the profession has a clear obligation to devise benchmarks for research awareness at many levels, from the practice-based nurse and midwife to the new consultant nurses and midwives. Nurses and midwives may still ask why research is necessary, as they consider they have practised without this field of knowledge successfully to date. There are three main reasons why it is important that nurses and midwives develop this skill. Firstly and foremost must be that over the last twenty years clinical practice in all areas has changed considerably. The application of technology has not only transformed our understanding of conditions and diseases it has radically altered our perceptions of what can realistically be achieved both surgically and medically. Secondly nursing and midwifery have begun to produce their own fields of knowledge. Finally the search for evidence-based care no longer allows our practices to remain parochial. It has to incorporate both national and local evidence. Gunn (1998) in his paper about evidence-based practice highlighted "greater accountability in practice, both as to quality and cost, from which the movement toward evidence-based practice, the identification and benchmarking of best practices, and the development and implementation of clinical practice guideline has evolved", (p.177).
Moving research awareness forward - Lecturers and Research

If the comments in relation to teaching strategies from the study are to be considered then the way forward must begin with the lecturers who teach and facilitate research. The profession over the last twenty years has been both coming to terms with the need to do research, use research and teach research without the resources. Now resources need to be committed to this area. In the first instance all staff who teach research should meet together to learn different teaching strategies, and consider how they could mould research teaching to the student group. Facilities could be made available for teaching staff to join research groups. Those who undertake research should teach in order to develop enthusiasm in research.

Twenty years is a very short period in which to make these major changes. The profession both needed to participate in research and teach it, which presents a major problem. This presented difficulty for the nurses and midwives who were doing the research and possibly learning on the job, also to be the teachers and facilitators. They were engaged actively in their role, which left little or no time to teach what they were absorbing. Consequently, research was being taught initially by lecturers whose knowledge could possibly be limited and in some cases only academic. This desire to kick-start the profession into research was the only logical way forward at that time. The evidence is that many nurses and midwives undertaking these early programmes became misinformed and disillusioned, considering research a waste of time or only for the medical staff and elite nurses and midwives. Clifford (1997) in her paper said that there was a need for clarification and evaluation of research teaching. The best ways to teach research and give a meaningful experience to students needed to be explored in order that they would eventually be able to contribute to research and evolve new nursing practices. Clifford (1997) continued to say that no longer could nurse teachers ponder the merits of research because they will be judged on the quality of their research activity now they are a part of higher education.

Nearly fifteen years on, there is still an issue about those who teach research being well versed in the subject. Although the study conducted is limited it would suggest that this is not the case. There are several people teaching research whose only knowledge comes from textbooks. Two lecturers said, "I had to teach the subject because nobody wanted to do it and I did not want to let the students down. I taught it because I thought I should be able to, it's not my area but here everybody has to teach research".
Immediate action would be as a profession to value the teaching of research and ensure those who teach have research skills. Secondly, invite current researchers to facilitate sessions so that the teaching of research becomes alive and influences in practice can be registered. When lecturers become skilled in teaching research perhaps at the same time it could become a more interactive subject, instead as seen by many recipients as "something you have to live through, boring and difficult, not to go the sleep in". Research concepts have to be learned, so instead of stating what they are it would be better for students to develop these skills alongside exploring the subject.

Using interactive sessions are a more natural approach for nurses and midwives as they are skills orientated, and most of the in-service training they attend is to extend or develop new skills. Amongst the objections to this approach is the need to rewrite the materials enabling this facilitation. A second issue, the need to reduce the number of attendees, no longer could vast numbers be taught, but small numbers could be facilitated. Another aspect would be to enable the lecturers to develop the skills to operate in this way. It would then be feasible to see research increasing its profile, establishing evidence-based care through expanded nursing and midwifery knowledge.

**Innovations in teaching research**

Teaching innovations, the findings suggest that we have been very slow making these moves. Selby and Tuttle (1988) suggested there was a need to evaluate teaching strategies in relation to research teaching and that this was a major priority. They went on to consider the need to use experimental designs and actively engage student participation as one of gaining awareness of research and its application to practice. However, recent literature would suggest that changes have taken place, Burrows and Bailie (1997) looked at diploma students' use of relevant literature and research in relation to practice. The strategy they used was based on journal clubs and presentations to develop these key skills. This active participation appeared to find favour with the students. As one student commented, "it helps put theories into practice" (p.44). This initial work would lead on to the work described by Moule et al (1998) where the students presented posters they had designed. Two groups of students participated in the project, those in training and those undertaking the ENB 870 courses. This experience of developing their posters allowed crucial research literacy skills to be obtained. Their conclusion was: "the poster presentation, when used as a teaching strategy, has proved valuable in developing research awareness skills and in harnessing enthusiasm for research, evident in the
diligent approach taken by students. All had found the exercise time-consuming... this early exposure to learning research in an innovative way had fostered positive feelings toward a subject that can easily be dismissed as irrelevant and boring", (p.240-1).

Another positive way of teaching research is cited in the paper by Tetley and Glover (1999). They described how they developed a range of experimental exercises allowing the student to explore research concepts in a meaningful way. They used four different activities that allowed students to collect data. These were firstly a specific experiment, designed to be simple but to cover the classical elements of an experiment, one was to do with 'drinking coffee'. The next method was a survey, looking at attitudes to smoking; the last two were interviews and observations in relation to specific subjects, which included the coffee experiment. They concluded by saying "whilst our classroom evaluations have been positive, it must be noted that this approach to be used successfully, requires the teacher to update materials on a regular basis. Moreover, the demands made of the teacher by the active participation of the students both physically and emotionally can also be challenging for a novice teacher. Nevertheless, we have found using an experiential approach to teaching nursing research meaningful and enjoyable for both students and the authors", (p.168). This type of teaching strategy must be more effective in enabling the students' permanent learning. Duggleby (1998) explored this type of learning in the paper where a group of students were looking at the value of nursing research. The students were divided into two groups, one gained oral histories from retired nurses, looking at the emergence of the profession whilst the other did not. In the pre and post testing those who had actively participated in research had a more positive attitude towards it. Duggleby (1998) concluded that: "the collection and analysis of oral histories was an effective experiential learning strategy with positive outcomes for the students", (p.247).

Hitchcock and Murphy's (1999) article related an innovative approach to the teaching of undergraduate research to American students. They involved them in a project related to the faculty. The students became data collectors in a project looking at the health perceptions of lay people. Once the data were collected and analysed they explored the clinical relevance of their findings. They stated that the project fostered positive attitudes towards nursing research and increased the students' understanding of the whole process. So it was considered a successful venture and one to be continued.
Allinger et al (1997) described how they used a national data set on CD-Rom for teaching graduate nursing research. This contained the National Health Interview Survey, the Longitudinal Study of Ageing, and the National Hospital Discharge Survey. The students were given set tasks, which they undertook using a computer at home or in college. The framework for the exercises was the SPSS computer package. Each exercise enabled them to answer a research question by secondary data analysis. They reported positive learning as a result of this method. They concluded by saying "that National data on CD-Roms are an inexpensive, rich data source for nurses and allows flexibility for students and faculty", (p.20). Possibly the lack of spread of this type of initiative is due to limited resources since it would need access to a computer suite. The lack of awareness of these CD-Roms, is surely because they are not made available as they are in other countries (Allinger et al 1997). However, the profession could be perceived as unwilling to change, as change requires preparation. Tetley and Glover (1999) commented that new initiatives not only require time for preparation but change has to be undertaken every time the subject is taught as research is not static but a developing field.

An American study by Thomas et al (2000) described the use of the Internet as an effective tool for researching. They outlined their methodology in relation to women's perceptions of breast health education and screening. Women were invited to visit their website and complete a questionnaire, with all the usual guarantees. Their conclusion was that: "these investigators found the Internet to be an appropriate medium for health-related research that also garnered national and international media interest", (p.13). This use was foreseen by Royle et al (1997) when they described access to information. They said the rapidly developing field of information technology, including the Internet, provided the potential for sharing resources and expertise. The use of such systems will minimise barriers and subsequently lead to improvements in patient care because these new links would allow integration of knowledge and new knowledge generation. So these new technologies by virtue of the fact they are here, should be included in future research teaching.

More recently, Reeves and Pryce (1998) evaluated the effectiveness of inter-professional teaching and learning opportunities for undergraduate medical, dental and nursing students; the Department of Health commissioned the project. Unfortunately, they found that stereotypical attitudes towards status demonstrate cultural, professional and institutional problems that have to be overcome before this type of teaching is accepted.
Despite the identification of problems, this way of teaching students should enable greater collaboration in research.

Pre-Registration Programmes

Even the pre-registration programmes came in for criticism in the study showing a need to review teaching methodologies. We have to address how students that come into nursing and midwifery have been educated within our secondary education system. There needs to be good understanding of the system and entry routes, A level, Baccalaureate or B.E.T.C (equals 2 A levels must take six subjects) in devising programmes. Students undertake many projects using computer programmes and many other types of interactive material and this experience should be consolidated in their pre-registration programmes.

Several comments from students confirmed the need for change. One noted that: "I came straight from IBM and could not believe it would be so old fashioned, the good thing was that it only lasted three years. Why are we not considered as adults, other University students have this privilege? Why do we have such dry lectures when nursing is skilled?"

Many students considered they were not allowed to be adults. These interviews and questionnaires were conducted with qualified staff who had at least two years experience.

These programmes may change again in the near future so that all nurses and midwives are graduates on registration and this may have an impact on their research training. Graduate nursing programmes have existed for more than twenty years and the number of programmes increases yearly. In considering an all graduate profession one has to heed the evidence from America some States have 80% graduates where others hover around the 50% mark. One of the reasons cited for this is that America continues to allow overseas nurses to register who do not have a graduate background. Another reason why is the sheer number of nurses in practice, twenty years is only half a working life (AMA 2001). Australia commenced its programme of graduate training in 1982, and they have not achieved their expected target, and are not sure when the profession will become all graduate (ANF 2001). Perhaps the nearest profession to achieve all graduate status is teaching (DoE 2000)

If consideration is given to pre-registration programmes and how the knock-on affect might relate to the teaching strategies in such programmes, then Master's programmes
must also be included. Many nurses and midwives undertake such programmes today without a basic degree or with an unclassified degree and research, as a subject should become mandatory. These nurses and midwives may then progress to be the next generation of lead and consultant nurses as a Masters Degree is a requirement in many Units. They should have a deeper knowledge of research than just research awareness. It will be from these staff that the practice-based nurses and midwives will gain their support, and this will be critical if nursing and midwifery knowledge is to develop, along with evidence-based care. The profession must set standards.

**The Research Nurses and Midwives**

For over twenty years hospitals have employed research nurses and their roles have been as diverse as the number of hospitals. The role has ranged from activating research to data collection. However, the vast majority initiates research and develop potential researchers. This role has greatly expanded with the creation of the research and development directorates within each NHS Trust. It is important to assess how practice-based staff view the role of the research nurse. The role and workings of research nurses differ from organisation to organisation some having autonomy over their role whilst others have directed work. If the profession is to move forward, develop and increase skills amongst its nurses and midwives then the role of the research nurse needs to become an influential one.

The first requirement is for a research unit, run and led by nurses and midwives. The numbers in each Unit must be sufficient to cover the needs of the Trust within which they work. The Trust would then empower them to undertake a role within research that are both demanding and fulfilling. Firstly, they would link to all the clinical areas, making themselves not only known but a part of the updating system, leading sessions within staff/team meetings so that they could facilitate discussion on the latest research within that clinical area and how it impinged on practice. Secondly, they would join the ward staff when they were reviewing protocols and procedures to ensure that they were looking in the right direction for underpinning evidence when supporting continued practice or changing practice. They would not be the lead person or the source of the information but act in a facilitating role.

The research nurses and midwives could be invited to ward-based research meetings. This close relationship would enable them to identify areas for investigation. They may
then form a research team to explore the feasibility of the research and with the clinical area lead the project. Engagement with the clinical area are a two way process. This would enable staff to develop research awareness, and those who have undertaken a course could use their newly found skills in a positive light. Over a period of (years) evidence-based knowledge would not only be developed but grow, be evaluated and change.

Another important area that could be exploited would be the hospital Intranet. Here the research unit could set up a web page and send out information to all wards as general messages but also to specific wards. One research nurse using an Intranet said "if you really want something read if you specify a clinical area you could be sure the majority will read it, nurses are naturally curious people". As nurses and midwives become Intranet users, then not only information can be accessed, but so also they can add information about new initiatives within their clinical area. Initially perhaps the students may be more proactive users. Then the trained staff would become aware of their deficits and most would want to correct these omissions and programmes could be designed to add learning at all stages. Providing the atmosphere remains one of mutual respect for each other's role then these educational programmes are seen as non-threatening.

This type of innovation within nursing and midwifery requires Government support. Trusts may consider that as this type of unit does not exist in other professional areas within the health service the importance for nursing and midwifery needs to be articulated. The benefits of such input would enable: updated care practices, the ability to self regulate preventing outmoded practices, whether within this profession or other professions. However, more importantly, in the light of professional changes, this active collaboration between the research nurses, lead nurses and consultant nurses (midwives) would maintain a clear identity within the profession.

**Nurses Specialists as disseminators of research**

Over the last three decades specialist practitioner nurses have evolved a role in many areas. Nearly every field has specialist nurses or midwives whether in relation to care as with the diabetic nurse or counselling as with the dental nurse. There are specialist nurses, practice nurses, practice development nurses, lead nurses, counselling nurses, breast feeding midwives, postnatal midwives and a small elite army of Consultant nurses.
They all have a role in relation to extending the practice-based nurses' research awareness.

Another post created is that of research and development officers as described by Browne (1998). His paper explored the role requirements. The role should incorporate many facets that encourage not only the use of research but also personal professional development. The role of the research and development officer covers the following areas, firstly circulating journals to clinical areas, and enabling access to research data bases. Secondly, teaching skills so that nurses and midwives could become involved in multi-professional audits and research. Thirdly, helping staff with their research in both the preparation and the execution of the total project. Browne (1998) states the merits of the role but does not explore how such a person would link with all the other researchers.

There is an issue as to whether there is a need to create this post or whether this role should be incorporated within that of the research nurse or midwife. In trying to resolve a now accepted problem there is a danger of creating too many solutions.

There are posts called research co-ordinators in some NHS Trusts whose role appears to be similar to that described by Browne (1998) and they appear to mirror the American system. The problem of employing one person in such a role is they can become isolated, and there is a need for networking together across NHS Trusts. An American paper by Ecklund (1999) described how there was a need to establish a network between such people. This link is required where people work as individuals so that it would provide a forum for personal education, problem solving, benchmarking performance and mutual support, all of which are difficult to achieve as a single person. These networks are a valuable structure for a research nurse and midwife. However, another part of networking should be the nurse or midwife teachers.

University links.

The changes that relate to the transference of nursing and midwifery education into higher education brought with it other consequences. One, which has been a major point of debate over recent years, is the role of the link lecturer. Prior to amalgamation most lecturers were in regular contact with their clinical area, enabling attendance at clinical meetings and constant linking in many ways. This activity has been drastically reduced over the past ten years. Even the decision by the ENB that 20% of the lecturers' working week should be engaged in clinical practice has not been established, as what is defined
as clinical practice is very vague. So this well-established link is in danger of being lost. It is a valuable source of enabling discussion on many issues and keeping alive the need to assess continual clinical practice in a formalised way, which allowed research papers to be explored. It is now time to decide what the future of this role is. It may be that this can be satisfied in other ways, which have and are being developed in the form of practice educators. Now is the time to reassess this link and consider its value to strengthen research awareness.

**Conclusion**

In seeking to discover the ways in which nurse and midwives gain their research skills it can be seen that it is a very complex process. Various issues have been considered, and how they affect/influence the development, retention and improvement of research skill has been investigated. The recommendations are now to be considered.
Chapter 8

Recommendations
RECOMMENDATIONS

Introduction
The profession needs to identify firstly what research skills does the profession want each nurse and midwife to possess at each level. Once established a new interactive course can be designed because this study has clearly shown that nurses and midwives require interactive teaching strategies in order to gain meaningful skills. They appear not to be naturally book learners unless stimulated. The change in teaching strategies requires the correct type of teaching and the ability to prepare, which in itself has implications for resources.

Secondly, a much needed initiative is to start this process possibly from the Government to show commitment to the profession in a similar manner as recently occurred in Social Work in relation to the research initiative (CSW 1998). In the light of all the new initiatives that the nurse and midwives will be called to undertake over the next five years as the inter-professional barriers fall, this call needs to be heard. Stevens and Valiga (1999) looked at the national agenda for research in nursing education in America. They said "that there was a need to focus nursing education research efforts on discovering the core of knowledge needed to bridge education and practice as we move into the 21st century", (p.167). Perhaps a consolation is that the UK is not alone in this quest, therefore if we strengthen international links we can work together to increase research awareness in practice.

Nursing and Midwifery Research Units are being established with each Health Care Faculty (Cooke and Green 2000), so here is another opportunity for the University to work in partnership with the NHS areas it serves. There is a need to strengthen existing links with the Trust Research Nurses and the Trust Lead Nurses so that this collaboration will produce evidence-based care and new nursing and midwifery knowledge. The Research nurses and midwives, Lead Nurses, Consultant Nurses could develop a folder on the Trusts intranets and this link would enable 'practice-based' nurses and midwives to be aware of current internal research and how it is affecting local practice. It would also stimulate a more active dialogue, as most professionals are more interested in what happens within their own sphere and their own Unit. Using the Intranet in this manner will stimulate staff, as in the future this is the way to access new knowledge. This alternative use of new media for most staff may develop or strengthen reading habits.
Additionally, it is anticipated that the consultant and research nurses and midwives will become directly involved in the development of clinical research, which will become incorporated into procedures and protocols, which lead to evidenced-based care. Teaching strategies need be devised to use this media. They could be evolved to teach research skills in an acceptable format for a profession and to develop skills that are retained.

There are strong reasons for splitting lecturers into those with clinical and academic roles. The clinical lecturers would enhance and support new research activities. The publication in February 2001 of the 'Preparation of Mentors and Teachers' which was a joint document by the English National Board and the Department of Health set out 'A New National Framework of Guidance' to achieve this objective: "From September 2001 there will be one teaching qualification recorded by the regulatory body for nursing, midwifery and health visiting in respect of the lecturer and/or the practice educator qualification. The two roles will have equal standing and the new arrangements will enable individuals to move between the role of lecturer and the role of practice educator", (p.12).

"The practice educator is part of the team that links with the HEI and has unique opportunities for integrating theory and practice, initiating and using research in practice and developing practice for improved patient/client care in a multi-professional context", (p.150).

This development will contribute towards nurses and midwives gaining and strengthening their research skills. Following this announcement the next step must be for all these new groups to network (practice educators, research nurses and midwives, consultant nurses and midwives and lecturer practitioners). This could be a major step forward in recognising nursing and midwifery as a true profession since there is a growth in new knowledge, which will be translated into quality evidenced-based care. In moving forward it is hoped that when reading journals we will not read "Research has suggested that there is need for improvement in current media coverage of women's health", (Barrell 2001 p.5), the research will be cited and the issues raised explored as the profession will make these demands.

HEIs can contribute to the process by ensuring all post graduate degree programmes and Master's programmes have at least one core module in research, especially as the Master's
degree qualification is to form a pre-requisite for Nurse or Midwifery Consultant posts in most Confederations.

A final recommendation is that all publishers support the principle of the JAN Editorial team to enable good research that has been not been written to an accepted publishing format to be supported and published. This would widen the authorship base.

**Dissemination of the findings.**

Firstly all the participating NHS Trusts have asked for a copy of the summary and recommendations. In this way dialogue can be established, and an offer made to present the findings at a study session has been made and accepted by some of the Lead Nurses. Several respondents and their individual managers have asked to be made aware of the results, and this has been accomplished. This will enable discussion at the practice-based level, which is where the changes must be directed.

The English National Board, requested a copy the thesis, and the comments in relation the ENB 870 have been passed on to the replacing organisation the Nursing and Midwifery Council. The Royal College of Nurses, Royal College of Midwives and the Journal of Advanced Nursing have requested a copy of the summary and results since they were very involved in the initial part of the study in relation to the questionnaire distribution.

Locally the findings have been made available to colleagues involved in producing and teaching on these modules. It is intended to publish the results, therefore making them available to a wider audience.

**Conclusion**

The study set out to explore how nurses and midwives gained their research skills since these skills are required to enable care to be evidenced-based. The results indicate that the next step is to set up a project, which developed the clinical research input of the consultant nurses and midwives. This would then allow exploration as to whether this support for the practice-based nurse and midwife enabled or increased the retention of their research skills, and ultimately promoted evidenced-based care.
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Appendix 1

ENB 870
THE NATIONAL BOARD FOR ENGLAND

AN INTRODUCTION TO THE UNDERSTANDING AND APPLICATION OF RESEARCH

Course Number 870

Post Basic Nursing Studies
CONTENTS

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PREFACE

The course is an introduction to the understanding and application of research for nurses and midwives. It should be seen as a starting point for continuing and increasing research awareness. Central to this should be the development of an analytical approach to care given by nurses and midwives. It is believed that research into clinical practice, organisational management and education are applicable to all aspects of nursing and midwifery. During the course, course members will be given the opportunity to focus upon their particular interests.

"While, as in other professions, the active pursuit of serious research must be limited to a minority in the profession ... a sense of the need for research should become part of the mental equipment of every practising nurse or midwife".

It is emphasised that this course is NOT designed to prepare nurses to carry out research.

AIM OF THE COURSE

To enable nurses and midwives to develop further interest in and understanding of research and to appreciate its value and implications for their work.

Objectives of the course

As a result of this course the nurse should be able to:

1. examine her own work, identify problems within it, or areas in which knowledge is lacking, make a case for research which can be passed to nurse managers for action and have the ability to discuss problems with researchers,

2. use a library effectively, identify sources of research related to nursing in her own field, locate relevant material and read it with understanding,

3. describe in general terms the stages involved in carrying out a piece of research and be familiar with key research and statistical terms and concepts,

4. evaluate research reports and discuss their implications, assess the relevance of the reports for the care and treatment of patients/clients in the nurse's own field of work, separating the research data from the researcher's opinion.

5. base her own nursing practice upon appropriate research findings, identify the information needed for decision making and be able to make a case based on evidence for changing (or not changing) a given situation,

*Report of the Committee on Nursing, paragraph 370.
6. look critically at established practices related to patient/client care and be prepared to promote change when this is appropriate,
7. encourage research awareness and an analytical approach to work in other nursing staff,
8. recognise and judge the ethical aspects of proposed research involving nurses and patients/clients,
9. give informed consideration to requests by researchers for access to patients/clients, staff and records,
10. state the purpose of ethical committees and the processes to be undertaken by researchers to have their proposed studies sanctioned,
11. collaborate with researchers (nurses and others) and give them appropriate assistance.

GENERAL INFORMATION

This is a course of study which can be based in an educational establishment such as a school of nursing, university, polytechnic or other college of higher or further education.
Nurses completing this course will be awarded a Certificate.

Entry Requirements
This course is for Midwives, or Nurses whose names are entered on any first level Part of the Register of the United Kingdom Central Council for Nursing Midwifery and Health Visiting, i.e. Parts 1 (RGN), 3 (RMN), 5 (RNMI) or 8 (RSCN).

Length of the Course
The length of the course shall be the equivalent of 40 days, spread over a period of not more than one academic year.

Planning the Programme - Teaching and Practical Application
Prior to and/or early in the course the needs of each course member should be assessed, discussed and a study plan agreed, according to the individual's interests and requirements.
The programme should be so planned that the previous experience of each participant may be utilised by other course members. Opportunity should be given for course members to identify problems in their own sphere of work, and to select an appropriate topic(s) in which they can, for example: - carry out a literature search and write a review, produce a critique of a research report develop plans for the practical application of research information, document a reasoned argument for research priorities in the course member's own working arm prepare a research proposal in outline.

The course shall include a preparatory study block of at least 4 days during which course members will be introduced to the philosophy of the course. The framework of knowledge to be gained will be established during this introductory period. The course shall end with a consolidation study block of 4 days. The remaining study days shall be spread over not less than 24 weeks and shall include help and guidance to course members in their private study and in applying theory to their practice.

Maximum use should be made of seminars, tutorials, discussions and individual or group assignments. Lectures should be used only when considered the most appropriate form of teaching. It should be emphasised that the course is an introduction to a way of thinking which should continue after the course is completed, so that course members will continue to develop their expertise in: - reading and appraising research reports, participating in research being carried out in their working situation, implementing changes based on research as appropriate, specifying in objective terms the problems associated with their practice, encouraging staff, for whom they are responsible, to become aware of the importance of research in their day to day work.

**Holidays** Course members will be entitled to their normal leave whole undertaking this course. It is recommended that some holiday should be given about half-way through the course. Holidays should be arranged to fit suitably into the overall pattern of the teaching programme.

**Library and Other Resource Materials**
The centre shall provide access to a wide range of relevant books, journals, occasional papers and research material, published and unpublished. A selected pre- and in-course reading list shall be prepared for the course members' use.
The following list of books, reports, papers, other useful references and an annotated bibliography is not definitive but indicates source materials for both course organisers and course members.

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The English National Board for Nursing, Midwifery and Health Visiting,
Victory House,
170 Tottenham Court Road,
LONDON W1P OHA

November 1987
Appendix 2

Letters
15 August 1996

Susan Sepseel
12 Sayer Way
Knebworth
Herts
SG3 6BN

Dear Ms Sepseel

Thank you for your letter dated 25 July 1996 which has been passed onto myself for reply from the editor of *Journal of Advanced Nursing*.

I can confirm that we would be happy to grant you permission to reproduce the contents pages and the first page of the article from various issues of *Journal of Advanced Nursing*, subject to the full acknowledgements of source and on condition that the material is used for reference purposes only.

I hope you find the above information of assistance.

Yours sincerely

[Signature]

Tracey Davies (Mrs)
Offprints and Permissions Assistant
e-mail tracey.davies@blacksci.co.uk
Ms. Nora Flanagan,
Director of Nursing,
St Albans & Hemel NHS Trust,
St. Albans City Hospital,
Waverly Lodge,
Waverly Road,
St Albans,
Herts. AL3 5PN.

Dear Ms. Flanagan,


Each NHS Trust has many staff who have undertaken the ENB 870 ‘Research Awareness’ course over the past ten years. However, there appears not to have been any formal evaluation of this programme and how it has advanced the nurses or midwives in gaining their research skills.

For my M.Phil. I have been looking at how nurses and midwives gain their research skills. Over the last three years I have used a questionnaire to gauge nurses and midwives thoughts about research and its application to practice. This has identified several questions that I would now like to follow up.

So I propose to select at random staff who have undertaken their ENB 870 within the University of Luton, during the last two years to discover how they feel they have acquired their research skills and what influence the ENB 870 has had on this acquisition.

Within each Trust I would like to select between 3-5 students, to glean answers to the questions identified from the questionnaires. The interviews I hope to commence in November, and will run through to next February.

So am writing to ask if I may have your permission to complete this phase of my study, amongst your staff. If so will I require R&D, and or Ethical committee permission?

On completion of my M. Phil would you like a copy of my results.

My Supervisor, is John Paley, who can be contacted at the Research Institute at the University of Luton.

I hope that you will feel this is a worthwhile project, and that you could support this phase of my study.

Yours sincerely,

M. Susan Sapsed.
Senior Lecturer in Midwifery and Women’s Health.
Dear Ms Sapsed,

Thank you for your letter dated 17th October. I can confirm that you could have access to the Board’s archived files held at Kew. Should you have any other queries then either Meryl Thomas, Director, Midwifery Education and Practice or our Archivist, Mrs Grainne Anthony on 020 7391 6235 would be more than pleased to help you. As you may know Meryl is based at our Bristol office, the address and telephone number below.

English National Board for Nursing, Midwifery and Health Visiting
1st Floor
Goldsmiths House
Broad Plain
Bristol
BS2 0JP
Tel No: 0117 9259143

Yours sincerely

ANTHONY P SMITH, CBE
CHIEF EXECUTIVE

F:\USERS\LADWARDN\DOCS\LETTERS\23rd October 2000.wpd
23 October 1998

Dear Susan

Re: Research Project

Thank you for writing to me about your ongoing research and I would imagine that we would be delighted to participate in your data collection. However, we would ask you to submit an application for ethical consideration prior to commencing this project within Wellhouse.

I have, therefore, attached an application form and would like to invite you to return it to me as soon as you feel able. I will then process it in the usual way here and get back to you as soon as I can.

If you have any queries do get back to me.

Yours sincerely

Marie Batey
Senior Nurse - Nursing Developments
23 October 1998

Dear Susan

Re: Ethical Approval for Proposed Research Study

Thank you for your recent enquiry regarding ethical approval for your proposed study.

Please find enclosed a form consisting of a wide range of questions which might or might not be relevant to your specific project. It has been designed to enable you to structure your answers in an appropriate way and to facilitate the Group’s ability to efficiently interpret the proposed study. As it must be used to form the basis of your application it is strongly suggested that each section that applies to your study is filled in completely or appended.

Where research is being undertaken in part fulfilment of a programme of study, it is anticipated that a supervisor will be appointed to offer students academic support. It is also expected that where independent research is being undertaken (which is not part of a programme of study) such supervision is sought either within the Wellhouse NHS Trust or a higher education establishment. In either instance, the name and signature of this supervisor must be included.

Your Nurse or Midwifery Manager should also be made aware of the proposed study before your application for ethical approval is made. Their name and signature must be included on the application form.

Your application should be either word processed or typed and a copy should be retained by you as the original will not be returned.

Five copies should be submitted no later than (date to be decided by you) 1998 to:

Marie Batey, Senior Nurse - Nursing Developments
Directorate of Nursing and Operations
Barnet General Hospital.

We look forward to receiving your application.

Yours sincerely

Marie Batey
Senior Nurse - Nursing Developments
NOTES OF GUIDANCE ON THE COMPLETION OF THIS FORM

Please complete all sections of the front of this application form and then in no more than two sides of A4 paper please provide the Wellhouse NHS Trust Nursing and Midwifery Research Group with the following information:

- The title/provisional title of the proposed study
- The background to the proposed investigation
- The aims and objectives of the proposed research
- The intended methodology/research design
  - Provide a description of the data collection tool(s) you plan to use and relate details of how such instruments will be administered
- Details of the proposed sample
  - Include information related to the intended sample size and describe the proposed sampling strategies to be used
- Potential discomfort or hazards for subjects
  - Outline what potential discomfort or hazards there may be for the research subjects and describe in detail what preventative steps will be taken
- Confidentiality
  - Describe how the research subject(s) will be identified in the study (named, coded or otherwise) and provide details of who will have access to this information
- Consent
  - Explain who will seek consent from potential subjects and describe how this will be achieved. If written consent is to be sought please append the informed consent form. If verbal consent is to be sought please append details of what other information will be made available to the potential subjects
- Details of data collection strategies, storage of data and proposed methods of analysis
- The anticipated timetable for completion of the study
  - A gant chart or flow diagram may be helpful
- Proposed methods of disseminating results and recommendations for practice

Reference

**WELLHOUSE NHS TRUST**

**NURSING AND MIDWIFERY RESEARCH GROUP**

Application for Ethical Approval of Proposed Research
(adapted from a standard application form devised by Doyal³)

<table>
<thead>
<tr>
<th>Researcher Name:</th>
<th>K. MUSAC EASGED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher Address:</td>
<td>DEPARTMENT OF MIDWIFERY &amp; WOMEN'S HEALTH, UNIVERSITY OF LUTON, LUTON, LU1 3EX.</td>
</tr>
<tr>
<td>Current Post and Clinical Area:</td>
<td>SENIOR LECTURER IN MIDWIFERY &amp; WOMEN'S HEALTH</td>
</tr>
<tr>
<td>Professional Qualifications:</td>
<td>BA HONS. MSc. COM RM RM</td>
</tr>
<tr>
<td>Name(s) of other Investigators:</td>
<td></td>
</tr>
<tr>
<td>Is this investigation being undertaken in part fulfilment of a programme of study?</td>
<td>Yes ☑ No ☐ (tick box)</td>
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<tr>
<td>If &quot;Yes&quot; please include the name of the course and the academic establishment:</td>
<td>UNIVERSITY OF LUTON.</td>
</tr>
<tr>
<td>Research Supervisor:</td>
<td>Name J. H. LAHEY</td>
</tr>
<tr>
<td>Signature</td>
<td></td>
</tr>
<tr>
<td>Nurse Manager:</td>
<td>Name J. J. BURDEN</td>
</tr>
<tr>
<td>Signature</td>
<td></td>
</tr>
</tbody>
</table>

Notes of guidance on the completion of this form are on the reverse
27th October 1998

Miss M Susan Sapsed
Midwifery and Women's Health
Faculty of Health Care and Social Studies
Luton University
Luton and Dunstable Hospital NHS Trust
Lewsley Road
Luton
Beds

Dear Miss Sapsed,

Thank you for your letter of 20th October and I think the topic that you have selected for your M.Phil. is an interesting one and I have no problems supporting this within our Trust.

I do not feel that it needs to go to our Ethics Committee and I would suggest that if you do select people within this Trust, I will drop them a note to say that I have agreed the initial contact with them. It is then up to the individual nurses to decide whether they want to proceed.

Yours sincerely

Vicky McIntosh
Lead Nurse
Clinical Effectiveness Department
Trust Headquarters
Colindale Hospital
Colindale Avenue
London
NW9 5HG

Tel: 0181 200 1555 ext 3631
Fax: 0181 205 6062

Ref: Sapsed/Im/db

3 November 1998

Ms M S Sapsed
Senior Lecturer in Midwifery and Women’s Health
Luton & Dunstable Hospital NHS Trust
Lewsey Road
Luton
Bedfordshire
LU4 0DZ

Dear Ms Sapsed

Thank you for your letter of 20 October regarding your research proposal for your M. Phil. I have no objection in principle to your contacting any BGCT students and I would be very interested in the results of your research. It does, however, occur to me that this proposal may need to be submitted to the Ethics Committee and I suggest you contact Dr Stephen Farrow at Barnet Health Authority for further advice.

Yours sincerely

Linda McQuaid
Head of Clinical Development
3rd November 1998

Susan Sapsed,
Senior Lecturer in Midwifery & Women’s Health,
University of Luton
Park Square,
Luton, Beds.

Dear Susan,

Re: Interviews with past ENB 870 students

Further to our conversation yesterday, I am writing to confirm approval for you to undertake an evaluation of nurses within the Trust, who have completed the ENB 870 at Luton.

I understand that you have been undertaking a study into Nurses and Research over the past 3 years, as part of your M.Phil.

I would be happy for you to contact and interview those who you identify as appropriate, providing this is done with their personal consent and in confidence.

I would appreciate confirmation of those who you wish to contact and would also be interested in your report once your M.Phil is completed.

If I may be of any further assistance, please do not hesitate to contact me.

Yours sincerely,

Julie Goodwin,
Deputy Director of Nursing

cc: Nora Flanagan, Director of Nursing
4 November, 1998

Ms. S. Sapsed
Senior Lecturer in Midwifery and Women’s Health
Faculty of Health Care and Social Studies
Luton and Dunstable Hospital NHS Trust

Dear Susan,

Thank you for your letter dated the 3rd November 1998 regarding undertaking a research project to review the ENB 870 ‘Research Awareness’ course.

I support your proposal and I am sure there will be no problem in your selecting staff to take part in your survey.

I have copied your letter to Sheena Moffat, General Manager for Maternity and Children’s’ Services, Eilish Kennedy, Clinical Manager, Midwifery, and Izabel Dodd, Clinical Manager, Midwifery, for information.

It will be helpful if you would send me a copy of your results as I am sure Bedfordshire Consortium could use your findings and recommendations for non-medical education and training.

Yours sincerely,

Susan Osborne
Director of Nursing and Quality

Cc  Mrs. S. Moffat
Ms M Susan Sapsed  
Faculty of Health Care and Social Studies  
University of Luton  
Luton & Dunstable Hospital NHS Trust  
Lewsey Road  
LUTON  
Bedfordshire  
LU4 0DZ

11th November 1998

Dear Ms Sapsed,

Thank you for your letter dated 3rd November, addressed to Ms Debra Otte. In response to the question posed, I would have no objections to you interviewing members of our staff who have recently completed the ENB 870, provided of course they themselves are happy to do so.

It would be useful to receive a copy of the results of this work and I look forward to this.

Yours Sincerely

Nigel Ingram  
Assistant Director of Nursing

An NHS Trust Hospital
20 November 1998

Dear Ms Sapsed

Re: Proposed research

Thank you for your letter regarding this issue.

I look forward to receiving your application form for ethical approval. Please do not approach any of the nurses at Wellhouse NHS Trust seeking their inclusion in this study until you have received full ethical clearance from us.

Yours sincerely

Marie Batey
Senior Nurse - Nursing Developments
Our Ref: SRA/GMA/AM

23 November 2000

M S Sapsed
12 Sayer Way
Knebworth
Herts
SG3 6BN

Dear Ms Sapsed

Further to your recent request for information about the research content of pre-registration nursing education programmes and the ENB 870 programme I have been able to identify some reference material which may be of use to you.

The UKCC published Project 2000: A New Preparation for Practice in 1986 and the first programmes commenced in 13 demonstration districts in 1989. P2K programmes were gradually rolled out to all other educational institutions and this was complete in 1995.

All educational institutions develop their own curricula for pre and post-registration programmes based on regulations and guidance from the statutory bodies. The way in which research awareness is incorporated in the curriculum will vary between institutions. The Board's guidance for current pre-registration programmes can be found in:

ENB 1994: Creating Life Long Learners
partnerships for care

ENB 2000: Education in Focus
Strengthening Pre-registration Nursing and Midwifery Education

I enclose copies of:

GNC 1977: A Statement of Educational Policy

ENB 1983: Education Policy

ENB 1989: Project 2000 - A New Preparation for Practice
Guidelines and Criteria.....
There is a reference to research awareness in nursing education programmes in the Report of the Committee on Nursing 1972 (Briggs Report) pages 108-110. You will also find reference to research in pre-registration programmes in:


The ENB 870 programme was introduced in 1987 and I have enclosed a copy of the outline curriculum, you may find the preface useful. Again this is guidance on which educational institutions base their own curricula. Also enclosed is a copy of:


I have not been able to find any evaluation of the ENB 870 programme.

I trust that this will be helpful.

Yours sincerely

[Signature]

Grainne Anthony
Manager
Student Records and Archives Department
25th November 1998

Susan Sapsed
Senior Lecturer in Midwifery and Women's Health
Faculty of Health Care and Social Studies
Luton & Dunstable Hospital NHS Trust
Lewsley Road
Luton
LU4 0DZ

Dear Susan

Thank you for your letter of 19th November.

We will await the names of any nurses who you wish to interview on site so that we can notify them.

Yours Sincerely

Vicky McIntosh
Lead Nurse
Emily Murugiah  
Delivery Suite  
Bedford Hospital  
Bedford.

09.12.1998

Dear Sue

Thank you for your letter dated 19th November. I do understand that this course needs to be evaluated (ENB 870).

However, I regret I am unable to participate due to personal commitment. However, I will be happy to assist in future.

Yours sincerely,

Emily Murugiah.
Dear Colleague,

May I ask you if you would be kind enough to complete the following questionnaire? It will only take five to ten minutes. The completed questionnaire can be placed in any of the boxes at the exits.

The questionnaire is related to how nurses and midwives gain their research skills.

The reason for my request is that I am currently undertaking a literature search into nurses and midwives research.

Your answers would enable me to build a picture of how the profession gains these skills. So your answers will help me to see if changes are required. Since acquisition of these skills will enable the profession to continue to build its own body of knowledge and create more evidenced-based care.

Thank you for your time and help.

M. Susan Sapsed.
Senior Lecturer in Midwifery and Women’s Health
University of Luton
Dear name added

date added

I am writing to ask if whether you would participate in my research study, which is looking at how nurses and midwives gain their research skills. I understand you have recently completed the ENB 870 course, with the University of Luton.

Therefore I am asking if you would feel able to meet with me and discuss how you consider you have gained these research skills. I have gained permission from Ms Julie Goodwin, Deputy Director of Nursing to approach you, so I hope this is alright.

The interview will be confidential the material would only be accessed by myself and my supervisor John Paley. Please note that at any time you may ask for your contribution to be withdrawn from the study.

The interview will be at your convenience, and can be conducted in the evening, apart from Tuesday and Thursday, when I am teaching.

May I ask you to let me know how and when to contact you, to make the appointment. The interview takes about 30 minutes. I would like to undertake your interview between the 3rd and 20th of February, if this would be possible.

I look forward to hearing from you. My home number is 01438 811485. I have a rather abrupt BT answer phone. If I am not at home would you let know how I may contact you.

However if you feel unable to participate please would you also let me know.

Yours sincerely,

M. Susan Sapsed.
Senior Lecturer in Midwifery and Women’s Health.
Enc. Reply envelop
Dear Agnes,

Thank you, for your letter, I am sorry you feel unable to participate in the evaluation of the ENB 870.

I do understand the pressure that clinical staff are under. However, may I ask if you have a few minutes you could spare could you just jot down any thoughts about the ENB 870?

The reason for asking is to try and make this consultation as wide as possible. Even a sentence or two would be helpful.

So that future course design can be planned to incorporate any comments you may make.

I have enclosed and envelope.

Once again thank you for your reply.

Yours sincerely,

M. Susan Sapsed
Senior lecturer in Midwifery and Women’s Health
Dear Jackie,

7th December 1998.

Thank you, for your letter, and our conversation on Saturday. I look forward to meeting you on Friday the 18th December.

I shall arrive at about 10pm, and wait until you are able to be free.

I would also be very pleased if there are another staff on that evening that would be willing to give me their thoughts on the ENB 870.

So that future course design can be planned to incorporate any comments you may make.

Once again thank you for your reply, perhaps you may be able to shed light on why I have received so few, when we meet.

Yours sincerely,

M. Susan Sapsed
Senior lecturer in Midwifery and Women’s Health
Appendix 3

A prototype for integrative review and meta-analysis of nursing research.
A prototype for integrative review and meta-analysis of nursing research.

Authors - M. C. Smith and E. Stullenbarger

Integrative review and meta-analysis of nursing research (coding form: master)

Study citation

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<tr>
<th>SPSS name</th>
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<td>Values columns</td>
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Methodological characteristics

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<td>Publication date (write in)</td>
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<td>SOURC</td>
<td>Source derivation 1. Index 2. Issue</td>
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<td>NAUTH</td>
<td>Number of authors 1. One 2. Two or more</td>
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<td>Funding for study (write in)</td>
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<td></td>
<td>*Recode (random/ randomised, convenience)</td>
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<td>Sample size: Total (write in)</td>
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<td>Quality of study</td>
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Substantive characteristics

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<td>1. Infants</td>
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<td>2. Children</td>
</tr>
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<td></td>
<td>3. Adults</td>
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<tr>
<td></td>
<td>4. Don't know</td>
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CCEN

Client gender
1. Female
2. Male
3. Both
4. Don't know

CSOC

Client socio-cultural orientation
1. Black
2. Caucasian
3. Mixed
4. Don't know

CSES

Client socio-economic status (write in)
Assign codes (by level)

CEDU

Client educational level
1. Less than high school
2. High school graduates
3. College graduates
4. Mixed or 5. Don't know

CDX

Client diagnosis (write in)
Assign codes (by diagnosis)

CHE

1. Client health event
2. Prevention
3. Treatment

SETTING

Setting
1. Hospital
2. Clinic
3. Home
4. Hospice
5. Long-term facility

NTHEORY

Nursing theory (write in)
Assign codes (by theory)
0. No 1. Yes

NONTHEO

Non-nursing theory (write in)
Assign codes (by theory)
0. No 1. Yes

CONCEPT

Concept/construct (write in)
Assign codes (by concept)

TOPIC

Topic (write in)

HUMRESP

Human responses
1. Self-care limitations
2. Impaired functioning
3. Pain/discomfort
4. Emotional problems
5. Distortion of cognitive function
6. Self-image changes
7. Developmental strain or Interpersonal relation
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<td>Self-care requisites</td>
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<tr>
<td>NURSIT</td>
<td>Nursing situation</td>
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<td>NURSORT</td>
<td>Nursing orientation</td>
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<tr>
<td>INTNDX</td>
<td>Intervention effectiveness: Nursing diagnosis</td>
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<td>Intervention (write in)</td>
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<tr>
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<td>Instrument used (write in)</td>
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<tr>
<td>INCATI</td>
<td>Indicator category</td>
</tr>
<tr>
<td>INREI</td>
<td>Indicator reactivity</td>
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### SELFCAR
1. Universal
2. Developmental
3. Health deviation

### NURSIT
1. Life cycle
2. Recovery
3. Illness or undetermined origin
4. Genetic/developmental
5. Active treatment
6. Restoration/stabilisation
7. Death and dying

### NURSORT
1. Physiologic
2. Psychological/Psychosocial
3. Developmental and life events

### INTNDX
1. Knowledge deficit
2. Ineffective coping
3. Compromised protective mechanisms

### INTER
1. Teaching
2. Other

### SYMPMGT
1. Altered comfort
2. Altered nutrition
3. Impaired mobility
4. Altered elimination
5. Sexual dysfunction
6. Ineffective ventilation
7. Alterations in circulation

### COST
1. Yes

### INSRUM
Assign codes (by instrument, or just list)

### FIND
Finding (write in)

### INCATI
1. Physical

### INREI
1. Physiologic
2. Objective test
3. Investigator-constructed instrument
4. Observer ratings
5. Self-report
(21 Substantive variables, X, X, findings)
Computational values

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<td>Sample size: Control (write in)</td>
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<td>MEANC</td>
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<td>pooled variance estimate</td>
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<td>P-value (write in)</td>
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Quality of study instrument

Elements and requirements

1.0 Introduction
1.1 Justification for study
1.2 Conceptual framework
1.3 Statement of problem or purpose
1.4 Critical review of research
1.5 Methodological issues
1.6 Hypotheses or study questions stated
1.7 Operational definitions

2.0 Methodology
2.1 Design described
2.2 Control of validity threats
2.3 Sufficient sample size
2.4 Representative sample
2.5 Data collection procedures described
2.6 Instrument validity described
2.7 Instrument reliability described

3.0 Data analyses and results
3.1 Statistical treatment
3.2 Data presentation
3.3 Results related to problem and/or hypotheses
3.4 Findings are substantiated by methods used

4.0 Conclusions and recommendations
4.1 Discussion related to background and significance
4.2 Conclusions logically derived from findings/results
4.3 Recommendations consistent with findings
4.4 Alternate explanations advanced
Appendix 4

Audit Enquiry Template
Audit Enquiry Template

Initial Details
Identification of individual papers
Date of article
Page number in Journal
Number of Authors
Country of the paper

For each author
Occupation
Speciality
Sex
Country of origin
Additional details - background

Methodology (each)
Named methodology
Declared Design
Type of survey
Type of experiment
Type of ethnographic work
Tools used
Additional details related to the tools
Other

Sample (each)
Type of sample
Sample size
Specialist sample
Type of respondents
Age of respondents

Analysis (each one identified)
Stated analysis
Specified test
Displayed statistics

Subject for each group
Type of discipline/group investigated

Sites (each site)
Number of sites used
Type of sites

Purpose of the research
Nursing knowledge
Nursing practice
Other aspects

Additional details related to the research
General remarks
Appendix 5

Version 1 - Questionnaire
Version 1

Please would you tick the answer of your choice.

1. Which Professional Journals do you usually read?
   (a) 
   (b) 
   (c) 
   (d) 

2. How frequently do you read these journals? Please tick the most appropriate box.
   
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<th>Weekly</th>
<th>Monthly</th>
<th>Irregularly</th>
<th>When information is required</th>
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<tr>
<td>a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td></td>
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<td>c</td>
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<tr>
<td>d</td>
<td></td>
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</table>

3. Which articles do you normally select to read?
   (a) General topics
   (b) Discipline related
   (c) Current debates
   (d) Educational
   (e) Others

4. How do you select the article to read?
   (a) By title
   (b) By Content
   (c) Abstract
   (d) By topic
   (e) By discipline e.g. Gynaecology / Coronary care

5. Having selected an article, do you usually
   (a) Read it all through
   (b) Skim read
   (c) Select areas to read

6. Once having read the article, do you
   (a) Keep a note of its reference
   (b) Keep a note of the article
   (c) Neither

7. Do you read the research Regularly?
   (a) Weekly?
   (b) Monthly?
   (c) Irregularly?
   (d) Only when information is required? If what nature?

8. Which Journals do you read for your research?
   1
   2
   3
   4
9. Which research articles do you normally select to read?
   (a) General topics
   (b) Discipline related
   (c) Current debates
   (d) Educational
   (e) Others

10. How do you select your research article to read?
    (a) By title
    (b) By Content
    (c) Abstract
    (d) By topic
    (e) By discipline e.g. Gynaecology / Coronary care

11. Having selected an article, do you usually
    (a) Read it all through
    (b) Skim read
    (c) Select areas to read

12. Once having read the article, do you
    (a) Keep a note of its reference
    (b) Keep a note of the article
    (c) Neither

13. When reading a research article, do you prefer it to be?
    (a) Structured by headings
    (b) Structured by format
    (c) Neither

14. Where statistics are presented, do you prefer these to be?
    (a) Presented separately as diagrams but discussed in text
    (b) Presented separately as diagrams but not discussed in text
    (c) Presented in the text only

15. How do you prefer the descriptive statistics to be presented?
    (a) As tables
    (b) As bar chart
    (c) As pie charts
    (d) As frequencies
    (e) As graphs

16. Which of the following of tests listed below could you explain to a student nurse / midwife?
    (a) t-test
    (b) F-test
    (d) chi squared test
    (e) Spearman Rank correlation coefficient
    (f) Pearson's Product Moment correlation
    (g) Mann Whitney U test

17. When reading research, do you understand what the following terms mean?
    (a) Nominal
    (b) Ordinal
    (c) Interval
    (d) Ratio
    (e)
18. Could you describe the use of the following terms to a student?
   (a) Probability
   (b) Normal Distribution
   (c) Standard Deviation
   (d) Correlation

19. Of the following which do you have an understanding of?
   (a) Non Parametric
   (b) Parametric
   (c) ANOVA
   (d) Degrees of Freedom

20. Do you always take time to understand the statistical analysis in each article that you read?
   Yes
   No
   Sometimes

21. Is it possible to understand completely a research article without understanding totally the statistical analysis?
   Yes
   No
   Sometimes

22. When you read research articles, what do you hope to gain out of them?

Present professional profile

Discipline in which you work:

Number of years since you qualified:

What is your present Grade/position:

Do you work: full time part time Bank hours

Have you completed the ENB870 course

Yes No

In which year did you complete the ENB 870

19

The ENB 870 course you attended were you offered the place

used as a refresher course

sent

ENB 870 - How would you rank your level of participation in the sessions?

High

1 2 3 4 5 6 7

Low

ENB 870 - How would you rank your course?

Excellent

1 2 3 4 5 6 7

Very Poor

Or have you completed a similar course to the ENB 870

Yes No
Can you give me the name of the course / module

In which year did you complete this course 19

How would you rank your level of participation in the sessions?

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How would you rank your course?

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The course you attended were you offered the place requested to go used as a refresher course sent paid for your self

Have you participated in research in your ward / unit Yes No

If yes, how would you describe you participation?

How would you describe the research:

Please add any comments that you think would be useful to the study.

Thank you, for completing the questionnaire.
Appendix 6

Version 2 - Questionnaire
Version 2

Please would you tick the answer of your choice.

1. Which Professional Journals do you usually read?
   (a) 
   (b) 
   (c) 
   (d) 

2. How frequently do you read these journals? Please tick the most appropriate box.

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<th>Weekly</th>
<th>Monthly</th>
<th>Irregularly</th>
<th>When information is required</th>
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3. Which articles do you normally select to read?
   (a) General topics
   (b) Discipline related
   (c) Current debates
   (d) Educational
   (f) Others

4. How do you select the article to read?
   (a) By title
   (b) By Content
   (c) Abstract
   (d) By topic
   (e) By discipline e.g. Gynaecology / Coronary care

5. Having selected an article, do you usually
   (a) Read it all through
   (b) Skim read
   (c) Select areas to read

6. Once having read the article, do you
   (a) Keep a note of its reference
   (b) Keep a note of the article
   (c) Neither

7. Do you read the research Regularly?
   (a) Weekly?
   (b) Monthly?
   (c) Irregularly?
   (c) Only when information is required? Of what nature?

8. Which Journals do you read for your research?
   1
   2
   3
   4
9. Which research articles do you normally select to read?
   (a) General topics
   (b) Discipline related
   (c) Current debates
   (d) Educational
   (e) Others

10. How do you select your research article to read?
    (a) By title
    (b) By Content
    (c) Abstract
    (d) By topic
    (e) By discipline e.g. Gynaecology / Coronary care

11. Having selected an article, do you usually
    (a) Read it all through
    (b) Skim read
    (c) Select areas to read

12. Once having read the article, do you
    (a) Keep a note of its reference
    (b) Keep a note of the article
    (c) Neither

13. When reading a research article, do you prefer it to be?
    (a) Structured by headings
    (b) Structured by format
    (c) Neither

14. Where statistics are presented, do you prefer these to be?
    (a) Presented separately as diagrams but discussed in text
    (b) Presented separately as diagrams but not discussed in text
    (c) Presented in the text only

15. How do you prefer the descriptive statistics to be presented?
    (a) As boxplot
    (b) As tables
    (c) As bar chart
    (d) As pie charts
    (e) As scatterplot
    (f) As frequencies
    (g) As graphs

16. Which of the following of tests listed below could you explain to a student nurse / midwife?
    (a) t-test
    (b) F-test
    (c) w-test
    (d) chi squared test
    (e) Spearman Rank correlation coefficient
    (f) Minitab test
    (g) Pearson's Product Moment correlation
    (h) Mann Whitney U test
17. When reading research, do you understand what the following terms mean?
   (a) Nominal
   (b) Ordinal
   (c) Interval
   (d) Time
   (e) Ratio

18. Could you describe the use of the following terms to a student?
   (a) Probability
   (b) Progression
   (c) Normal Distribution
   (d) Standard Deviation
   (e) Correlation

19. Of the following which do you have an understanding of?
   (b) Non Parametric
   (c) Parametric
   (d) LANOVA
   (d) ANOVA
   (e) Degrees of Freedom

20. Do you always take time to understand the statistical analysis in each article that you read?
    Yes
    No
    Sometimes

21. Is it possible to understand completely a research article without understanding totally the statistical analysis:
    Yes
    No
    Sometimes

22. When you read research articles, what do you hope to gain out of them?

**Present professional profile**

Discipline in which you work:

Number of years since you qualified:

What is your present Grade/position:

Do you work: full time part time Bank hours

Have you completed the ENB870 course

Yes No

In which year did you complete the ENB 870

19

The ENB 870 course you attended were you offered the place requested to go used as a refresher course sent
ENB 870 - How would you rank your level of participation in the sessions?

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EJB 870 - How would you rank your course?

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Or have you completed a similar course to the ENB 870

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Can you give me the name of the course / module

In which year did you complete this course 19

How would you rank your level of participation in the sessions?

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How would you rank your course?

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The course you attended were you offered the place requested to go used as a refresher course sent paid for your self

Have you participated in research in your ward / unit Yes No

If yes, how would you describe you participation?

How would you describe the research?

Please add any comments that you think would be useful to the study.

Thank you, for completing the questionnaire.
Appendix 7

Conference Poster
Conference Poster

How do Nurses/midwives gain their Research Skills?

Help me find the answers.

What can you do?

Two ways of helping:

By completing the questionnaire in your Conference pack, and leaving it in the boxes at the exits.

By chatting to me during the Conference or E-mailing me at susan.sapsed@luton.ac.uk.

May I thank you for your help,

M. Susan Sapsed,
Senior Lecturer in Midwifery and Woman’s Health,
University of Luton.
Appendix 8

Profile of Interviewees
Profile of Interviewees

All names have been changed to ensure anonymity and preserve confidentiality.

ENB 870 Interviews Biographical details

Beverley
Present professional status
Discipline
Status
Year of qualification
Number of years in practice
Grade or equivalent
Completed ENB 870

Newcastle
Staff Nurse
Medicine
Full time
1985
15
G
1999

Carole
Present professional status
Discipline
Status
Year of qualification
Number of years in practice
Grade or equivalent
Completed ENB 870

Luton
EN to Staff Nurse
Surgery
Part-time
1986/1999
1
E
1999

Cepta
Present professional status
Discipline
Status
Year of qualification
Number of years in practice
Grade or equivalent
Completed ENB 870

London
Staff Nurse
SCBU
Part-time
1968
32
G
1998

Jackie
Present professional status
Discipline
Status
Year of qualification
Number of years in practice
Grade or equivalent
Completed ENB 870

Luton
EN to Staff Nurse
Medicine
Part-time
1989/1999
1
E
1999

Mary
Present professional status
Discipline
Status
Year of qualification
Number of years in practice
Grade or equivalent
Completed ENB 870

Luton
Staff Nurse
Theatres
Full time
1975
30
E
1999
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**Manchester**

- **Kate**
  - Staff Nurse
  - Medicine
  - Full time
  - 1990
  - 10
  - E
  - 1999

- **Simon**
  - Charge Nurse
  - A and E
  - Full time
  - 1990
  - 10
  - G
  - 1998

- **David**
  - Staff Nurse
  - Day Surgery
  - Full time
  - 1996
  - 4
  - F
  - 1999

- **Sally**
  - Staff Nurse
  - ENT
  - Full time
  - 1988
  - 12
  - F
  - 1998

- **John**
  - Staff Nurse
  - Orthopaedics
  - Full Time
  - 1990
  - 10
  - F
  - 1998

**NON-ENB 870 Interviews**

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Critical Review

To critically review a personal study is an enabling process that allows consideration on how the whole study was prepared, conducted and its achievements. The technique of reflection appears to cover this process. Boyd and Fales (1983) described reflection as:

- complex and deliberate process of thinking about and interpreting experience in order to learn from it - a conscious process.

and noted that:

- reflective learning is the process of internally examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of self, and which results in a changed conceptual perspective, (p.101).

Alternatively Burns and Bulman (2000) describe the process by saying: 'Reflection on experience is a pathway that is worth pursuing for its lead in the right direction: toward an education where nurses learn to understand the meaning of their experiences, toward a profession that values its practical expertise, towards a research tradition that has a language that adequately expresses nursing work and finally towards a discipline whose knowledge is not only embedded in nursing practice but can be expressed in new and transformed ways', (p.22).

Will this reflection achieve these aims? The study is explored using three cue questions from John's model (2000)

- What was I trying to achieve?
- What were the consequences?
- How do I now feel about this experience?

Introduction

The first question to reflect on is possibly the most important when considering the success of any study. Should I have undertaken it? What was my reasoning? Did I have the right credentials to conduct a study? Why was I doing it? The answers are mixed it grew from the failure of the previous study and the unanswered questions.

The only obstruction to the previous study commencing came from the medical staff within my own field. Both Trusts were supportive of the study, as was the English National Board and the Department of Health, all of whom had been involved from the
beginning. The study was to look at how consent was gained, because at that time over
75% of the complaints revolved around patients/clients saying they did not know why 'X'
had happened (1995 Audit within both Trusts). Neither ethical committee would accept
the study because they considered there was be no benefit to the patient/client and it could
be seen as encouraging litigation. Those working during the planning stages wanted the
study to be undertaken without ethical committee 'blessing' although this would not have
been acceptable.

In response to the rejection the Consultants who were actively involved were
disappointed. They did indeed write to the ethical committees when I decided that I
would have to give up the study since it would appear no ethical committee locally was
willing even to allow even a small-scale pilot to be conducted. This was an intellectual
experience. My negotiation skills which were put to the test on more than one occasion
by the medical and nursing staff in relation to presentations and preparing for R&D. The
Ethical Committees required both the written and oral presentations. So the up and
downs of the process were learnt.

So why was I doing it again? During the previous planning stage I had discovered
considerable discrepancies in the senior nursing and midwifery staffs knowledge and
skills in relation to research. This set me thinking if at this level there were gaps what of
practice-based nurse and midwife? So I would have to say I continued mainly because I
was left with questions that still needed to answer. Therefore it appeared to be a logical
step to look at these issues. In particular the comments, which I had received time and
time again, which related to the fact that research was impossible to read and understand.
Also, even if they supported the research outcomes the medical staff would not allow
their uses: they like their own ways best, was the usual comment.

**What was I trying to achieve?**

**Initial planning.** Moving on from the previous eighteen months was difficult. While
visiting, talking and working with so many nursing and midwifery staff in relation to a
research study it has enabled consideration to be given to how do staff gain research
skills? This concern was discussed with my peer group, other researchers and my
supervisor to ascertain whether it could form the basis for a worthwhile study. Finally the
decision was made to explore the idea in more depth.
Examining the ways to take the study forward caused many hours of spider-graphs. From the maze of patterns the first tentative step was taken, a plan developed, which considered how could a study, be constructed and carried out? An immediate reality was that if the study was to be successful it would necessitate staging, one stage feeding into next. The stages could not to be finalised or set in concrete apart from the first one, which was seen as essential. In that this stage would audit of research articles to evaluate the comments received during the setting up of the first study. This was fundamental to the study, because it produced a platform and direction for the other stages. The second stage was left fluid as there appeared to be many directions the study could take. What was established was the need for a geographical spread in order to see if what appeared to be a local issue was more widespread. While it was easy to suggest geographical locations this aspect could not be firm up until the second phase was to be planned. However, the sites were selected represent district general hospitals, specialist units and mixed units, so covering the diversity of nursing and midwifery population. The final stage would be firm up during the second stage.

**Phase One - Enquiry Audit**

The first part quickly became known as phase one and would comprise of an Enquiry Audit. Research articles were reviewed in this stage against a set of criteria, seeking answers to some of the questions/comments received. After talks with colleagues the meta analysis by Smith and Stullenberg (1991) was offered as a means of direction by one of the Consultants from the previous study. Time was spent considering the possibilities of its application and how it could be modified for the study. Once a workable template was finished it would be trialed. At the same time as this review was being conducted, where and what to search was also being considered.

The journal choice was complex, it had to be one of the ten most read journals for many reasons for example creditability, but also it are available during the period chosen. Secondly it needed to be a UK journal because already what had been a small idea was becoming larger and elements of the study would now consider whether research had paralleled the changes in the Nursing and Midwifery professions. Immediately drawbacks were perceived would a generic journal cover the specialist initiatives/changes? Equally could one journal indicate the way the articles were written in other journals. A lengthy examination was conducted taking time where necessary to cross reference journals, visiting the RCN and RCM for their opinion, re-checking the
advice with my supervisor and colleagues (who would later form a consultation group for the study = 'group') before a decision was made. *Journal of Advanced Nursing* was chosen, but only if three other journals the *Journal of Advanced Midwifery, Nursing Research Nurse, Education Today* were used as a comparison at pre determined times to assess whether the changes could be located across all the publications. However an easier decision was made in relation to the period, which was 1980 to 1995 and to be reviewed against 1999.

Having chosen the journal how was the review to be achieved; all the selected journals were reference only, so access was an immediate problem. As a University staff member the resource of sixteen library sites was available, however most of these did not keep back editions, or if they did the articles was frequently torn out. So just locating all the journals was a major task, which eventually involved the RCN and the British Library (another hidden cost). To achieve this phase in one year meant strict time tabling, would it be possible? One major problem was that it was too easy to drift off and read something that appeared interesting, so in the end a collection of interesting references were also obtained (not yet read). Critiquing became an enjoyable experience/exercise, so did trying to establish whether an article fell into the framework: so could be called research, this was mainly related to the early articles. On a practical basis the audit had to be undertaken by hand (today it could have been by computer).

Now was the first test of the audit tool. The 'group' and myself had undertaken a small trial so that further fine-tuning would set of comprehensive criteria. The template had proved to be all it set out to be i.e. flexible, easy to modify and user friendly. The data analysis was straightforward once the entries had been made. This in itself was a long process as the original coding produced a vast number of variables, which had to be reduced into a working set of codes. This stage was interesting as it was yielding information. The results support the comments received initially. The vastness of the information obtained allowed consideration and reviews of what should be included in the next stage.

What were the repercussions? Three options became predominant. Firstly should I look at nurse and midwife researchers and what preparations they had and how successfully did they consider their research was disseminated? To this end I undertook fifteen interviews with researchers. Having listened to them with my supervisor it was decided this might not match theme the study which was how practice-based nurses and midwives
can their research skills, what came from the interviews was how staff who were actively engaged in research had gained their skills. The second option was to adopt a clinical area and consider how staff used research. This was dismissed, as time consuming and may not yield useful information. Finally it was decided to go back and review the comments I initially received. Having completed this analysis and in the light of the first stage results the decision was made. The second phase would be a survey to try and establish if staff read and what they read, as this had cropped up among the research papers. How to assess their research knowledge was a challenge. Amongst the initial areas that were considered educational background, length of experience and whether they had undertaken a postgraduate research course.

What were the consequences?
How do I now feel about this experience thus far? Could this phase have been achieved differently? It is easy to say on hindsight yes, because obvious flaws can be seen. The findings from the other journals should have been included since these would have reinforced the reliability and validity of the evidence and not altered the results, this was a mistake. Two major advantages on offer today are the availability of the Athens account, which would resolve the problem of missing articles and avoiding costly visits to other sites, the RCN, and British Library. The second and possibly more important, a portable computer. The articles could have been critiqued transferring data at the same time notes made this would have been a tremendous saving in time. The enquiry audit itself: the choice of journals would automatically be different by virtue of the almost guaranteed access to any journal. The journal choice could have been wider possibly taking five or six and then being very selective which years were considered. One suggestion offered following a presentation was to take years which fell six to twelve month after a significant event in the profession since this appeared to be when the repercussions are found in print. Certainly accessibility would allow a different pilot sampling. The answer must be as advances occur different methods can be applied. Would I have changed the template? No, but the number of headings may have been refined to reduce the re-coding at the end. This would allow other information to have been extracted, although many aspects can still be determined, as the comment column was extensive.

How do I now feel about this experience?
On a personal basis the research review enabled my teaching of research to alter and offered more examples to underpin various methodologies.
Phase Two - Survey

Due to personal circumstance I had to take the next year out. It was then difficult to come back, even though I wanted to continue I questioned whether I should continue. Would the study still be valid? Did need to be changed? Since the second phase was only just starting and how this followed was still to be planned it was decided to continue.

What was I trying to achieve?

At the beginning it had been decided that this is a survey, with geographical locations, in order to sample a wider population. Local population could lead to an unbalanced sample, but how to plan? The planning for this stage needed to be detailed. That was immediately obvious, because it involved designing the questionnaire, finding the venues and deciding that the locations. Being certain of what was I trying to achieve, made all the obstacles more surmountable. I needed to ascertain how skilled practice-based nurses and midwives were to take research forward: evidenced base practice.

A painstaking process was the development of the questionnaire, which had it highs and lows when the question wording did not elicit the answer expected. Finally, after lengthy preparation the preliminary pilot and the pilot were successful, few amendments occurred. These developmental stages were interesting experiences, although the 'group' felt the questionnaire was 'OK' testing brought with it an element of uncertainty. The initial trial was with clinical staff, this led to a few minor modifications, and the second was during a study day and yielded similar responses. The locations were Luton, London and Manchester, which allowed the wording to be tested for understanding since nurses and midwives do not speak the English that is not embellished with local words or dialects, no problems arose. The only unexpected happening was the large amount of comments made on the questionnaires; these unelicited comments were useful when considering the direction of the third phase. As a result it was decided not to double side the questionnaire and see if this are replicated within the study, even if the transcription was another unexpected addition.

During this time the venues were organised. The RCN and RCM were approached for advice and assistance and well as Sonia Crow at the ENB. The RCM soon withdrew. However the RCN were excellent and working with them and Sonia Crow the venue deemed to be most useful was Conference. Guided by the RCN experience and expertise
a possible Conference list was made. Arrangements were made with the organiser fairly easily however this was due to the RCN having paved the way. So small general conferences were targeted over the next three years, no research or annual conferences. In this way it are unlikely to cover the same respondents.

Attendance at the Conferences was excellent, not only did the questionnaire become completed many respondents added their personal support and extra comments. Once sufficient questionnaires were received the data were entered, using the Statistical Package for Social Science (SPSS) software. It was then as questionnaire sheets were being read I became aware that the way the closed questions were answered in relation to statistical knowledge required only ticks. Was a possibility that the respondent just ticked without reading the stem? The questionnaire was revised and extra conferences were arranged, with again the help of the RCN. These latter conferences yield a greater percentage of questionnaires than the first trawl, so the number was reached before the conferences were completed.

The data entry was extremely time consuming, but interesting, since the questionnaires were not only answered but more than 75% had additional comments on the blank sides, which gave and interesting picture about research and the profession. The comments could be categorised: the majority expressed a lack of knowledge to understand or use research usefully in practice. The findings from the data suggested that the comments which begun this study were widely held. The profession (of which this appeared to reflect a true sample from the analysis) appears not to be a population that reads but one that likes dissemination by the spoken word. There was a glimmer of hope in the analysis that the qualified staff whose educational programme was to diploma and degree level may read slightly more. Unfortunately, this is only noticeable in the level one journal and not the level three journals. The majority of comments were levelled at the research courses, the lack of interactive sessions, these were considered to take knowledge forward and embed that learning more so than the non-interactive courses. The ENB 870 came in for much criticism, as did the teaching strategies. The question asked many times was why do people who undertake research not teach it? Although the results gave no statistical evidence the ENB 870 was considered to be in need of revision if the comments alone were considered. The comments highlighted the need for the nurse/midwife consultants to take a more active role in research at the clinical level.
What were the consequences?

Working with the RCN and Conference organisers was both a challenge and an excellent experience. The conference organisers initially were not sure but after explanation of the study were extremely helpful. The Conferences I considered were a remarkable experience. The respondents seemed very genuine in their interest and responded beyond expectations, and their offers of comments during the breaks offered different insights. All host organisations kept to the arrangements and the one where a fee had been charged was personally the easiest Conference as everything was laid on, and the questionnaire were collected at the end and handed to me, and I was thanked for using their Conference.

What were the concerns since the setting up of this stage was basically trouble free? That despite many hours taken in the construction of the questionnaire, a simple mistake such as happened could have been made. I am wiser now and would change the format rather than risk failing where it could be seen one has asked the participant to just tick a list of features. Next time more 'group' involvement would be considered. Another quandary when using a questionnaire is always is the information accurate, how much of the self-reporting feature could be entangled? It is impossible to know. An additional question will always be whether the sample could be considered unrepresentative of the population. During this period as was estimated 5700 professionals attended this type of conference so the sample size represented about 15 % of the total number, which statistically was a sound sample. The most time consuming aspect of the whole phase was the data entry and the checking of the data entries. The most challenging aspect was the fact that the analysis led only to indications rather than absolute answers.

How do I now feel about this experience?

How do I now feel about this experience extremely pleased to have encountered so much understanding, help, support and friendship from the organisations and the Conference organiser. I remain amazed how willing fellow professionals were to complete the questionnaires and discuss freely their thoughts about the place of research. The overwhelming assistance received from the RCN and the Conference organisers made me reflect upon the need and benefit of good planning. The only low point was the re-write of the questionnaire. The other point that would need to be considered if this was replicated was the personal cost in both time and money during this stage. However for me it was off set by the gains.
Phase Three - Interviews and focus groups.

What were the consequences having completed stage two. There was still an uncertainty in my mind as to whether the answers processed were correct, despite the fact I knew that the second questionnaire had been restructured and when the results were compared to the first questionnaire they yield similar results.

What was I trying to achieve?

Various discussions took place both with my supervisor and the 'group'. It was suggested that verification could be achieved in a two-fold manner, involving focus groups and interviews. However, which should come first? Hours of debate took place in order to decide should it be focus groups then the interviews or visa versa. In the end the interviews were first and the focus groups last. Both tools were structured and used the questionnaire as the base for the discussion, but would consider the results from phase two. Here the setting up was meticulous because I had used these methods before and I knew the need for careful planning.

A direct approach was made to each Trust's head nurse (they had so many different titles) asking their permission and how they considered the selection should be made and whether ethical committee approval was required. The responses were mixed, few rejected out of hand but the majority were very helpful, more offered than were needed so this allowed for piloting both tools. There was a 50/50 split between the Trusts where the staff respondents were selected or could be chosen. All staff members were sent a contact letter first by the Trusts, some declined but the majority, were very keen.

Gaining ethical approval apart from being a long process it was such a varied process. A few Trusts required no approval, in a few Trusts the Chair of the Ethics Committee 'rubber stamped' the protect, other Trusts required a written form completed prior to approval and two required attendance. This exercise re-enforced my concern about the way ethic committee's work and what they understand is their role. There appears that there are no generic guidelines, and this allows for flexible decisions making. The result of this experience confirmed that the process is extremely time consuming and delays inevitably happen. Perhaps it is time for a more direct look into the work and function of ethics committees. Despite the irritation it must be argued that a vetting committee is essential to safeguard the patient/client, and was a good experience in that it allowed different approaches to be observed. Establishment of the venues took place next. The
venues were strictly kept similar as it was hoped that no variation was introduced, they were general a ward waiting room.

The pilot interviews allowed for modifications in technique to be made. For me this was necessary as I found it all too easy to become engaged in conversation rather than initiate conversation. An unexpected happening which may have been considered faulty technique occurred during the period of the interviews in about 60% information was offered after interview, ethically should this be used. In all case permission was sought to use the material, it was as if once started the time limit set was too short for the subject to be contained. In these situations the notes had to be made immediately after the conclusion of the interview. Because of the number who wished to participate, interviews were conducted also by telephone, these gave direct answers but what was missing was the embellishment. The remainder of the interviews continued not, without hitches but successfully.

From previous experience and discussion with my supervisor and the 'group' it was agreed that the focus groups are self-directed. This decision was made as personal involvement can sometime alter the group interaction. Occasional clarification was requested a speed writer took down the data. The interviews and focus groups went very well, yielding immense information. The transcription although time consuming resulted in a good understanding of what had been addressed. The final analysis corroborated the information gained in the second phase.

**What were the consequences?**

What were the consequences? How successful was this phase? It was well planned, took longer than expected mainly due to the Ethical Committee approval. There was an overwhelming response to the request for respondents, more than expected, here I should have been more critical in my choice, but I did not want to offend either the staff or the Trusts. The key to the smooth running of this phase was undoubtedly the planning, the nature of the research and the direct contact with the Trust Nurse. A major challenge was achieve a good interviewing technique, on all occasions' considerable concentration on what was the role of the interviewer had to be adopted. It is a difficult role, and having to remember not to become engaged in the conversation was a personal problem. The focus groups in contrast were self-organised and the only management issue was the time limit.
How do I now feel about this experience?

How do I now feel about this experience? Could this phase have been conducted in a different way? Again the answer would always be yes. A further questionnaire could have been useful in taking the results from the first and second phase, refining them, and constructing from the set of answers/results more direct questions. However, it could be argued that the focus groups alone would have yielded the same information as the mixed tool, or vise versa. So the answer must be many combinations of ways could have achieved the results or improved on the results achieved. Once the results corroborated the results from the previous stages, it appeared to justify 'an overkill' in relation to the number of interviews conducted. The most positive aspect was that all the hours of planning enabled this phase to be successful. The negative side of the phase was that took much longer than expected and again it are costly if it was to be replicated because of the chosen locations. However, it was right for this study to be conducted over this number of locations.

Phase Four

Phase four so far has not been mentioned it should have been the last stage of the study had it been completed at PhD. This phase was to investigate where schoolteachers and social workers were, with regard to gaining their research skills. Why this phase? All through the many studies read comments or comparison were made in relation to school teachers being some twenty years in front of nurses and midwives whereas social workers were seen as on a par or slightly ahead of the profession. After discussion with David Berridge and my supervisor it was decided that I should undertake some preparatory work which I did.

I interviewed the Director of Education at County Hall, Hertfordshire; she set up two interviews with head teachers one from a senior school and one from a middle school. This cascaded into three focus groups two in the schools of the head teachers and one in a Further Education College. The overriding comment put forward by all groups was that the National Curriculum was research based so they were continually using research. Individual use of research within the classroom appeared very limited to none existent. On a individual bases the only staff who understood what I was talking about when exploring personal skills for example the ability to critique research were those who were or had completed a Masters programme. Though I was told that research was explored in all department meetings, subject meetings and on 'Baker' days. The observations I made
during my classroom visits (6) suggested that the National Curriculum was being adhered to, however there was very little sign of research in practice in relation to individual children. In defence of the teachers they did not have sufficient time or the ability to cope with classes of thirty where the range of ability was very wide and at the same time consider research.

In contrast the social workers I interviewed were the head of social worker in my work and home locality, they then organised two further and then three further interviews and one occurred by chance so in all eight were conducted. These were very informative since they did see themselves in a similar position to nurse and midwives in the way research was understood and applied. However, they felt greatly disadvantaged in not being able to access research courses in the same way as nurses and midwives are offered the ENB 870. In comparison they did feel they had the benefit of case conferences to explore research issues and benefit their practice. Here the observation visits (7) illustrated that the research in relation to the clients being partnerships in decision making was trying to be exercised. So the ability to consider the client on an individual basis, with the desire to achieve holistic care was being put into practice.

Writing Up.

How was all this data to be structured into meaningfully presentation? The structure of the study must be evident. The way it had been phased and that each stage was independent and yet integrated with the other stages must be tangible in the final document. That it had been planned, the sense willingness from all the respondents, and equally the support gained from the ENB, RCN and the Conference organisers' needs to echo through the sections. Each phase was considered with great care. After each section was written I met with my supervisor who offered advice, removing parts that he felt at this level were not need, the guidance was quite strict.

What were the mistakes? Possibly the greatest was made in planning the time required to write the study up. It was a mistake not to have written each phase up in draft form as it was completed. This was not the advice received. It was implied that I needed to see the totality of the study before writing it up. It was suggested that four months was all the time needed. This may be true if study leave was available but that was not forthcoming.
How do I now feel about this experience, it was too rushed. I knew my fourth year was up by mid March and the date for completion was set for mid February. What would have beneficial would have been the ability to write it up, leave it alone for six months then review what is written as this would undoubtedly make a better document avoiding omissions and errors.

Presentations
Once the results were established all the participating Units were written to inform them of the outcomes. Of all the participating Units only one Head Nurse was still in position. The others had changed due to reorganisations or amalgamations. Presentations have been made to various forums locally and the results accepted. In the main it was agreed that the ENB 870 needed renovation and it was also anticipated that the role of the consultant nurse/midwife would strength the research profile in each Trust. A poster presentation was made at RCM Conference in May (2002).

Personal Experience
What was I trying to achieve initially I was not sure since it grew out of failure. But as time passed I was certain that if as a profession the practice-based nurses and midwives are going to be able to use research to achieve evidenced-based care they need to have a certain level of research skills. Equally those who undertake research need to engage with a wide range of clinical staff.

What were the consequences? Firstly I have no regret having undertaken the study in many ways it has been extremely valuable, and I am grateful to have been given the opportunity. In hindsight which is always an interesting phenomenon, I do not feel I would have agreed to undertake the study totally in my own time which was a requirement of being able to undertake the study after the first one collapsed. Equally now I am aware of the personal cost to me in the form of expenses form travelling to undertake initially the conferences and then the interviews and focus groups, not to mention the visit to the RCN and British Library. I now feel well able to itemise these expenses so that a future student would be aware of the real cost of a study.

In conclusion
Finally how do I now feel about this experience? It has undoubtedly benefited my teaching and general understanding of research. How one may ask, teaching uses reading
so this has underpinned my topic/subject knowledge. In particularly the teaching of research because the more one is associated with it the more understanding is revealed therefore a greater benefit when assisting students. Presentations at conferences strengthen personal knowledge. In the same way the details learnt from conducting many interviews and focus groups provide further development and comprehension of the technique.

One way forward which may have a profound effect on staff trying to understand and use research terms would to decided how these terms should be defined and used. Thus avoiding the confusion, at present many of our textbooks do not agree how these terms should be define let alone used within nursing and midwifery research. Why as professions are we in this muddle, is part of the maturing process?

To conclude positively Professor Roderick Floud ('Intersections between research and teaching' AILT symposium 2002) stated all teaching comes from research, however all teachers are not researchers, nor should they be. However if the understanding of research is to be available to the mass, all teachers of research should be taught to teach research and have participated in the research process. In this way research will transfer new knowledge establishing evidenced-practice.