A case study approach to a process and outcome evaluation of a midwifery curriculum using enquiry based teaching and learning strategies

By

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I dedicate this work to a much loved and greatly missed grandmother. Gangux I know you are watching.
ABSTRACT

This thesis examines the process and outcomes of a case study evaluation of a midwifery curriculum, which utilised an enquiry-based learning (EBL) approach as one teaching and learning strategy. This new curriculum was written to address some of the educational recommendations made by the *Fitness for Practice* (UKCC 1999) publication in preparing students to be fit practitioners at the point of registration.

A multiple data source approach to this case study of a midwifery curriculum evaluation was used in terms of method and participant groups over a three-year period. Both qualitative and quantitative methods were applied to analyse the data sets generated through student reflections as part of their portfolio assessments, questionnaires, interviews and field notes from observation. Participant groups included a total of 26 students on both a diploma and degree programme, 10 tutors, 26 mentors and 2 practice facilitators supporting these students, and were based at a university in the South East of England attached to five NHS trusts in the area. The research exploring the concept of effectiveness of an EBL approach was examined from five identified constructs of effectiveness which were inductively formulated from a sample of student reflections. These were further explored through yearly questionnaires followed up by interviews with 9 participants contributing to the evaluation.

An EBL approach appears to have the ingredients to develop and enhance skills of confidence in learning and competence in practice. However, the effectiveness of an EBL strategy requires preparation of both mentors in practice and tutors for academic support before implementation. Maturity and some life experience, before commencing the programme and personal attributes of motivation appear to be key elements in effective learning through an EBL strategy. In addition, reflection plays a key role in developing the participant both from a personal and professional perspective as a lifelong learner. EBL is perceived as a tool through which participants are empowered to challenge and transform practice in terms of communication skills and perceived essential skills of intuition and empathy developed as a by-product of the process. Difficulties in assessing such skills have been discussed. In addition, assessment processes in determining levels of critical thinking, reasoning and reflection and their competent application in practice, as a product of an EBL strategy, require further development.
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PREFACE

Few educational reforms or innovations in midwifery curricula have been adequately tested before their implementation. Bearing this in mind, it is therefore important to identify the purpose of this research and to acknowledge the competing forces, which brought about changes in midwifery education. Such tensions exist between the need to educate midwives to a competent standard, ensuring public safety, and the role of government health policies in driving such changes. A dichotomy arises between the drive for health reforms and the need to address and voice a demand by childbearing women for user-centred care.

It appears that today's focus for institutions and educational communities is on financial viability and management structure. This creates tension between key stakeholders, from policy, education and practice, and those accessing the curriculum (tutors, mentors and students) in terms of the aims and objectives of a curriculum and how these are achieved. The multiple and competing goals of midwifery educational reform have been kept in mind throughout this evaluation, but it would be impossible to measure the different interests and outcomes as effected by an EBL approach within this research. However, I have been faithful to the data generated by the participants, in interpreting, through a shared perspective, their lived experience of a midwifery curriculum, using an enquiry based approach.

This thesis explores the process, outcomes and concepts of an enquiry based teaching and learning (EBL) strategy in a new midwifery curriculum. Although the research is carried out to examine the general purpose of an enquiry based strategy in midwifery curricula at one institution, it is specifically examined in depth from the perceived effectiveness of EBL derived from the data. Effectiveness of an EBL strategy as a reality in the curriculum, is viewed from the perspectives of participants in the study. These participants comprise a group of students, their academic tutors and mentors in practice.

The purpose of this type of research given the nature of EBL is not to make comparisons but to examine the uniqueness of an EBL approach in this curriculum. Therefore, it was decided to take multiple approaches, through a case study method, in order to carry out the research. Because sample size, context and content of the
curriculum are limited to one cohort in one institution, a variety of approaches to increase rigor and trustworthiness were necessary.

The EBL process of critical deconstruction, analysis, reconstruction and reflection of and on midwifery knowledge in a sense mirrors the research process itself. In addition, the EBL process is examined in the context of the theoretical concepts that underpin it and its implications for midwifery education in general. This adds a different perspective to what is routinely documented on curricula evaluations in midwifery. Theoretical exploration has been useful in identifying the differences in what practitioners know and what they do, as data present an empirical reality but can never be isolated from theoretical assumptions. The point of educational research is not to produce theories, but to make practice more theoretical, enriched through critical reflective thinking and enquiry.

What has been articulated in this thesis, is a synthesised framework of theories that support and extend the EBL process. Since facilitation of EBL is essentially a social process, I propose that social theories will assist in examining both participant interaction, at the micro level of classroom and practice teaching, and at the macro level of institutional educational strategies, influenced by national, educational and health policies, which generate the curriculum. Critical theories within social aspects determine how assumptions about EBL are challenged and are useful in identifying alternative concepts, which may be underpinning its limitations or developments.

Data from individual participant perspectives documenting the social, psychological and reflective elements of learning, have been identified with various authors in particular Vygotsky (1978), Dewey (1933) and Freire (1985) because of their perspectives on interaction, reflection and action in learning. In particular, student reflections, as a primary source of data from portfolio assessments, add an original contribution to this knowledge construction. Integrating this analysis of reflections and other data with the theories, has moved the research from general exploration of educational and cultural influences of midwifery education and practice to another perspective. It also exams the relationships between participants and researcher as a result of interaction and communication during the research process.

This thesis demonstrates the argument that the EBL process moves the participants from passive to active learners, which encourages a critical and reflective understanding of their profession and practices. It recognises the benefits or
implications for practitioners in teaching and learning approaches and work ethics to result in autonomy and empowerment through social construction of midwifery knowledge. Social theory as applied to midwifery education and practice suggests that participants are not only learning within an interactive environment as enhanced through an EBL process, but that this social enquiring process is also crucial to learning in the work place. An interactive process is a more effective approach in developing the self and one’s knowledge both in theory and practice. Within this study, the evidence of such learning has been validated through the assessment process and assessment of competencies that are necessary in creating a ‘competent’ practitioner. The findings suggest, that portfolios are a useful assessment tool in judging competence but their reliability, as a sole method of assessment, has been debated. Therefore new assessment approaches need to be considered.

I, the researcher, take responsibility for interpretation and analysis of findings, which have been constructed, by participants, to create an understanding and meaning to the effectiveness of an enquiry based teaching and learning strategy within this new midwifery curriculum. The concepts and synthesised framework of theories that have been identified are applicable to other curricula but an EBL process is unique to each institution in which it takes place.
CHAPTER ONE
INTRODUCTION

A case study approach to a process and outcome evaluation of a midwifery curriculum using enquiry based teaching and learning strategies.

1.0 Introduction

The aim of this research is to evaluate the use of enquiry based learning (EBL) as one teaching and learning strategy, within a new midwifery curriculum. My interest in midwifery education stems from a continued involvement with students over the years, as a practising midwife. The opportunity to take part in shaping a new curriculum was a result of my employment with a university in the South East, when I was invited to be part of a curriculum planning team in May 2000. This sparked an investigation into the evolving strategies of curriculum planning and delivery, resulting in a new midwifery curriculum in September 2001 at this university, and was the basis for this piece of work.

Evaluation of this curriculum, as it progressed through a three-year programme, was the next appropriate stage in this cycle of development. I opted to take on this task. However, evaluation covers many aspects of a curriculum and can take many forms. It may have many different purposes and may answer a number of questions, but its main task, according to Stake (1975), is that, it can perform a service that is useful to specific persons. Consequently, my research question was formulated as a broad inquiry, which arose from the empirical data. Primarily the aim of this research was an outcome evaluation of the effectiveness of enquiry based learning within this new curriculum and to examine such a teaching and learning strategy in terms of its content, process and consequences for midwifery education. It was to inform the head of midwifery school, curriculum developers, tutors, mentors and students of its successes or failures.

This evaluation process therefore, seems to take on the shape of a responsive evaluation through a single case study (Stake 1980) of one cohort within this university examined between September 2001 and June 2004. Data are gathered through both qualitative and quantitative methods, using textual analysis, questionnaires and interviews, from three participant groups, which are students, mentors and tutors. This research answers questions on an empirical level, but may be found to be atypical as compared to other outcome evaluations.
Outcomes from the research may refine or redefine present theoretical concepts underpinning EBL. Therefore, findings will be said not to be empirically generalizable (Mason 1996) to other cohorts or other programmes using EBL within or outside this university. Empirical data only make sense in the wider context of the research approach and theoretical exploration can augment generalizability. This thesis evolved in terms of attempting to articulate the concept of an enquiry based approach from a theoretical perspective. The rationale for the two part structure of the thesis is as follows:

- The amount of data from reflections that was available which required theoretical underpinning.
- The need to carry out an evaluation through a case study approach which recommends against generating theories too early in the case study and primarily collects data openly (Nisbet & Watt 1984).
- Longitudinal case studies provide an option for theoretical development and therefore cannot be written in the initial stages of the thesis.
- There is a dearth in literature on the concepts of EBL and therefore the data in a sense generated the theory from the different aspects of the evaluation of effectiveness of an EBL process. This development occurred as the data emerged.
- It appears to be more logical to address the data as it emerged and examine the theories that may well underpin it (eg interactive process to inform learning and social theory after data emerged from reflections in portfolios and questionnaires; critical and reflective theory as a result of this stage in the research to inform and explore the interview process which followed).

It is expected that the EBL concept will have commonalities with the concept of EBL as described by the literature, to explore theoretical generalizability (Mason 1996). What will be attempted through this second phase, is to articulate the theories that may underpin the EBL concept as pertaining to this particular case study within its context. This is where the originality of this thesis lies. Besides identifying atypical outcomes of an EBL strategy as analysed through both qualitative and quantitative methods, it attempts to articulate more specifically the theoretical and philosophical underpinnings of an EBL process in general. Throughout the literature on EBL there appears to be no single agreed position about the theoretical basis for, or practice of,
this approach in nursing or midwifery education amongst other disciplines or professions.

Therefore, a process and outcome evaluation of enquiry based teaching and learning is primarily addressed alongside an exploration into the nature of an enquiry based teaching and learning strategy within this midwifery curriculum. The concept of EBL is examined through educational theories and curriculum models, together with underpinning philosophies of critical and reflective adult learning, which will be explored through the literature around these principles.

1.1 Aims of the Research
The aim of the research is to evaluate the use of enquiry based learning as one teaching and learning strategy within a new midwifery curriculum. The objective of this evaluation approach is to empower the users of enquiry based learning within this new midwifery curriculum. The politics of educational knowledge, it seems, are about the struggle for power; in terms of dominant curricula or systems, ideas, values or ideologies and dominant users or stakeholders. Chapter 6 examines these issues through the development of midwifery education and the various influences that has a bearing on its present status. I acknowledge that any new changes in midwifery education will produce counter-effects, which in turn will influence the direction of change.

The users of this curriculum include students, mentors, tutors, childbearing women, researcher, curriculum developers, heads of schools and trust stakeholders, in an ascending spiral of ever increasing understanding of the content, process, consequence and concept of EBL. Such an evaluation examines the many purposes and activities of an EBL approach, which is both simultaneous and interactive and could be said to embrace some of the principles of what Guba & Lincoln (1989) claim to be a fourth generation evaluative model.

On-going evaluation, carried out on a yearly basis throughout the three-year programme, is seen to be of benefit for all users, involving changes and improvements throughout its course. Informing and involving participants, of changes and adjustments, empowers individuals and supports the philosophy of EBL as a student led and tutor/mentor facilitative approach. Interactive knowledge construction ensures co-operative benefit for all users and in evaluating this process, involving
change and improvements. Stake (1980: 76) suggests that responsive evaluation research may

sacrifice some precision in measurement, hopefully to increase the usefulness of findings to the persons in and around the program.

Arguably, this research, exploring subjective empirical data, and the theories examined, (what Mason 1996 calls “theoretical resonance”) are grounded in my own reality, and the reality of the participants, and leads to different perspectives of the same research questions.

Therefore, this introductory chapter will address the following issues: the rationale for the research and the rationale for introducing enquiry based teaching and learning within this new midwifery curriculum. It sets the background to the curriculum, identifies the various methodological approaches to this evaluation and the rationale for their use and, finally outlines the philosophical rationale for this evaluation.

1.2 Rationale for the research
This section defines the research terms for this midwifery curriculum and its relevance to the educational and evaluative research adopted.

Curriculum may be used as a term to define the content of a subject or may refer to a total programme in an educational setting. A rationale or purpose for a curriculum, and its instructional methodology, are also part of this definition, as are the results or evaluations from a delivery of such programmes. Such results may be transparent and are assessed through quantitative means whilst others are overt or “hidden” as a result of curriculum process and delivery and may influence values and attitudes, or are influenced by hidden political agendas (Kelly 1999). What is intended in a curriculum may not be the expected outcome in reality and may be assessed or evaluated through qualitative methods.

Distinctions may be made between formal and informal aspects of the curriculum in terms of content and process, and effects on development and structure of the curriculum, the facilitators or teachers and the recipients or students accessing a curriculum. The dimensions of a curriculum development, process and evaluation are important, but it is the rationale for the proposed curriculum, which drives and will have an effect on the individuals and their practices. Kelly (1999 : 7) argues that
educationalists are aware of the differences between planned and received curricula and speak of the "hidden curriculum", i.e. the impact on students, practitioners and tutors utilising an enquiry based (EBL) approach, other than just the acquisition and application of knowledge. The learning process itself, development of practical and interpersonal skills, exploration of students' own beliefs, attitudes and social background in relation to their own practice, are but a few of the by-products of an EBL teaching and learning strategy. Students become central to the learning activities in the curriculum and therefore "educational theory must reject positivist notions of rationality, objectivity and truth" (Carr & Kemmis 1986 : 83) and seek a critical examination of the theory-practice relationship of the knowledge learnt.

Arguably, this curriculum being investigated has moved from the concept of a classical curriculum, a teacher centred approach, to a romantic concept, as in a student centred approach, in keeping with Knowles' (1980) interpretation of andragogy (Jarvis 1998). Although such a curriculum uses principles of self-directed learning, enquiry and learner's own experiences, assessment of such an approach is still within a structured remit of assessment processes, firmly linked to learning outcomes and expected competencies as designed and controlled by the teacher. However, a curriculum using an EBL strategy seems to take elements of both concepts by virtue of its structured assessment and needs for outcome competencies, on the one hand, and a philosophy of student-led discovery, creativity and reflection through the use of portfolios, on the other. Despite this polarity in the two curricular approaches, changes are inevitable in midwifery curriculum development and are driven by outside influences, irrespective of curricular concepts to create an effective curriculum. Such changes are largely due to Government initiatives to improve maternity services and the role of the educational institution or university in initiating change in partnership with hospital trusts and professional bodies, such as the Nursing and Midwifery Council (NMC) in maintaining standards of midwifery education. These changes are also driven by higher educational policy and lifelong learning needs to produce an effective and efficient workforce.

Young (1998) maintains that society largely plays a role in shaping a curriculum. However, successful development and evolution of a curriculum is determined by the attitude of teachers/ tutors in facilitating curricular development and in students embracing such developments. Quality Assurance Agencies (QAA 2001) monitor such changes and make recommendations for further developments. Their main objective is to make judgements about standards set which are demonstrated in the
programmes covered by academic providers. They examine the clarity of the learning outcomes in relation to the qualifications framework, examine whether the curriculum design enables the learning outcomes to be achieved, whether assessments are effective in measuring achievement of the outcomes and whether student achievements match the intended outcomes and the level of qualification. However, this benchmarking is directed and controlled nationally and is indirectly politically led.

Therefore, there is a need for evaluation and monitoring of individual curricula at various educational institutions delivering midwifery programmes. Utilising this knowledge through research may be instrumental in changing behaviour and practices in midwifery whilst conceptual research may bring about changes in the level of knowledge, understanding and attitude in midwifery education (Huberman 1987, Nutley, Walter & Davies 2002). However such evaluations raise questions about the political implications and who is in the driving seat, in determining what counts as an educationally sound or successful midwifery curriculum.

DesForges (2000) argues that what is relevant in educational research is to be able to utilise what is learnt so that it is applicable, useable and transferable to any educational setting. Thus research utilisation is carried out through knowledge transformation and the emphasis is on applying research to practice. Thus the dualism of research from practice or the theory-practice gap in educational research is rejected and a multi-perspective approach is adopted. Theory cannot be separated from practice and the evidence is integral to actions and interactions of the researcher to educational practices. An examination of curricula models will inform the type of evaluative research that is needed to analyse the effectiveness of enquiry based learning within this midwifery curriculum. There are two broad categories of curricula evaluation: process or outcome evaluation. However, the ultimate goal of curricula is to construct knowledge, which is socially produced, with particular aims within a particular context.

A midwifery curriculum aims to serve the needs of society, in terms of maternity services that are effective and efficient. It dictates what should count as midwifery knowledge, such that students at the point of registration are deemed “fit for practice” practitioners. Young (1998 : 5) argues that for curricula to develop there is a need to consistently
question the extent to which any curriculum is based more on the preservation of interests than on promoting learning [and that] any critique of the prevailing curriculum has to recognise that it will always embody conflicting purposes. These invariably take the form of regressions to the past and possibilities for the future.

It appears that a curriculum must constantly change to fulfil a public need and therefore learn from past curricula outcomes to shape future programmes.

Young (1998: 21) states that evaluations, should raise sociological questions about the curriculum and suggests starting from the viewpoint that those in power in shaping a curriculum will define what is to count as cultural knowledge, accessibility of knowledge and acceptable relationships between accessibility and delivery of knowledge. The author maintains a move to evaluations, which analyses the curriculum as socially organised knowledge such that an examination seeks to “conceptualise alternatives and their implications”, and can therefore be transformed. Through such a transformation the curriculum as “fact” and the curriculum as “practice” are explicitly linked. It is anticipated that an enquiry based teaching and learning strategy within this midwifery curriculum strengthens the connection and bridges the gap between academic learning and practical learning. It addresses a positivist view of evaluation of learning and moves to a multi-perspective approach of seeing midwifery knowledge as socially constructed. I see this curriculum, but the enquiry based process in particular, as attempting to link midwifery knowledge within its culture and practices, to the process of reconstructing this knowledge through social interaction within the learning environment.

1.3 Rationale for the use of EBL within a new midwifery curriculum

In retrospect, the traditional midwifery curriculum at this institution lacked educational coherence, with an emphasis on content rather than process of the curriculum. Knowledge was structured in such a manner as to be linear rather than holistic and content was learnt through memorisation. When using this model, facts and skills were frequently learnt without sufficient underlying clinical reasoning. Competence in facts and skills were examined through professional bodies via an examination system, which did not test understanding, integration or innovation in practice and discouraged independent thinking. Teaching of facts and skills was teacher dominant and allowed little room for a student centred philosophy, which encourages self-development, the freedom and liberation to learn how to learn. The emphasis of the new midwifery curriculum is not on teaching but learning in small groups.
Assessment of skills and competence, together with academic achievement is carried out through an integration of all the learning outcomes, as demonstrated through a portfolio of evidence, which links theory to practice.

An additional feature of the new curriculum is its transparent link between the professional body (NMC) expected proficiencies as mapped against the curriculum learning outcomes (Appendix 1). Each of these outcomes form a part of the final expected proficiencies, as mapped against the teaching and learning strategies, the assessment criteria and the evidence of achievement. This however raises issues about the tension between competency-based approaches and learner-centred approaches in the curriculum. On the one hand the NMC proficiencies are designed to standardise what is defined to be a competent professional, and on the other, approaches to attain such competencies are placed in the control of students and how and why they learn what they learn.

Novak (1991) states that discovery learning, problem solving or enquiry based learning use concept mapping as part of its process. A feature of EBL takes the shape of enquiry through triggers, which encourage concepts to be mapped and inter-linked between subject disciplines. The new curriculum, through the exploration of triggers, (See Ch 2 Fig 2.0 for structure of triggers) encourages both interaction and discussion with peers and tutors alike and the exploration of facts and skills to relevance in practice, ensuring meaningful learning, through the process of reflection. Such approaches draw on principles of pragmatic learning (Dewey 1987) and are discussed in the second part of this thesis. Subject specific content is integrated to practice, underpinned by disciplines and principles of bio-sciences, psychology, sociology, ethics and law as relevant to the context in which knowledge is developed.

Margetson (1991) argues that an enquiry concept, as opposed to acquiring expert knowledge, drives the curriculum and therefore another tension arises between the content of the curriculum and subject expertise as led by tutors. However propositional knowledge is important to expertise and therefore, the educational needs of the students, through enquiry learning, in terms of professional competencies, drive the curriculum. The discussion around the perceived tension between competency-based and student-led learning has been raised earlier. In this EBL approach, the enquiry selects the content and subject matter required in acquiring propositional knowledge. This will have implications for budget allocations to faculties and for teaching resources as subjects are integrated to the learning
needs of the students. In the traditional curriculum, subject specific content was learnt in isolation and non-cognitive attributes such as communication skills were not given the importance necessary. Fraser et al (1998) raised these issues in their study of the effectiveness of midwifery education (EME study) and made recommendations for change.

Other clinical components of the course were taught in isolation from the theory or separated into hospital or community settings. A medical model of midwifery care was frequently the driving force in the acquisition of knowledge and consequently practitioners learnt interventionist care rather than holistic care to encourage client partnership. Autonomy of both practitioner and client was secondary to task oriented practices, and the issues of ensuring continuity, choice and control, as recommended in Changing Childbirth (DH 1993) document, were not fully addressed in the traditional curriculum (see Figure 1 for a comparison between traditional and enquiry based learning).

As a consequence clinical and professional competency was not fully achieved at the point of registration, as indicated by an insufficient understanding and experience of the role of an autonomous practitioner. The EME study (Fraser et al 1998) was drawn upon to inform the final recommendations for midwifery education through the Fitness for Practice (UKCC 1999) report. Fraser et al’s (1998) report highlights a need for changing nursing and midwifery education and as a result the new midwifery curriculum using an enquiry based learning and teaching strategy was commenced. This new approach is seen to address many of the deficiencies of a traditional curriculum and ensure the preparation of "fit for purpose" practitioners. It fosters critical analysis of knowledge and skills and encourages cognitive and constructivist processes of discussion, understanding, application and reflection. As such, Magnussen et al (2000) imply, through their research, that enquiry based learning develops critical thinking and reasoning. Through the new curriculum, learning is seen to restructure situational knowledge, develop team interaction and social skills, which encourages group dynamics and hence self-motivation and development. Through such efforts prior knowledge is analysed, deconstructed and assimilated to new knowledge with the subsequent result that the learning process is both self directed, meaningful and of life long value.
Figure 1 highlights some of the changes, which took place at this institution, from a traditional curriculum to one, which, use an EBL approach as one teaching and learning strategy.

<table>
<thead>
<tr>
<th>Traditional Curriculum</th>
<th>Enquiry Based Teaching and Learning</th>
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<tbody>
<tr>
<td>Medical model</td>
<td>Holistic model</td>
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<tr>
<td>Teacher led</td>
<td>Student Led</td>
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<tr>
<td>Rote learning</td>
<td>Enquiry leading to meaningful learning</td>
</tr>
<tr>
<td>Subject led in isolation of clinical situation</td>
<td>Trigger led in context of clinical learning</td>
</tr>
<tr>
<td>Individual disciplines learnt</td>
<td>Integration of disciplines explored</td>
</tr>
<tr>
<td>Linear knowledge acquired</td>
<td>Holistic knowledge developed</td>
</tr>
<tr>
<td>Individual learning</td>
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<tr>
<td>Practice not related to the theory</td>
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<tr>
<td>Competencies related to isolated subjects learnt</td>
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<td>Assessment through examination</td>
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1.4 Background to the new midwifery curriculum

The changes to the 2001 midwifery curriculum under investigation came about due to progressive changes that have occurred in the midwifery profession in the last few years. An educational and training policy Creating Lifelong Learners- Partnership for Care and Guidelines for Pre-Registration Programmes of Education (ENB 1998) seems to have been the instigator for the changes that followed. It reflected the changes that had influenced midwifery education, supervision and midwifery practice notably the Changing Childbirth (DH 1993) report.

The English National Board (ENB) policy attempted to address issues previously published in a number of reports, in particular the report of the Standing Nursing and Midwifery Advisory Committee Midwifery: Delivering our Future (DH 1998) which recognised the major changes and developments in the delivery of women-centred care as promoted by the Expert Maternity Group producing the Changing Childbirth Document (DH 1993). The ENB guidelines were also in response to the report First Class Delivery: Improving Maternity Services in England and Wales (Audit Commission 1997), which identified the many changes required in maternity services as a result of providing women with choices in childbirth. The education of midwives needed to reflect these changes to bring about a development of skills and evidence informed practice.
The guidelines by the ENB also highlighted changes in the provision of midwifery educational programmes, which had begun to integrate within higher educational institutions and needed to maintain sufficient opportunity to develop competence and confidence in practice. These changes and requirements were a result of a research funded report by the Board Preparing Effective Midwives: An outcome evaluation of the effectiveness of pre-registration programmes in education (Fraser et al 1998) which identifies areas for development in delivery of supervision, clinical assessment and lecturing by midwives who contribute to educational programmes. In addition recommendations from this research suggest the use of competency frameworks and assessment matrix to standardise practice experiences and levels of competencies and to make changes to curricula previously based on a medical model and create student-led integrated curricula. A full review of this study sets the background to the changes, which occurred in the new midwifery curricula and the significance to this present research.

Fraser et al’s (1998) research on the effectiveness of midwifery education (EME study) is of significance to my research in terms of the following aspects. The authors suggest that the balance between professional education and academic achievement changes over a three year programme and recommend a review of a double wedge structure with theory being heavy in the initial years and then clinical superseding this weighting in the final years. However, in view of FFP (UKCC 1999) documentation and recommendation this balance is more evenly distributed throughout the 3 years of our programme to ensure a 50-50% theory and practice balance in each year.

Fraser et al’s (1998: 18) work identified a shortage of evidence from curricula reviewed, that the generation of theory from practice is not evident. However, this present curriculum at the institution, has addressed these issues and introduced the explicit process of reflection within an EBL strategy. This process lends itself to examining care and outcomes to generate theory from practice whilst reinterpreting clinical situations which result in “changed or reinforced practice”, as recommended by the above authors. Through these approaches the authors recommend a re-framing of the curriculum process to introduce concepts of imagination and creativity, conceptual exploration and clinical situations to provide a basis for enquiry. In addition, in terms of assessment strategies in midwifery curricula, Fraser et al (1998) identified that experienced midwives expressed doubt as to the value of competency-based assessment in determining ability by providing holistic care. Therefore portfolios were introduced into the programme being evaluated, as part of the
assessment process as recommended by Phillips et al (1994) and documented by Fraser et al (1998: 24) in redefining “the scope of assessment”.

The overall conclusions of the EME study (Fraser et al 1998) suggest that student midwives are generally well prepared to provide one-to-one holistic care to women experiencing a normal pregnancy and are able to determine abnormalities or deviations from normal and refer these appropriately. They develop a comprehensive knowledge base, which uses research in practice to support a range of skills and fulfil statutory requirements as laid down by the NMC. Learning opportunities were sometimes perceived to be insufficient to provide a wide range of experiences, which require a problem solving approach early on in the programme. These issues have been addressed in our present curriculum through early placements in a variety of practice placements and introducing an enquiry based approach to learning throughout the programme.

An assessment matrix has not been used in this curriculum, as recommended by the authors (Fraser et al 1998). However, mapping of learning outcomes against NMC proficiencies (2004) (Appendix 1) has ensured that there are no gaps in the assessment process. In addition the use of portfolios has attempted to address the neglected and under-assessed aspects of the following:

- Personal qualities and attitudes – introducing assessment of five domains including values and attitudes through the use of reflections.
- Capability to assume responsibility and accountability and management skills – evidence in portfolios of records of direct observation and assessment by mentors of these processes and personal reflection by students of incidents to address these issues. In addition a professional behaviour assessment by mentors of students in each placement and a skills achievement record for each student.
- Care of the high risk or ill woman or with special needs – again evidenced through portfolios as specific outcomes of learning attached to each module throughout the programme.
- Administration of drugs – an assessed drug round in the final year of the programme.

Several issues about heavy emphasis of assessment as required by the university alongside the practice assessment are balanced in our curriculum through the
portfolios. Evaluations, on our midwifery programmes, of both theory and practice are actioned and changes to the assessment process are on-going (appendix 17). Demonstration of the balance and integration of theory and practice is perceived to be evidenced through the portfolios.

Problems with preparing mentors to recognise the failing student and ensure due process is carried out had been addressed through peer review of marking (appendix 18). However, Fraser et al (1998) identified that mentors need more support in practice to recognise and confidently fail those students who are unfit to practice. These issues into how the assessment process and the use of EBL by mentors can be integrated and used appropriately have been explored through my research. However, assessment documents contain clear instructions and are included in the portfolios. A tripartite approach to the assessment process (mentor, tutor and student self-assessment) has been introduced into our present curriculum and assessments integrate both practice and theoretical components to ensure an equitable approach to care.

The midwifery curriculum planning team at my institute was aware of the need to consolidate practice, which has also been identified by Fraser et al (1998: 112). This has been addressed by the introduction of a period of Supported midwifery practice in the final 12 week module, giving students the opportunity "to be a midwife" prior to registration. A final recommendation from Fraser et al's (1998: 114) study has been addressed through this present case study evaluation which spanned the three years of the present curriculum and continues to monitor changes with subsequent groups of students accessing midwifery programmes at this institution.

Therefore the research approach arose out of a model of learning in which practice is examined, through student reflections, questionnaires, interviews and researcher observation, in light of the theories to explore concepts of learning using critical and reflective models.

In the present climate of a shortage of midwives, the demands of practice and those in education must be considered. Programmes should support a multi-professional approach whilst statutory professional requirements are met. In addition the diverse learning needs, to encourage more applicants to the profession, must be met through flexible teaching and learning approaches in midwifery education and training. These approaches must fulfil standards of safety and competence whilst tailoring midwifery
education to the needs of the consumer. As a consequence midwifery educationalists must support and facilitate these requirements of the future practitioner. It is a basic principle of the aims of future education, which seeks to encourage a self perpetuating learning society in which midwives may develop transferable skills, promoting lifelong learning that is student led.

In 1998 the United Kingdom Central Council agreed to a Commission of Education to be established in order to develop a way forward for pre-registration programmes both in nursing and midwifery. The objective was to enable meeting health care needs through ensuring students would be “fit to practice” at the point of registration. These recommendations were proposed through a health care policy, *Making a Difference* (DH 1999) and recommendations made in *Fitness for Practice* (UKCC 1999). Government initiatives at this stage were reflecting review strategies for ensuring quality in nursing and midwifery. Alongside these policy changes, the institution at which the research took place, was undertaking a revalidation of its preparatory programmes in nursing and midwifery at degree and diploma level, which resulted in a curriculum commencing in September 1999 called Health Sciences in Nursing and Midwifery Studies. These programmes were perceived to have anticipated the policy outcomes of the above-mentioned publications.

The Fitness for Practice Curriculum is seen as a development of the Health Sciences curriculum which embraces principles of practice firmly embedded in contemporary health policies, underpinned by shared learning and inter-professional working, evidence based research and clinical effectiveness. These principles were utilised as the framework on which the new curriculum was developed and to incorporate other elements to ensure fitness for practice. The result was a curriculum which firmly placed students and clients central to the teaching and learning strategies from an enquiry based perspective.

Enquiry based learning (EBL) is seen as a necessary element in which pre-registration students learn within a professional framework, grounded in health and social recommendations, which are effective in providing client centred care. Effectiveness is then measured through evidence from practice and documentation, which should be broadened to include reflections from students and evidence through mentors, tutors and clients. Competence in practice is then judged through an integration of, and based on a dialogue about key skills, professional practice skills, knowledge and understanding, values and attitudes and cognitive skills. These
key areas are recommended through The Ace (Assessment of Competencies in Nursing and Midwifery Education and Training) Project (Phillips et al 1993). This project sought ways of understanding the complex nature of professional competence and examined the adequacy of current assessment practices to identify and evaluate the integration of theory and practice.

The key skills element of the programme under investigation came about as a result of the findings from evaluations of the 1999 curriculum. The findings implied that information retrieval and study skills, which were developed at an early stage in the programme, enabled students to be more effective learners with progression of the programme. The teaching and learning approach adopted for this part of the programme encouraged student motivation and self-directed work and was shown to be extremely effective. Therefore this strategy was retained and developed throughout the new curriculum. The curriculum team developing this new programme believed that in fulfilling curricular aims, this new midwifery programme would meet important epistemological (the inquiry into the conditions of the possibilities of knowledge) and social criteria associated with "effective learning", to include amongst others, critical reflective practice. Another emerging issue was that there was insufficient tutor support, and hence professional tutor groups (PTGs) were proposed as a strategy to ensure student difficulties were resolved and learning was facilitated through regular contact via these groups.

Evaluation findings from the 1999 curriculum, suggested that students did not always see the coherence of theory to practice and therefore a strategy was developed in which individual aspects of the curriculum were not taught in isolation. Relevance and progression had to be apparent at all times and there was a clear demonstration of how the various disciplines of e.g. law and ethics, psychology and sociology, biosciences etc were relevant to practice and therefore integrated. The strategy adopted to fulfil requirements to ensure "fit for practice" professionals were that of an enquiry based perspective. Additional to this was the need to develop the students as lifelong learners. In other words the student needs to learn how to learn from and with others.

In line with government policies to encourage more students to enter the professions of nursing and midwifery (DH 2001), the institution which is the site of this curriculum, has widened the entry gate into pre-registration programmes and a number of older, more mature students have enrolled on the new programmes. This may have
implications for the quality of enquiry-based experience, which this group of students would bring to the curriculum.

In keeping with the new NHS plan (NHS Executive 1998), which emphasises input from users and clients of the services provided by these future practitioners, a number of meetings were held with consumer groups at the planning stages of the curriculum. This was to ensure elements of the client and user care would be integral to the students' development. Some of the issues raised were to enable clients to make informed choices, to enhance empathy through communication skills, debriefing for students from experiences of complications in childbearing, tutor/mentor confidence in supporting these reactions and increased availability of health education and promotion to the public. To ensure that these issues were addressed and development of the students was appropriately facilitated, professional tutor groups (PTGs) were created and enquiry based learning and feedback sessions were programmed into the curriculum.

In ensuring that theory and practice were firmly linked from the very early stages of the programme, students were to go out into practice and work with mentors and clients for one day a week during the first module. Feedback from practitioners at the planning stage indicated that they envisaged the new curriculum to be more practice centred and more appropriate to the needs of the clients. The implications are that an EBL process is significant to long term learning and the retrieval of that knowledge. In developing and using such a model on this new midwifery curriculum, this institution is moving towards a new and revised concept of what enquiry based learning represents and what the implications are for students, tutors and mentors accessing this programme. In other words, in evaluating this curriculum outcome evaluations are not the only issues that may require exploration.

1.5 Methodology
I have considered various methodological approaches to this evaluation (Chapter 3). A constructivist approach within evaluation research calls for methodologies which use both qualitative and quantitative methods and recognise the value of both. Within this paradigm evaluative methods of measurement move from positivist approaches to descriptive methods and then on to interpretative approaches. For the purpose of this research a form of action research approach has been used, as previously explained. Different knowledge is developed from various methods but the many perspectives of a multiple approach to reality ensures a kaleidoscope (Denzin 1989)
which will make the whole, as the many colours which make a rainbow, each colour with its own properties but which together constitute the rainbow.

In this evaluation however, it seems necessary to separate out the distinction between evaluation of EBL in terms of content, structure and practice and, concept, meaning and theory, as discussed earlier. It may be possible to explore the concept of EBL through an outcome examination of the consequences of content and process. It appears that multiple realities of EBL may co-exist but a tension is created between seeking to create an ideological approach, which is empowering for users or participants of the curriculum and which is perceived to transform midwifery education, and the realities of its consequences as examined through empirical data, and therefore drawing on principles of grounded theory. In attempting to frame questions on an empirical and theoretical level, the context and social conditions in which EBL occurs, is also explored. Arguably, through theoretical reasoning, in understanding how EBL socially constructs knowledge and transforms practices, an understanding of content and process, leads to an exploration of the consequences as its outcome and is examined through the theories that explore the concept of EBL in an integrated manner. The subjective interpretations of EBL become the object of the analysis as the basis of its reality through an ethnographic approach to examine its process. However, alongside this, in examining the phenomenon of an EBL concept a phenomenological perspective is also required. Midwifery education and practice is a social activity and, by implication, its reality drives the social construction of knowledge through interaction between its participants.

Finally I have considered the additional approach from a researcher perspective which can have an impact on the methodological approach to the research. I bring to this research my experience as a clinical midwife in the field for twenty years and as a tutor on midwifery programmes for the last five years. I therefore have both an insider and outsider perspectives of midwifery practices and education. I am seeking the “knowing that” an EBL approach is effective through quantitative methods and “knowing how” as reflected through an outcome process as evaluated using a qualitative approach. I further seek the “knowing why” through an enquiry into the concept of EBL supported by emerging data, supportive theories and personal observation through field notes. To summarise, this research has used an ethnography approach drawing on principles of phenomenology to integrate empirical data and theory. In addition a self-ethnography approach makes sense of the researcher role in this process.
1.6 Philosophical perspectives to support the research

The final section of this chapter explores the philosophical perspectives, which will underpin the construction of concepts from the empirical data, and help to develop a coherent concept of curriculum based on the research. The nature, philosophies and practices of an EBL teaching and learning strategy in a midwifery curriculum as such originate in a problem solving epistemology and methodology. Evaluation is considered, not purely from a scientific process, but from a humanistic approach, considering social, political, psychological, cultural and historic perspectives. In Chapter 6 I have examined how midwifery knowledge is legitimised through an EBL approach, which is perceived to empower the learner and tutor both in practice and education. Through an EBL approach, it appears that this curriculum moves from positivism (purely scientific approach) through to multiple interpretative approaches to recognise the differences and allow an alternative understanding of individual perceptions and interpretations of the nature of EBL. It is not simply describing the phenomenon of enquiry based learning, through a behaviourist perspective as the skills observed and measured through this method. In addition, its constructivist nature arises from the multiple interactive processes between researcher, and various participants during this evaluation, and thus is ethnographic in nature to examine an EBL process, drawing on principles of phenomenology to explore the meaning EBL has for participants. It thus draws on elements of, and employs hermeneutics as an interpretative approach, within an phenomenological interpretation which "seek[s] to discover naturally arising meanings amongst members of the study population" (Berg 2001: 27). A hermeneutic approach is particularly suitable, as it explores the construction of knowledge from various sources, to emerge with a new construction of knowledge and a better understanding of EBL. However, interpretation is by both participants and researcher and can present multiple realities of this investigation. The researcher perspective is viewed as a self-ethnographical approach where I, the researcher, am participating as a tutor in facilitating EBL, over the three-year period of the curriculum, seeking to describe and understand the process and concept of EBL through the view point of the participants. Thus data are generated through a variety of methods and from a variety of sources, with the result that an objective reality is rejected and a social construction of reality from many individuals defining the concept of EBL within the midwifery curriculum, is the ontological approach. The epistemological approach is such that the reality of EBL exists because of the interactive process within this strategy and the construction of its reality through the enquiry process.
Arguably, participants are both subject and object in this approach. This participation will actually construct the evaluation and may lead to recommendations for changes as perceived by the various participants. It could, therefore, be argued that, EBL draws on adult learning theories and practices (Chapter 7), which span behaviourist, cognitivist and constructivist methods and moves through conditions of deconstructing to socially constructing knowledge in a critical and reflective manner. I see this curriculum as moving towards a critical constructivist theory of learning and the various theoretical perspectives that underpin the concept of an EBL approach are examined alongside the evaluation of this curriculum. Much of the literature, around enquiry based teaching and learning, documents outcome evaluations of content, process and consequence of this approach. Therefore the literature, which examines the concept of EBL through a theoretical perspective, is also explored. This different perspective appears to be limited so far in the literature and has not been fully articulated. Socratic in nature, the EBL approach is examined from many theoretical perspectives and as previously discussed "theoretical resonance" is attempted (Chapters 7,8 & 9). Mason (1996:158) states that:

the focus of the activity is in comparing everything on the basis of specified themes, rather than selecting specific comparisons in order to test out developing explanations.

An EBL process itself, follows a cycle of trigger, discussion, analysis of theory and practice, reconstruction, action and reflection. Therefore, it lends itself to critical social theories (Chapter 8) and critical reflection (Chapter 9) which are examined, in terms of the themes of effectiveness of EBL, from a psychological and social impact on individuals and as a cohort using an EBL approach. However, before exploring the various theories of an EBL concept, this midwifery curriculum as a whole is placed within educational and learning theories (Chapter 7) and set within its historic background in exploring its impact on the social construction of knowledge and its relevance in empowering its users. The discussion on learning, knowledge and power in midwifery education and practice is explored in Chapter 6.
1.7 Summary of the Research Process
First an outcome evaluation of the effectiveness of enquiry based learning, within midwifery education, in terms of content, process and consequences is presented.

This first chapter has introduced the research, which is a case study evaluation of the effectiveness of EBL within a new midwifery curriculum and the rationale for this process.

Chapter 2 will give an overview of the available EBL literature divided into the following sections:
- Defining enquiry based learning, its framework within the curriculum and the underpinning theories
- The historic development of enquiry based teaching and learning
- The aim, structure and content of enquiry based learning as a teaching and learning model to include advantages and disadvantages of this teaching and learning strategy in different contexts
- The physical, practical and the psychological process of enquiry based learning within a curriculum
- The outcomes and implications of enquiry based learning
- The assessment process of enquiry based learning
- The evaluation of enquiry based learning from a student, mentor and tutor perspective

Chapter 3 will present a discussion of the methodology, and methods used in terms of evaluative research, to include both qualitative and quantitative approaches. The researcher role as insider and outsider and relevance to this thesis will form part of the discussion in this chapter.

Chapter 4 will present an analysis of both quantitative and qualitative data and an interpretation of the results presented. This is carried out as follows:
- Content analysis of the student reflections which identified the five constructs or themes pertaining to effectiveness of an EBL strategy
- Statistical analysis of questionnaires, using SPSS for windows and applying: Cronbach's alpha for inter-item reliability of questionnaires
Spearman's test for comparing non-parametric data on age groups, diploma and degree students
Normality tests to determine skewness and kurtosis of data presented
Pearson's Correlation tests for 5 Constructs of Effectiveness Means for parametric data
One way ANOVA to identify differences from the data of the 3 groups across each year
Unpaired T-Tests to examine these differences between groups and years
Two way ANOVA to examine differences across the 3 groups over the 3 years

- Content analysis of interviews from a sample of the 3 participant groups

In addition, hand written field notes as a tutor participant observer and as a researcher carrying out a case study within evaluation research contributed to the data.

Chapter 5 will discuss how the data link to the known literature on outcome evaluations and the implications for revisiting the underpinning theories to an EBL process.

Secondly, a justification and an evaluation of the concept of an enquiry based approach in a midwifery curriculum, from a theoretical perspective is presented. Three main theoretical concepts identified through data collection and analysis are examined individually in chapters 7, 8 and 9 and illustrated by empirical data from the evaluation. These include:

1) Interactive and group learning underpinned by adult learning theories
2) Critical reasoning underpinned by critical social theories
3) Reflection and action underpinned by the literature on reflective practice.

However, Chapter 6 will first place this new midwifery curriculum within its historic background to explore the concept of EBL as an approach in linking learning, accumulated knowledge and empowerment in midwifery education and practice.

Chapter 7 will place the research in context, in terms of defining the midwifery curriculum, within curricular theories and theories of learning, moving from
behaviourist approaches through to constructivist strategies, drawing on Dewey's (1916-1987) and Vygotsky's (1978,1987) work amongst others.

Chapter 8 will discuss how an EBL process is underpinned by critical social theories referring to literature by Gore (1993), Freire (1970-1998) and Habermas (1971-1991) amongst others. Issues around critical reasoning are also explored underpinned by the literature of various authors.

Chapter 9 explores how critical reflective theories may underpin the EBL process to result in reflective and competent practice as supported by theories and philosophies through Dewey, Schon (1983,1991) and Vygotsky amongst others.

The concluding chapter 10 will present the discussion in linking the data from the evaluation of the curriculum to theoretical resonance and what conclusions are reached in moving towards a new midwifery curriculum. Evaluation of the thesis and the research will be carried out, and conclusions and recommendations for future research as a result of this thesis will be presented.

1.8 Conclusion
This chapter has introduced how this thesis will evaluate the effectiveness of an EBL strategy within a new midwifery curriculum. It identifies the various aspects of the approaches taken and distinguishes between outcome evaluation of the content, process and consequence of an intervention such as enquiry based teaching and learning, and the exploration of EBL as a concept within midwifery education. Finally the interviewer/researcher effect is introduced and it is acknowledged that this may bias the findings, as would participants in this research. Arguably members of this institution, may accept the introduction of an EBL process within the midwifery curriculum as the norm, and would not express negative or opposing views. However, personal perception from the various individuals may add to a body of knowledge and articulate the realities of an enquiry based teaching and learning approach.

To conclude, this introductory chapter sets the background to the research and the rationale for introducing enquiry based teaching and learning strategies. It explores the type of evaluation being pursued, the various methodological approaches to this evaluation and the rationale for their use and, finally the philosophical rationale for this evaluation to achieve “theoretical resonance” and constitute new knowledge.
CHAPTER TWO
OVERVIEW OF ENQUIRY BASED LEARNING

2.0 Introduction
This chapter will explore the literature on outcome evaluations of an enquiry based teaching and learning approach in education. It will examine the body of knowledge on this topic and conclude how my own research will further this knowledge. The chapter will be reviewing literature which specifically focuses on outcomes of an enquiry based process, whilst the origins and philosophies underpinning enquiry based learning as a teaching and learning strategy will be explored in greater depth in the second part of the thesis. Operational definitions of what constitutes enquiry based learning (EBL) and its source of origin, problem based learning (PBL) will be clarified at the start of this section. The discussion will centre around tracing the development of enquiry based learning, in its many forms, but in particular the shape it has taken within one midwifery curriculum being examined.

A systemic review of the identified areas (see inclusion criteria) was carried out using both computerized databases and manual searches through both university and trust libraries. The following data bases were accessed: BIOMED, CINAHL, MIDIRS (Midwives Information and Resource Services), BRITISH NURSING INDEX, MEDLINE, ERIC and TLS (Teaching and Learning StudiesCentre).

Using Athens at the University Library website through OVID allowed easy access to medical and allied professions on CINAHL, BIOMED, BRITISH MEDICAL INDEX and MEDLINE. A vast amount of papers, to include various approaches to an evaluation of PBL and EBL curricula, were accessed. These included anecdotal and opinion papers but also some primary reviews in the year 1993 (Albanese & Mitchell and Vernon & Blake). A number of comparative studies as primary research, in medical school education, were also identified. Generally these select seminal pieces of work were quoted in subsequent research. A large number of opinion papers or perspectives, by various participants or users of this new approach to learning, were documented. Research carried out in the last five to ten years documented modular evaluation or aspects of curricula using PBL or EBL approaches mostly in the nursing and medical field. Few gave perspectives of midwifery curricula using this approach and none documented evaluation of overall outcomes of EBL in midwifery programmes. Manual searches were carried out in educational and research journals in particular around issues of adult led education and related research.
The majority of the research on PBL is carried out to assess medical school outcomes in terms of teaching and learning and using PBL approaches. However other professions had documented the use of PBL as a teaching and learning strategy. These included physiotherapy, dentistry, occupational health, management and literary studies (Drummond-Young 1998, Williams 1999, McGrew et al 1999, Vanderbilt & Nashville 2000, Murray & Savin-Baden 2000 and Keys et al 2001).

There is at present a vast amount of literature around enquiry based learning and it will be divided into the following sections to make some sense of the many studies and reviews identified dealing with both PBL and EBL approaches:

- Defining enquiry based learning, its framework within the curriculum and the underpinning theories
- The historic development of enquiry based teaching and learning
- The aim, structure and content of enquiry based learning as a teaching and learning model to include advantages and disadvantages of this teaching and learning strategy in different contexts
- The physical, practical and the psychological process of enquiry based learning within a curriculum
- The outcomes and implications of enquiry based learning
- The assessment process of enquiry based learning
- The evaluation of enquiry based learning from a student, mentor and tutor perspective

It must be remembered, however, that such an intervention as an enquiry based learning within a curriculum, and its examination for effectiveness will not always follow a cause and effect philosophy. In their study of effectiveness of such curricula, Norman & Schmidt (2000: 724) state that: “in educational interventions, it is impossible to ... to attribute success or failure solely to the intervention”. The authors also believe that there is no such thing as a uniform intervention or a pure outcome. This approach has a number of characteristics, is used in many different ways, in many disciplines and countries. Its approach promotes self directed study, small group and interactive work and professional behaviour development to name a few and as such, an enquiry intervention demonstrates both positive and negative effects of a multidimensional and complex nature. As such an enquiry approach must not be treated as a single intervention but examined for its implication through its structure, process and outcome.
2.1 Defining Enquiry Based learning and the distinction from Problem Based Learning

Enquiry based learning is an approach to teaching and learning rather than a technique. As a problem solving strategy

is characterised by flexibility and diversity in the sense that it can be implemented in a number of ways in and across different subjects and disciplines in diverse contexts. As such it can look different to different people at different times... (Savin-Baden 2000: 3).


The enquiry based process is a teaching and learning strategy which uses enquiry as a starting point of learning. The enquiry or investigation is stimulated through “triggers” in the shape of scenarios, case histories, articles, video clips, taped conversations or pictorial representations. The emphasis is on an enquiry approach and the learning process generated through such an approach. Through the enquiry students determine what they already know i.e. deconstructing prior knowledge, and what needs to be known, in addressing the situation and to come to some conclusion in managing the situation. In the process, knowledge from a variety of disciplines is explored, developed and integrated i.e. reconstruction of prior and new knowledge. Skills are learnt and developed to address the situation and theory and practice are therefore integrated. Critical reflection is encouraged through this approach after action is taken, and the effect of this action is then examined for its impact on practice, practitioner and client. Other skills such as professional behaviour through appropriate communication, ethical, legal and moral issues are integral to enquiry based learning. Through reflection deficiencies and advantages in the learning process are explored and changes instigated to improve professional competence. Hence the reason for a “competency based outcome” approach rather than “content based outcomes or subject based outcomes” to the assessment of an Enquiry Based Learning Strategy within this curriculum. As such assessment needs to be consistent with teaching and learning methods and a “competence based approach” links professional competence with skills and academic achievement. What this thesis
attempts to add is an examination of the facilitation, outcome and assessment of these skills as developed through reflection and critical reasoning through the EBL process and defining specific theories that underpin these processes.

2.11 PBL models

Much of the literature documents examination of a PBL intervention rather than an EBL approach and the similarities and differences are not explicit and need to be clarified. In addition the various models of a PBL approach need to be identified so that a comparison can be made to an enquiry based approach and where differences exist. Longitudinal studies identifying the long term outcomes of curricula using a PBL/EBL approach in midwifery education has not been carried out and therefore is the overall aim of this thesis as evaluation research using a case study approach specific to this institution.

In creating a new curriculum, the curriculum planning team agreed that an approach, which embraces principles of effectiveness in teaching and learning, had to be the way forward. However, the midwifery team, during discussion, felt that a problem solving approach was not appropriate to the philosophy of midwifery care and contradicted the principles of promoting normalcy in midwifery care. In addition it appears to engender negative aspects of the profession in suggesting that midwives are required to take control and problem solve for women rather than working in partnership and collaboratively with them and their families through an enquiry process resulting in sharing of information. The difference is to emphasis the importance of integrating knowledge, which is not problem based.

There are a number of PBL models that individually do not fulfil a holistic approach to care so important in midwifery services. Those who fund curricula using a PBL approach direct the focus of learning and may be too prescriptive in content delivery to allow for a broader and more lateral approach to adult learning in midwifery education. Savin-Badin (2000) has identified various models to a PBL approach, which individually could be applied to midwifery education and is suitable to enhance learning. These include PBL models, which place emphasis on developing knowledge through identified content of learning shaped by problems and scenarios. Others focus on situations, which seek only examination and identification of appropriate professional action in certain situations. Other models focus on interdisciplinary understanding or transdisciplinary learning. Overall these models are directed at shaping the learner to access existing thinking and learning in the
profession and leaves no scope for intuitive thinking to develop autonomy and creativity in practice. The focus is on either personal development, development of learners through particular educational environments or through interaction with others. However, in a sense a PBL approach tends to focus on outcomes for individual learners rather than an examination of the impact of learning on professions and organisations in which they work. This presents difficulties with issues of power and control in the learning context, either from the perspectives of education providers or from the perspective of those who deliver academic content or teach practice skills.

Primarily, however, problem based learning places the focus in organising curricular content around problem scenarios rather than the client. In enquiry based learning students are expected to engage with the client and provide a complex and broad approach to care by considering a wide range of issues which moves beyond providing a solution to a situation. Through an enquiry approach students are offered the opportunity to explore a wide range of information which links the client's situation to their own professional learning and development and results in broader skills than those of just a problem solving approach. The focus is not on merely developing clinical skills to manage situations but requires an integration of academic disciplines to develop effective and competent professionals. Where the goal is to resolve problems in practice situations then the learning would more appropriately be labelled problem based learning. Price (2001:45) suggests that both approaches have in common "a philosophy of inductive learning, learning from experience" and designed to improve knowledge whilst working with others. However, an enquiry approach fulfils an analysis of clinical decisions made alongside an investigation and learning of why professionals make such choices and the underpinning concepts in terms of context, cultural history and theory that drives practice. Theoretical enquiry creates different perspectives on practice issues and explains distortions of these issues to facilitate socialisation of midwives into creative and autonomous professional behaviour. In addition EBL is designed to not only improve knowledge about clients and their situations but develops an understanding of how one begins to learn how to learn which is associated with "deep learning". Those students who utilize an enquiry approach become lifelong effective, critical and reflective investigators of their profession, to work collaboratively with others and be sensitive and responsive to the changing needs of maternity services (DH 1999). They are not merely becoming proficient in defined proficiencies but are creating a body of professional evidence based on sound knowledge and principles.
There is a vast amount of literature which concentrates on problem based learning which utilises a discovery method through problem solving, and has evolved from case study methods used at Harvard Law School, and a discovery learning philosophy as first described by Dewey (1938) and later Bruner (1968). Enquiry based learning is different from problem based learning (PBL) in that problems are presented and solutions sought in a linear fashion within PBL, whilst EBL explores clinical situation from a broad and lateral perspective. Magnussen et al (2000), claim that there are two major differences between PBL and EBL. Whilst PBL frames learning in the context of a client's problem, EBL focuses discussion to include the strengths of the client and examines the client holistically. Secondly, whilst PBL classroom sessions are conducted as tutorials, EBL uses a multiple approach to learning to provide greater flexibility in considering the client's issues. Finally a problem based learning approach is grounded in a medical model first adopted by medical schools and is different to the holistic philosophy of learning in midwifery which is better supported by an enquiry approach.

However, EBL shares similar principles to PBL and Grandis et al (2003: 4) argue that the term “problem” encompasses “enquiry”, which stimulates enquiry around the situation or problem in context, and “may or may not be directly related to it, but focuses on the learning issues to be explored”. In following this principle, because childbearing is not an illness or a clinical problem, then the term “enquiry” is more appropriate to midwifery. The principles are similar in both strategies, when coming to a solution develops the learning process and encourages an exploration of the sources of knowledge required. Such educational theory values prior knowledge and experience, promoting student responsibility and restructuring of knowledge through small group discussion, in which critical thinking and reflection is, fostered (Maudsley & Strivens 2000).

On the other hand discovery learning as explored by Bruner (1968) differs in its approach to both enquiry based learning and problem based learning, and implies that students reinvent or reconstruct knowledge, which they already possess and therefore are able to apply this to a given situation (Boud & Feletti 1991).

Enquiry based learning is not defined as just another teaching and learning methods but uses a broader approach to professional education mostly suited to learning styles of adults. It encourages the construction of professional knowledge and its use
Students are actively engaged in the learning process which is constructed in the context in which knowledge is to be applied, knowledge which is to understand learning and not just to acquire information. This approach encourages systematic thinking, learning from experience and learning in the context of the enquiry. The curriculum is structured so that situations from practice are the object of the enquiry and therefore stimulate learning in small groups of students, facilitated by a tutor, which is the basis for motivational adult learning and sets patterns for continuing education. In fact Camp (1996: 1) believes that overall an enquiry or problem solving approach to learning, "incorporates goals that are much broader than the acquisition and application of content". An enquiry process seems to foster the more positive attributes of learning in adult students. Adults learn only when they feel the need to learn and acknowledge a learning process that relates to and uses their own experiences. This enquiry approach uses humanistic ideologies and humanistic educational theories, an ideology that seems to have a social effect particularly through its individualism (Purdy 1997). It rejects reductionist theories and uses a more holistic approach to understanding the learning that underpins this enquiry approach. It seems that both Dewey and Friere form the basic philosophies of an enquiry or problem solving process in education. Dewey (1916) understood education to be a process of growth, which stimulated both personal and social change through a process of thinking and reflection. He saw education at the time to be restrictive and static. Freire (1985) on the other hand saw the possibilities of education to be empowering and transformative. He believed that through reflection individuals could understand their present state, take control and through a social process change their educational status. His understanding of a transformative education had more social and political undertones and involved action, as opposed to Dewey who believed in the humanistic perspective of individual values of education and which involved a thinking process.

2.2 The History of Enquiry Based Learning

The concept of enquiry based learning (EBL) derives its philosophy from dialectic learning of questions and answers that is Socratic in origin. The interactive process and group learning seems to be in keeping with Plato's philosophies and dialogues. Such principles gave rise to problem based learning (PBL) which is believed to have its foundations in the tutorial system at Oxford University in medieval times (Neufeld & Barrows 1974).
Enquiry based learning became a derivative of PBL. However, in more recent times PBL has its origins in the early work carried out at Cape Western Reserve University in the United States in the 50s. It was pioneered in health sciences as a new approach in medical curricula, which engaged medical students in problem solving as a strategy for learning. It was seen to address difficulties with retaining and applying medical knowledge to real life situations which lectures, tutorials and laboratory teaching did not encourage effective learning and long term use of acquired knowledge. Its popularity with students and teachers alike, was recognised and utilised initially for medical students at McMaster University in Canada in the 60s. This is where evidence-based medicine had its roots and flourished to provide a philosophy for all medical practices. By the late 70s PBL had spread to other professional education in Europe and other continents (Glen & Wilkie 2000).

However it was not until the late 80s and early 90s that the nursing profession recognised the benefits of PBL and its implications for practitioners in providing more holistic care to clients and creating more sensitive and reflective professionals. PBL claims to be based on a better learning model, moving away from a behaviourist approach with an "aims and objectives" model as suggested by Tyler (Kelly 1999), to a self directed approach within a "process or developmental" approach leading to learning achievements. Changes were occurring at this time, which moved professional training into educational institutions of higher education and therefore a new philosophy had to develop alongside these teaching and learning strategies. Changing needs in health care require that professional education is not delivered through a structured and didactic curriculum which does not allow flexibility in acquisition of knowledge and therefore ongoing learning. Work related to PBL, carried out at Maastricht in the Netherlands states that the quantity of this teaching strategy is no different to traditional methods, but the quality of learning is far more profound, "charismatic and humanistic" (Albanese & Mitchell 1993). In this first and earliest review of PBL, the authors argue that it was difficult to characterise the values of PBL as suggested by tutors and students alike. Reasons were diverse and multidimensional but they do conclude, through the use of twelve indicators to examine benefits of PBL, although this style of teaching and learning is more nurturing and enjoyable, that students tend to engage in backward reasoning rather than the forward reasoning that tutors use. Norman & Schmidt (2000) also support this view. The authors conclude that through this approach there appears to be gaps in the students' cognitive knowledge base that could affect practice.
More recently Colliver (2000) who concedes that the educational superiority of this approach relative to traditional methods has not been clear has raised controversy about the benefits of this teaching and learning approach. He concludes that there is no convincing evidence that knowledge base and clinical performance has been largely enhanced through the extensive input of enquiry or problem solving strategies. It appears that the evidence points to a more integrated model of teaching and learning which motivates and gives responsibility to students, and develops social practices through its teaching process. In examining the literature, it seems that the theories underpinning its development support the "reality" of its possibilities in terms of its effectiveness. The empirical data within this thesis will illustrate the theoretical discussion in later chapters.

Norman & Schmidt (1992) support the view that initially there may be reduced levels of learning which may be due to difficulties in determining what students had learnt by applying traditional competency measures. However, towards the end of the course it is believed that there is increased retention of knowledge, and that this knowledge is transferable to new concepts. Through an enquiry approach students engage in their learning, become self directed as the object of the learning is directed by the students' own need to know and the process of finding out. The authors conclude that there are three roles to this investigative approach:

(1) The acquisition of factual knowledge
(2) The mastery of principles and concept
(3) The application of these concepts and knowledge to a given and similar situations

On examination by many educationalists (Norman & Schmidt 1992, Vernon & Blake 1993, Albanese & Mitchell 1993, Wong et al 1995, Melrose & Shapiro 1999, Sinay 2000) PBL was found to work well and was more popular compared to traditional teaching strategies. In truth PBL is not only a teaching and learning strategy but as Vernon & Blake (1993) argue it is more of a complex mixture of a general philosophy, learning objectives and outcomes, and values, attitudes and beliefs.

2.3 Enquiry Based Learning Curricula

Barrows & Tamblyn (1980) attempted to define a problem solving approach to learning as
learning that results from the process of working towards the understanding or resolution of a problem,

which follow principles first laid down by Dewey (1938). However, it appears that, Freireian (1972) philosophies of transformative learning may underpin an EBL strategy within this midwifery curriculum under examination. It seems that students realise that they can learn from each other, and the learning is related to an enquiry based teaching process, which encourages both critical and reflective change and moves away from purely a problem solving exercise.

Dewey first advocated a change in education from a predominantly, static and authoritarian subject led educational system to one that was delivered in context to the social, economical, political and cultural realities, within which the teaching and learning took place (Dewey 1916). Students through their active engagement with learning and tutors, would learn to problem solve in a realistic situation. Such strategies of learning are both the means and the outcomes of a curriculum, which in Freire’s view of education, is transformative education, which supports learning for empowerment (Freire 1972).

On exploring the literature, underpinning the philosophies of Dewey (1916-1938), Freire (1972-1989) and Vygotsky (1989), it seems that theories of cognitive and social constructivism, underpin enquiry based approaches. Cognitive constructivism follows principles of cognitive reorganisation and manipulates data or information. Students take responsibility of their thinking and learning and this approach fosters ownership, as learning relates to personal beliefs and past experiences. It appears that students organise information around concepts and themes and develop an inter-relationship through the use of concept mapping based on prior knowledge. Students then address misconceptions and seek new knowledge to integrate to the old and form new concepts. Through a social construct perspective, it might be argued that individuals come from different cultural backgrounds, which influences their perceptions of practices. However their learning reflects real situations and their decision making is built on group discussion, common interests and experiences. Their learning is therefore both meaningful, and is product and process oriented. Group dynamics within small group learning encourages interaction, discussion and sharing of ideas to reach a common ground. It seems that these are principles based on Vygotsky’s (1987) “scaffolding” of knowledge through facilitation and interaction, within a socially constructed context of the adult learning environment.
Vygotsky’s theories underpinning an EBL philosophy will be discussed in a later chapter.

Another supporting principle within an EBL process is that of reflection which Schon (1983, 1987) believed could be useful in integrating theoretical knowledge and practical knowledge. His reflective practitioner model is integrated within the EBL process. He labelled theoretical and practical knowledge as “technical rationality” and “professional artistry”, and argues for the creation of professional knowledge within context, mediated through reflection. It seems that through reflection students can determine the gaps in knowledge and appropriate action required, to reach a satisfactory closure to the situation. However, some authors believe that this could lead to ritualistic behaviour and moves away from a philosophy of enquiry and connectiveness of prior and new knowledge (Dolmans et al 2001). It appears that such ritual behaviour could be prevented if the tutor is facilitative and not directive. Tutors must change their role through an enquiry process to move from leading the learning to facilitating outcomes of learning and multiple or diverse solutions to a situation. Learning that is tutor led is viewed by some as objectivism, in which knowledge is “scientifically collected and objective” and is transferred from teacher to student (Dolmans et al 2001). This implies that EBL moves from objective knowledge to socially constructed knowledge through its process of critical enquiry.

Reflections on or about practice are an integral part of this learning process and can only occur if the learner has had some prior experience or knowledge on which to reflect. The works of Schon (1983, 1991), Boud et al (1985) and more recently Johns & Freshwater (1998) and Taylor (2000) indicate that through the process of reflection, a new perspective of the experience or situation can be gained, and learnt from, to change professional practice and behaviour, as a practitioner towards colleagues and clients. Students reflect individually, or in groups, through a collaborative process to develop interactive and social learning and it appears that such a process draws on principles of critical reasoning and social theories as explored in chapter 8. The structure of an enquiry based learning process using “triggers” has been adapted from Hutchings & O’Rourke (2001) and represented in Figure 2.0.
Figure 2.0 STRUCTURE OF ENQUIRY BASED LEARNING PROCESS USING TRIGGERS (adapted from Hutchings & O'Rourke 2001) AND THE IDENTIFIED THEORIES WHICH UNDERPIN AN EBL PROCESS

- **Receipt of Trigger**
  - **Brain-storming**
    - Concept mapping

- **Supporting lectures, theory and prior experience and knowledge**

- **Receipt of next trigger**

- **Group Dynamics to develop skills in:**
  - Interaction
  - Organisation
  - Leadership
  - INTERACTIVE THEORIES

- **Defining existing knowledge**
  - Analysing
  - Critiquing
  - Group discussion
  - Defining disciplines applicable
  - CONSTRUCTIVIST THEORIES

- **Deconstructing prior knowledge**
  - Gaining new knowledge and reconstructing results

- **Research skills**
  - Communication (verbal and written)
  - Critical analysis through discussion
  - Decision making skills
  - CRITICAL REASONING THEORIES

- **Presentation of conclusion from enquiry through assessed reflections in portfolios at the end of each module**

- **Student led and tutor facilitated**
  - **Feedback to peers at timetabled sessions**
    - **Individual and Group searching**
      - Small group meetings to discuss findings (not timetabled)

- **Enquiry skills**
  - Reflective skills
  - Communication skills
  - Conclusions
  - THEORIES OF REFLECTION

- **Spiral build up of knowledge whilst revisiting existing knowledge**
  - LEARNING THEORIES

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Anna M. Brown

Chapter Two—Overview of Enquiry Based Learning

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### Fig 3.0 The student learning experience on the 3 year Midwifery Curriculum

<table>
<thead>
<tr>
<th>Module/Level</th>
<th>Content</th>
<th>Teach &amp; learning</th>
<th>Triggers</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fundamentals</strong> - Level 0 (Dip) Foundations - Level 1 (Deg)</td>
<td>Introduction Biosciences, law &amp; ethics, Psychology and Sociology Nursing/Midwifery skills Professional issues Moving &amp; Handling</td>
<td>Lectures Small group sessions Professional tutor groups EBL sessions &amp; Feed Back Skills Lab</td>
<td>T1 NHS context - the role of the nurse/midwife T2 Family including new mother and baby - their needs T3 Scenario of young couple expecting a first baby</td>
<td>Portfolio of evidence including identified own learning needs, theoretical &amp; practice evidence of achievement related to module content and evidence of trigger group work Essay exploring a skill from practice underpinned by relevant discipline content</td>
</tr>
<tr>
<td><strong>Care Delivery – Level 1</strong></td>
<td>Continuing thread of first module content Focus on communication issues and health care interventions</td>
<td>As first module and communication workshops</td>
<td>T1 Nutrition across the life span T2 Infection control and microbiology</td>
<td>Portfolio of evidence as above Biosciences MCQ examination</td>
</tr>
<tr>
<td><strong>Holistic Midwifery Level 1</strong></td>
<td>Continuing thread of first module content Focus on basic midwifery skills &amp; reproductive biology</td>
<td>As first module and seminars</td>
<td>T1 Normal midwifery scenario</td>
<td>Portfolio of evidence as above Assessment in Practice of a Midwifery Skill Case Report of a clinical activity</td>
</tr>
<tr>
<td><strong>Empowering Women – Level 1 (Dip)</strong></td>
<td>Continuing thread of first module content Focus on psychosocial and sexual health and ethical controversies in childbirth</td>
<td>As first module and case study group debate and specialist clinic visits</td>
<td>T1 Assisted conception T2 Bereavement &amp; loss</td>
<td>Portfolio of evidence as above Essay with focus on psychosocial &amp; sexual health case study from practice</td>
</tr>
<tr>
<td><strong>Being with Women and Families – Level 2 (Deg)</strong></td>
<td>Continuing thread of first module content Focus on maternity service delivery, client education, child protection, pain management &amp; bereavement &amp; loss</td>
<td>As first module and case study discussion &amp; skills sessions</td>
<td>T1 Choices, flexibility and information T2 Pain relief in childbirth T3 Bereavement &amp; Loss</td>
<td>Portfolio of evidence as above Essay exploring evidence based practice related to one aspect of the module</td>
</tr>
<tr>
<td><strong>Midwifery Concepts Level 2</strong></td>
<td>Focus on research and neonatal care</td>
<td>As first module and debate of case studies</td>
<td>T1 Preconceptual care &amp; antenatal screening for abnormalities</td>
<td>Portfolio of evidence as above Research critique exam (dip) Research Proposal (deg)</td>
</tr>
<tr>
<td><strong>Balancing Choices and Risks – Level 2</strong></td>
<td>Focus on pharmacology and complicated midwifery</td>
<td>As first module and debate of case studies</td>
<td>T1 Prolonged pregnancy &amp; labour</td>
<td>Portfolio of evidence as above Pharmacology examination</td>
</tr>
<tr>
<td><strong>Being with Women and Families – Level 2 (Dip)</strong></td>
<td>As for degree</td>
<td>As for degree</td>
<td>As for degree</td>
<td>As for degree</td>
</tr>
<tr>
<td><strong>Broadening Midwifery Practice – Level 3 (deg)</strong></td>
<td>Focus on complicated midwifery &amp; widening midwifery practice</td>
<td>As first module and Self directed work in small groups Seminar presentations</td>
<td>T1 Sexual health &amp; pain T2 The compromised pregnancy</td>
<td>Portfolio of evidence as above Essay on compromised mother, neonate or family</td>
</tr>
<tr>
<td><strong>Leadership &amp; Prac development – Level 2 (Dip)</strong></td>
<td>Focus on Management and Decision Making Issues</td>
<td>As first module and seminars &amp; presentations</td>
<td>T1 Decision Making</td>
<td>Portfolio of evidence as above Report on Critical Incident</td>
</tr>
<tr>
<td><strong>Clinical Eff &amp; Leadership – Level 3 (Deg)</strong></td>
<td>Focus on management &amp; Leadership</td>
<td>As first module and specialist lectures</td>
<td>No trigger</td>
<td>Research Dissertation</td>
</tr>
<tr>
<td><strong>Supported Midwifery Practice</strong></td>
<td>Consolidation of Practice &amp; Midwifery Supervision</td>
<td>Presentation of Dissertations where applicable</td>
<td>No trigger</td>
<td>Portfolio of practice evidence as above</td>
</tr>
</tbody>
</table>
Figure 3 outlines the present midwifery curriculum at this institution.

In the midwifery curriculum under investigation, it appears that a critical reflective process occurs when students are presented with a “trigger” from practice and encouraged to draw out concepts, which may explore the knowledge required to arrive at an understanding or management of the situation. Students discuss the “trigger” in small groups and through a process of discussion and interaction, develop concept maps, which draw on a variety of disciplines to explore the issues related to the given trigger. The students feed the outcomes of discussion to a tutor facilitator who encourages or directs exploration in various avenues. Students then self allocate work and decide who would carry out the searches for related literature to the “trigger”. After an agreed period of enquiry, students feed back to one another, facilitated by the tutor and as such knowledge is shared, discussed and then reflected upon, so that new issues may emerge and understanding of the “trigger” developed. Skills required toward the exploration of the “trigger” are learnt and developed in the enquiry process and theoretical knowledge is drawn upon to arrive at an understanding. A spiral build up of knowledge is thus set into motion where concepts are revisited and developed with each new “trigger” presented throughout the modules which structure the curriculum under review (See Fig. 3.0). Critical reasoning and reflective processes through various reflective models (Appendix 2) are concepts that seem to underpin the EBL process.

The general conclusions, from the literature, are that EBL is seen as a method of self-directed, student centred learning with minimum guidance by instructors and maximum opportunity for exploration by students in preparation for continuing professional education (Swanson, Case & van der Vleuten 1995). However there is little agreement on methodology for assessment and the problem is compounded by the different types of design that problem based or enquiry based curricula can take. The varieties are enormous ranging from “open” to “guided discovery” type designs and combinations and hybrids in between.

Barrows (1986) describes a hypothetico-deductive process for the PBL curriculum that was utilised which is a pure form of open enquiry in which students form their own hypothetical ideas and seek information to arrive at solutions. Others, use hybrid or combined forms of EBL in which supportive fixed resource sessions or lectures aid discovery and the investigative process. The problem, situation or “trigger” stimulate the initial enquiry, an approach, which was first described by Dewey and explored by
many including Freire (1985). Disadvantages are described in some hybrid forms of PBL in that the programme content is not always appropriately covered through the “triggers” (Sadlo 1997). However, in an earlier paper by Sadlo (1995:10) it is argued that students feel trusted to take more control of their own progress, teachers become less authoritative or directive, and the ambience of the supportive tutorial group gradually becomes sociable, relaxed, encouraging and challenging but not threatening.

Other authors document difficulties with clarity of objectives and students forming cliques or tight groups which does not allow for whole team interaction (Kaufman & Mann 1996). One recent examination of the objectives of EBL concludes that objectives vary for those who fund, design, deliver and experience this strategy and may have a different understanding of its purpose (Conway et al 2002).

Other approaches have been those of complete implementation of EBL/PBL at the onset of the programme or gradual introduction to this teaching and learning strategy implemented as the modules evolved over the programme. There are disadvantages and advantages to both approaches. Curriculum design, content and process of EBL/PBL had been described and examined in many countries across many disciplines. One particular review of the literature, by Dolmans & Schmidt (1996), identifies some advantages, of this strategy in a problem-based learning curriculum, and state that these include increased retention of knowledge, enhancement of integration of concepts into clinical settings, development of self-directed learning skills and enhancement of students’ interest in subject matter. One such complete implementation of PBL has been carried out at Thames Valley University (TVU) and on evaluation of this curriculum, it was indicated that both students and tutors had some initial difficulties with adapting to an problem-based learning strategy (McCourt & Thomas 2001) and demonstrated similar findings to other studies. This, is also maintained by Schmidt et al (1996), through their research. Students were experiencing problems of how and what to learn and tutors found facilitation difficult but challenging and enjoyable. A n additional finding a t TVU w as t hat s mall g roup learning was a valued aspect of a PBL approach in midwifery education (Marks-Maran & Thomas 2000, McCourt & Thomas 2001). These findings are reiterated in a more recent evaluation of the value of small group learning (Steinert 2004).
In the last few years, EBL has been used in both pre- and post-registration programmes. A conference paper (Packham 2002) documents an evaluation of the effectiveness of this strategy in terms of post-registration outcomes in preparing autonomous practitioners. Findings suggested that an EBL approach prepared post-registration midwives to become evidence based practitioners capable of assessing relevant current research. No other outcomes of this approach have been documented in this small study (Packham 2002). E-mail communications with lead midwives of a large number of midwifery programmes in the UK, have confirmed that currently no other research has been published for pre-registration programmes evaluating the use and outcomes of an EBL approach within a midwifery curriculum. The list of lead midwives was acquired through the NMC library resources and a general e-mail enquiring about the use of EBL in midwifery curricula was sent to these identified midwives. The rationale for such an exercise was to obtain an overview of the spread and use of EBL in midwifery education. Those who responded were contacted by telephone and further questions were asked about process and evaluation of EBL/PBL strategies within their curriculum and their institution mapped to provide a picture of the overall spread of this strategy throughout the UK (See Appendix 3). Although this self selection may appears biased, those who did not respond to the e-mail could not be included, as the use of EBL/PBL could not be verified. Overall conclusions reached are that although some universities are adopting an EBL or PBL approach, most carry out modular in-house evaluation and one or two institutions are in the process of a whole curriculum evaluation but none have yet been published.

2.4 The Tutor’s and The Student’s Roles
In nursing programmes, some studies report experimenting with gradual implementation of PBL/EBL strategies and state that these were abandoned for more conventional teaching and learning methods. Some felt that advantages could be cost effective in tutor time allowing tutor facilitation and a degree of flexibility within teaching and facilitation of EBL/PBL from one module to the next. However, the disadvantage to this is that more tutors and tutor time to develop these changes would be required. Stepien and Gallagher (1993) believe that tutors who initially viewed this approach as risky and uncertain, found that the long-term benefits were that the teaching environment was exciting, motivating and immensely rewarding. It is argued that for an enquiry based learning process to be successful then a programme of staff development is necessary. In fact, several studies suggest that staff development needs to be a key component in the implementation of such
A constructivist approach to learning is directed not through the tutors giving out information but motivating and engaging students to present a point of view and use this as a pivot for personal development for individuals. The tutor’s role within an EBL approach may be examined in terms of the requirements for effective facilitation. Does this imply that a tutor has to be a subject expert to facilitate learning? Some studies conclude that students score higher in subject related examinations with an expert tutor facilitating (Hay & Katsikitis 2001). It appears that the philosophy inherent to an enquiry process supports learning through facilitation, which motivates enquiry and knowledge exploration and construction, and does not necessarily require expert knowledge but an ability to spark self-directed learning. It seems that subject or content does not drive enquiry learning, but focuses on the process of knowledge deconstruction which delves into many disciplines in its quest for knowledge reconstruction; content versus process expertise of tutors. However some studies indicate that students sought the facilitation of expert tutors to fill in the gaps in knowledge (Mpofu et al 1998). Dolmans et al (2002) conclude that tutors need to be both a subject matter expert and should be able to facilitate expertly the learning process. Whatever process the students and the tutor may choose to ensure effectiveness, it could be argued that an enquiry based approach to teaching and learning is an educational reform, and must through its implementation initiate change.

Katz (1995) examined the implications of tutor facilitation as a change from traditional teaching styles in terms of enquiry based teaching, where process and content are equally important and the author stresses the importance of promoting students’ self-development and enquiry skills. The author explores the nature of facilitation in empowering students to become competent in the decision-making process. He argues that the nature of facilitation is a process role through the exploration of the content of the learning package or “trigger”, in skills development, clinical experience and evaluation of students’ group dynamics. A tutor role moves from model, to coach and finally to a facilitative role (Miffin et al 2000).

To become an effective learner and be a safe and competent practitioner, the student must learn through and from experiences to be fit to practise. Professional practice skills are developed alongside knowledge, understanding and cognitive skills and
underpinned by values, attitudes and key skills as explored by Freire in his understanding of adult learning (Freire 1985). Schon (1983) implies that students learn to practice by reflecting on the experience, gain insight into the relationship between client and practitioner through the enquiry process and develop a broad knowledge base for the application in practice (Fish & Coles 1997). Reflections as such are a learning strategy within an enquiry based approach and are an integral part of the assessment for EBL.

Effectiveness of an enquiry based strategy is seen to be achieved when students are able to utilise the acquired new knowledge and apply it to practice in a variety of situations. In achieving this effectiveness, other criteria of real understanding of knowledge, professional competence, personal and interactive development and critical and reflective development in practice are also fulfilled. By actively handling information, students, within enquiry based learning groups, would be able to partake in a process, which allows reflection and an opportunity to articulate thoughts and ideas in a safe environment. Knowledge and experience would be shared and constructive feedback received from tutors and colleagues. Learning would then be successful if students can relate knowledge to experience, theory to practice and use feedback sessions to reflect on these experiences. This approach to learning, will develop sensitive midwives capable of using skills of critique and reasoning and developing the “hidden” elements of skilful communication, through empathy and intuition, necessary competencies in creating a “fit for purpose” midwife “being with” childbearing women.

The self directed learning role of students is a progressive development of the enquiry based learning process, and is believed by Miffin et al (2000) to gradually engender responsibility in the student and a gradual reduction in the directional role of the tutor. Small group discussion stimulates the recall of prior knowledge, which subsequently facilitates the process of new knowledge (Katz 1995). During this process, brainstorming is a learning tool within the learning environment to encourage responsibility and autonomy in learning philosophies, which underpin adult learning. However, initially, students familiar with traditional classroom teaching, may find this approach uncomfortable, as participation and presentation of findings through the search for knowledge may be intimidating to some students (Treloar et al 2000). Traditionally they would expect to be told the “right” answer and require prescribed learning in order to achieve the required grades. Thus ownership of learning is believed to be crucial to the success of EBL and the tutor’s role is
important in this process. However, group learning has been found to engender peer support and motivation to learn, when within a context of peer groups, students are encouraged to present knowledge which is critically examined and discussed by others, to foster a critical and reflective approach to learning (Savin-Baden 2001). However, group learning was equally found to have negative effects of hindering learning through insufficient participation of individuals within the group, personality differences, and could be a source of tension, frustration, dis-empowerment and anxiety (Wolf et al 1998, Firth 1986, Colditz 1980). Dolmans et al (1998) believe that if group members do not equally contribute to group's activities then social cohesion is not possible and negative group dynamics result. Indeed one examination of how an EBL strategy works for students, concludes that this comes about not because students are fuelled to acquire and construct their own knowledge or to be empowered through the process but as a result of needing to achieve success in examinations (Biley & Smith 1999). An exploration of these differences will be carried through my own empirical data to arrive at some conclusions about the effectiveness of group learning within an EBL process.

However, Coles (1997) implies that enquiry based learning is not the only way to promote the kind of learning needed in professional education. Other teaching and learning methods are required for students to understand the meaning of what they are learning. Broadbent (1976) argues that learners are more likely to retain information if they utilise multiple routes to make links in the information and to network knowledge. This process of elaborating conceptual knowledge ensures successful clinical reasoning underpinned by a source of rich knowledge through fixed resource sessions or lectures, problem solving or enquiry sessions, student centred searches to seek additional information, feedback sessions discussion, presentations and seminars and professional tutor groups facilitated by a personal tutor. Skills are then practised in a safe environment through the use of skills laboratories to ensure that the theory is put into practice or practice is underpinned by the theory. Abstract information is then related to the clinical experience. A summary of how such a curriculum has been compared with a traditional midwifery curriculum can be found in chapter 1.

Some authors argue that a combination of didactic lectures and problem/enquiry based learning sessions are beneficial as a teaching and learning model (Ghosh & Dawka 2000), whilst others emphasis that reasoning and autonomy in learning are the most important criteria for constructing an enquiry process (Des Marchais 1999).
One meta-analysis by Baker (2000) concludes that key implementation issues in EBL/PBL is to move from efficient teaching to effective learning. Another study from Australia, focuses on application of this teaching and learning strategy as a means of providing an optimal learning environment for students from diverse backgrounds (Treloar et al 2000).

2.5 The Aim, Structure & Content of EBL as a Teaching & Learning Model

It appears that EBL draws on a model of education, which Knowles (1980) describes as andragogy, which is defined as the art and science of helping adults to learn and develop. Engel (1991) state that conditions of effective adult learning is viewed through the active engagement of students in their own learning, integrating the learning between subjects and disciplines, a culmination of learning experiences to achieve progressively more challenging goals and learning for understanding. Stepień, Gallagher & Workman (1993) state that, in first adopting a model which encourages students to direct their own learning, the following questions needed to be asked:

♦ What do you know?
♦ What do you need to know?
♦ What should you do to get to know?

Through this process, students’ prior knowledge is valued and developed such that teaching is facilitative not directive. Such a curricular model ensures that knowledge is related to practice, theory is integral to practice skills, and evaluation and feedback of the learning experiences becomes the cycle to ensure continuing professional development and learning. Implicit in this model is the underpinning reflective and critical process, which students utilise in translating experience into knowledge, through an EBL strategy, enhancing effective learning through making links between the learning experiences and the reflective process (Boud et al 1985). Through this model students progress from dependent to independent learners and increasingly become more self aware and therefore empowered in the style and direction of their learning, to eventually arrive at being competent practitioners. Researchers at Queen’s University, at the Faculty of Medicine (2000) in Canada, believe that through this approach students are able to define their own learning gaps in understanding the context of relevant clinical situations. Students also displayed better recall and long term retention (Farnsworth 1994), of the material learnt in other similar clinical situations and EBL therefore, ensures deeper understanding of the material rather
than superficial coverage. Responsibility to one's own learning is therefore encouraged. Other studies from America document similar findings and observations of enquiry based learning from Stanford University (Corts 1998), emphasis the concept of learning over teaching, the wisdom of teamwork and the value of facts and information as the basis for decision making.

There are many reasons for using an enquiry approach and some research in using an enquiry approach (Bridges 1992) identifies that students retain little of what is learnt in a traditional lecture format and they often do not appropriately use the knowledge they have learnt. The author believes that an enquiry or problem-solving element within a curriculum enhances activation of prior knowledge, knowledge is more likely to be retained and later applied in context and this approach affords opportunities to elaborate on information through discussion and peer teaching.

The context in which learning takes place is of equal importance to the content of the programme and the teaching strategy (Coles 1988) as has been discussed earlier in the text. Students need to relate new knowledge to an already established learning context; an approach first examined by Vygotsky in his theory on the importance of culture in the process of learning (Nicholl 1998). They bring with them prior knowledge, life experiences and values which impact on their conceptualisation of new knowledge. Coles (1988) indicated that this was why mature students tended to perform well educationally in professional courses. This “baggage” or context is the framework within which students make sense of new knowledge. Facilitating learning through an enquiry based strategy motivates students to broaden their understanding by un-packaging prior knowledge and experiences, and synthesising old information to integrate new knowledge.

This contextual learning model has its foundations in Kolb’s experiential learning cycle, which, it seems, was influenced, by Dewey (1938) and Schon (1983,1991). Such a model follows the process of bringing concrete experience and knowledge to observations and reflections from which concepts emerge applicable to new situations and experiences (Kolb 1984). This model is suitable to action research in terms of participants learning through an ongoing change process, which embraces creativity and implementation of new initiatives in practice, followed by a critical reflective interpretation of that practice and the learning within (Maudsley & Strivens 2000). Jarvis (1995) argues that Kolb’s learning cycle combines the possibilities of two modes of experience, that of concrete experience, or that which happens along
the cycle of observing, reflecting, formulating abstract concepts, generalising and testing implications of concepts on new experiences. However, Jarvis (1987) claims that this is an over-simplistic description of the learning process and experience.

Thus the literature indicates that learning relevant to the context of the situation examined ensures that the appropriate content is explored (Brooks & Brooks 1993). Situated learning theory is an approach to learning through defining a situation and applying the relevant knowledge to it, and is one of the features of EBL and a guiding principle of constructivists’ learning and teaching strategies (Lave & Wenger 1991, Billet 1996). However Colliver (2000) argues that contextual learning theory does not fully support the reasons for making EBL a better learning model, as the author believes clinical learning occurs in context anyway. Maudsley & Strivens (2000) concede that this approach situated in context reinforces the developing professional identity of the learner. It ensures that both breath and depth of knowledge is addressed and the gap between theory and practice is decreased and integration occurs, resulting in effective clinical reasoning with appropriate application of clinical skills. However, there have been concerns about the breadth of content covered, but Albanese (2000) argues for an information-processing theory to support the effectiveness of EBL. This theory advocates prior knowledge activation, encoding information within context, which resembles the contextual learning theory, and a final process of elaboration of knowledge through interactive discussion. This last stage in the learning process arises from co-operative learning theories (Richards et al 1996), which uses trial and error learning methods and sharing between students to arrive at legitimate knowledge. Motivation and self determining theories are believed to be part of the EBL process (Williams et al 1999), which stimulate controlled versus autonomous learning practices and therefore promote greater conceptual understanding. I see these theories as being under an umbrella of social constructivist theories, much in keeping with Vygotsky’s principles (1987), and developed from his works.

Effective learning, it appears, is achieved when these processes are followed by critical reflection of actions and decisions made. Critical reflective principles and learning from experience, were developed by Dewey, through his work (Fisher 1989), and are an integral part of the enquiry process. Through a self-determining process, empowerment in learning, followed by reflection in action are the bases of a Freireian philosophy, which may have influenced Schon’s development of the reflective practitioner model. Schon moves this process from thinking and reflection into action
in and on practice. An examination of the literature surrounding the role of reflection as reconstructing knowledge, and its relevance as professional knowledge in determining competence in practice, will be discussed in chapter 9.

Such democratic principles of education are a reflection of Dewey's educational philosophy (1938) and the concept of self directed learning to empower and transform the learner are embedded in educational principles first explored by Friere (1973), in examining adult learning. For Dewey human experience is the start of the reflective enquiry, to develop knowledge through meaning and relevance of the situation. Relevant skills and knowledge are developed in context to the learning in shaping professional practice whilst students maintain their own identity (Knowles 1984, Rogers 1989). Freire enforces this ownership of reflection to move on to change and action. Schon appears to complete the cycle by moving reflection in and on action, defining the process as implicit and intuitive whilst Dewey sees reflection as explicit and systematic.

2.6 The Physical, Practical and Psychological Process of EBL
Firstly, how practice knowledge is transformed into midwifery knowledge needs to be explored. Reed (1996) believed that practice has been viewed as applying knowledge, however, through an enquiry process it is in practice that a process of knowledge development also occurs. It seems that through an enquiry based process, an integration is possible between midwifery practice based theory and midwifery theory based practice. Such a process is founded in principles of pragmatics and life experiences as a source of knowledge. Dewey (1933) based his education theories on such principles to seek a better understanding and outcome of educational needs. Positivist "truths" are cast aside for other "truths" which rely on value-laden assumptions, multiple meanings and the use of written or verbal narratives, which give meaning to "reality". Through these discursive assumptions, professional knowledge is developed in and for practice. Through an interactive process, between tutor and student, student and peers, and student and client in practice, knowledge is developed and anchored in practice.

This thesis will examine how an enquiry based teaching and learning approach may generate a cycle of transformative education. It appears that a behaviourist phase in combination with cognitive and constructivist approaches are used in the learning cycle. Students observe actions and skills, professional language and behaviour and take in this information from practice, either in real life situations or simulated
conditions. Students then move into the next phase of learning by drawing out concepts and integrate these to prior knowledge and experiences, theories and conceptual frameworks, through a concept mapping process; this is the cognitive phase. Reconstruction of new and prior knowledge follows through a transformation of knowledge, which is then put into action. Critical analysis, reflection and reasoning completes the learning cycle through a self and peer review of the process. It could be argued that through interaction and integration of knowledge of self and practice, dynamics of development are set into motion within the social and cultural context of midwifery to challenge the boundaries of hegemonic discourses. Further exploration of these concepts will be discussed in later chapters. However, it is worth noting that Peplau (1952) in her interactive model in the nursing profession, was ahead of her times in advocating a similar process in generating professional knowledge. It is believed that her philosophies preceded the philosophy of an enquiry or problem solving process in the medical professions (Reed 1996).

Such philosophies are the principles of effective learning and as equally applicable to principles for effective teaching. Robinson (1994:7) in her research on interactive process and group dynamics within her classroom observed additional and wider benefits of interaction as the basis of good teaching [which] gradually shifted into the richer and more specific realm of empowerment.

It seems that the philosophical underpinning of both interaction and empowerment are based on Freirian (1972) principles and Vygotsky (1978) for his interactive philosophies, and “scaffolding” of knowledge as a basis of effective teaching and learning. An interactive process needs to consider social theories and the context in which such socialisation occurs and a perspective of critical social theory can be examined through Habermas’s (1971) work and other relevant writers.

In examining the principles developed by Vygotsky (1987) in terms of “scaffolding” of knowledge, it appears that this does not mean attaching new knowledge to old, in a hierarchical fashion but meaning driven and therefore interpreted, processed and actively constructed to fit into a schema of understanding and prediction. Widmayer (1998) argues that Schema theories are in contrast to Piaget’s stages of single bodies of knowledge at any given time as opposed to a networking of specific bodies of knowledge, which inform the situation. Schema theories therefore fit in well with
enquiry based learning and its use of "triggers" within this new midwifery curriculum. It appears that students use the principles of building on or "scaffolding" single bodies of knowledge at the start of their learning. They then progress to principles in keeping with schema theories which must have their foundations in Vygotsky's (1978) theory of socially constructed knowledge, and recognises the role of an individual's culture and prior experiences in the process.

There are several potential advantages to an enquiry based or problem solving approach to learning but Norman & Schmidt (1992) claim that there may be specific psychological benefits from their review of the literature but there is little experimental supporting evidence. They conclude that students using this process may be more highly motivated, are better at solving problems and self-directed in being able to learn and recall information. However, on using this approach initially learning levels may be reduced but may foster, in the long term, increased retention of knowledge. Another benefit seems to be that there may be an enhanced ability to transfer concepts to new clinical situations and that these concepts may be integrated to basic scientific knowledge.

How well knowledge is applied in practice indicates competence through professional performance. Norman & Schmidt (1992) describe the learning process as influenced by many factors, but there is retention of knowledge if there is a similarity between learning through a simulated situation or trigger and the context in which the knowledge is subsequently retrieved.

Many are the theories which underpin an enquiry based learning philosophy, however it is as equally relevant to examine the philosophies underpinning midwifery models to gain perspectives not only through philosophy and theories of education but those in keeping with effective models of midwifery practice. McFarland (1999) states that

the most widely used models of care in the UK are the medical model (Bryer 1995),

All three models are unsuitable for midwifery practice and by implication its education as they purport a functionalist ethos moving away from humanistic principles. However, McFarland (1999) believes that Downie et al's (1996) health promotion model is more in keeping with the demands of an evolving midwifery profession,
which requires empowerment, responsibility and accountability in governing its own education, statutory and regulatory processes.

The introduction of a midwifery model must address the humanistic requirements of both client and professional and in moving away from medical models, addresses the psychological well-being of individuals. In other words it uses a holistic approach which develops the “spirituality” of the practitioner to embrace both the science and art of midwifery. Concepts which underpin the qualities of empathy, intuition and non-verbal communication are necessary to enable midwives to “be with women” throughout the childbearing process. An enquiry based process within a midwifery curriculum appears to promote the understanding and care of self and others, generates control, empowerment and satisfaction with the learning process and fulfills the philosophies of its profession. Price & Price (1993) argue that relevant knowledge should underpin all midwifery models but that midwifery theory should avoid the excesses of models that seek to categories practice and organise its education. Eraut (1990) offers some insight into how the six types of appropriate knowledge facilitates competence and underpins practice.

2.7 The Outcomes and Implications of EBL

In a recent project, of a systemic review and meta-analysis of PBL for post-registration nurses, carried out by Newman (2001, 2004 personal communication), the author argues that this method of learning assists “students towards achieving a specific set of competencies and is the method of choice for professional education, because it is particularly suited to support the conditions that influence adult learning”. Similarly, this could be applicable to the aims and outcomes of enquiry based learning, within pre-registration programmes, which aim to develop competent practitioners to become learners, who pursue continuing professional development. The outcomes are a complex integration of the cognitive, psychomotor and affective domains through the elements of enquiry based learning, which relates simulated material to closely resemble real life situations. Students determine outcomes to the situation by accessing learning materials through lectures, prior knowledge and experience and developing new skills and knowledge through the process of investigation. A tutor guides or facilitates this process.

However Newman (2001: 7, 2003) could not come to any conclusions from his review in terms of agreed design of PBL in curricula, preparation or facilitation of the process. He identified from the review, however, that overall approaches to learning
favoured PBL intervention “but does not provide robust evidence about the effectiveness of different kinds of PBL in different contexts with different student groups”. The author also points out that what is labelled by various literature as a PBL intervention, is not sufficiently described to distinguish this approach from other educational interventions. He adds that there is little evidence in “how one might meaningfully describe the particular philosophy of learning” or theories that underpin the concept of PBL. Therefore there is scope in my thesis to examine these issues Newman raises in terms of an EBL intervention in a midwifery curriculum for pre-registration midwives, making this enquiry specific to this institution. In 2004 Bebb & Pittam document an evaluation of the effectiveness of an Inquiry based learning whole curriculum strategy for pre-registration nursing. Used in these terms the curriculum changes the focus from “asking or “questioning” process with ‘enquiry’ to one of “investigating” through ‘inquiry’. The authors do not make the distinction, but it appears from the research, that Inquiry based learning is taken to mean the same as an enquiry approach. It successfully promotes good communication skills, a satisfactory general knowledge base with an ability and desire to lifelong learning, good clinical skills, an enthusiastic and questioning approach to care, excellent IT skills and a self-motivated and self-reliant approach to learning. However, defining through my research, exact details and descriptions of an EBL intervention, an exploration of its process and outcomes as underpinned by specifically identified theories will arrive at robust conclusions about this intervention in context and further the body of knowledge in a more structured manner.

Barrows & Tamblyn (1980) state that learning through this process is summarised and integrated into existing knowledge and skills. Students are expected to work in small groups or teams as an approach to tackling the situation or the posed problem or “trigger”. This strategy is seen to be essential for building up professional team membership and players so important in the clinical workplace. Throughout this learning process it is expected that group dynamics are constantly shifting and changing. One focus of my thesis is the interactive processes within EBL strategies and the effectiveness of small group learning which is analysed in detail in chapter 5.

Hutchings & O'Rourke (2001) used a problem solving approach in literary studies and believe that besides providing a stimulus to learning, this process delivers a number of valuable experiences, mainly team working, communication, analytical and critical skills development and peer and self assessment amongst others. However they conclude that a combined or hybrid approach, in which an enquiry
approach is supported by a “spine” of tutor-led seminars, provide reassurance to students and which they believe are an aid in part towards the enquiry process. The authors view the role of the tutor as a resource and facilitative in nature, which requires a sharing of responsibility between tutor and student. It is their understanding that an enquiry process within literary studies promotes creativity of the subject. Such creativity could result in radical changes as a result of the enquiry process. A personal communication with Sadlo (2004) suggests that a hybrid approach to learning on the other hand weakens or waters down this creativity and a total self-directed approach is more effective in exploring the issues. Again one focus of my thesis is an examination of the skills of communication and perceived “sensitivity” demonstrated through intuition and empathy which could be seen as a by-product of an EBL process.

A review of the outcomes of an enquiry based strategy, identifies many opposing views about its benefits and disadvantages within a curriculum. Some studies support the long-term effectiveness of this strategy with respect to basic and clinical science knowledge acquisition (Enarson & Cariaga-Lo 2000, Vernon 1995, Albanese & Mitchell 1993). Others conclude that no difference is found in students’ performance and is unaffected when the focus is on either student centred or faculty led learning (Steele, Medder & Turner 2000). A recent review of outcomes and the effectiveness of EBL in terms of knowledge acquisition and clinical skills concludes that again there are no differences to be found between this method of teaching and learning and traditional methods (Collvier 2000). The only difference found was that EBL improves and makes enjoyable the learning and working environment for both students and tutors, and graduates are more likely to seek affiliation and continue with professional education (Albanese 2000). Other authors would argue that, although it is perceived that considerable benefits are gained from this strategy, students’ concept is that this strategy caused tension, in terms of making transitions from a traditional to an enquiry process of learning, and remembering the aims of the learning, in terms of emphasis on the importance that students place on knowledge acquisition (Biley 1999).

When implementing an EBL process within a curriculum, many challenges are evident in terms, of its process, content and outcomes. However, it seems that the integrating of theory to practice is crucial to its success. Situations derived from practice “cause practitioners, policy makers and educators to articulate their professional practice and values” (Conway & Little 2001). This may result in a
realisation of the dissonance between theory and practice of policies, management, education and training, with its implications for the wider issues of social and cultural implications. Finkle & Torp (1995) state that such cognitive dissonance ensures engagement in learning, which is appropriate to real life situations and thus "an opportunity for critical thinking, metacognitive growth" and a real life situation "that promotes transfer and recall". Brooks & Brooks (1993) have suggested that this enquiry approach moves in a "holistic to parts" process to allow multiple points of enquiry and addresses many learning styles. These perspectives of effectiveness of an EBL strategy are examined in terms of teaching and learning styles through my own evaluation.

A review of tutor and student perceptions on the outcomes of enquiry-based learning will be examined in depth. The main data towards my work is centered around the perceptions of students, tutors and mentors in terms of effectiveness of EBL and hence this review would inform the basis of this investigation. One study, which examines self-perceived competence in practice, compared the findings between students using traditional curricula and PBL curricula of dental students in Toronto and Adelaide. There were similarities and differences but inferences were drawn about the importance of the learning context and feelings of competence (Greenwood et al 1999). Other studies examine students' conceptions of their learning through PBL (Caplow et al 1997). Whilst some of the literature examines tutors' perception of this teaching and learning process in various countries and disciplines (Drummond-Young 1998, Williams 1999, McGrew et al 1999, Vanderbilt & Nashville 2000, Murray & Savin-Baden 2000 and Keys et al 2001). Most document that tutors perceive an enquiry approach to teaching and learning to be more effective and offers greater satisfaction as a teaching strategy.

On reviewing the literature from McMaster University (2001), student responsibility through the enquiry process is a major outcome of the effects of this teaching and learning approach. Reciprocal respect between tutors, students and peers is seen as a process in the professional development of the students. Communication skills are developed and moral values are fostered, within a responsibility to help maintain group dynamics. Students through this enquiry process identify their own strengths and weaknesses, the gaps in their knowledge, and utilise a concept mapping process to set the enquiry into motion and arrive at an understanding, which is then shared and reviewed by peers, and facilitated through a tutor. Student ownership is a key factor in the learning process and Barrows (1992) believes that if the student is not
self directed then what drives the learning is what the tutor expects and wants from students. Another principle integral to the EBL process, is feedback from peers and from tutors. An examination of the literature by Parikh, McReelis & Hodges (2001), identified that although individual feedback to students by a tutor was the commonest form of feedback, most students preferred peer and group feedback. The authors also report that immediate feedback seems to have a beneficial influence on learning. Other studies identified the crucial need for developing self-assessment skills through an EBL process as a foundation for continuing professional development (Speechley et al 1994). EBL appears to build in these principles within its structural framework as a teaching and learning model.

2.8 Assessment of Enquiry Based Learning

Assessment implies the sampling of a person's activity or ability at a moment in time. It is, therefore an inference about that person's ability, which may not be a true reflection of the capabilities or failings of that person in the long term. However, assessment of a student is part of the assessment of an EBL curriculum which is an integral part of the philosophy underpinning such programmes and is a powerful influence in directing the learning performance of students (Brewer & Chen 2000). Therefore the content of assessment should include the competencies that it aims to achieve. It could, however, be argued that an enquiry process does not easily lend itself to assessment, as such competencies may be difficult to define and assess. Learning through an enquiry based learning process is not categorised and therefore difficult to assess. However, some form of assessment needs to be applied, such that students may be deemed competent practitioners at the end of their programme.

Socially reconstructed knowledge does not fit easily into the normal assessment process. Foucault (1980: 52, 184) would argue that although this learning strategy is seen to be empowering to students, its assessment process shifts the power back to the tutor in defining what counts as knowledge and the marking or grading process to enhance the tutor's power for the

exercise of power perpetually creates knowledge and conversely, knowledge constantly induces effects of power.

Foucault adds that a grading system,
establishes over individuals a visibility through which one differentiates them and judges them [whilst manifesting] the subjection of those who are perceived as objects and the objectification of those who are subjected.

In a sense, standardising methods of assessment, not in keeping with an enquiry based ethos, creates hegemonic discourses and discourages creativity through its normalising and judgmental process.

It is difficult to define what the literature says about the assessment process of EBL and in particular, what is being assessed i.e. the process or outcome of this teaching and learning strategy, competency, values and attitudes, bodies of knowledge, various skills to include practical and interactive skills, problem solving, decision making or study habits. Another issue identified is that a review of the literature on assessment of enquiry based approach reveals that no one particular assessment approach has been defined and used (Nendaz & Tekian 1999 : 240), but suggest that “triangulation of diverse instruments is required to obtain a fair judgement about students”.

The literature documents many aspects of assessment for this teaching and learning strategy. Assessment of effectiveness is an approach that underpins this thesis and thus reviews the literature surrounding these aspects. An “open” discovery approach emphasises the learning process through which students have the responsibility for determining what to learn as well as when and how to learn it. Such a principle of discovery learning was first advocated by Bruner (1968). Assessment in such programmes focuses on effectiveness of process variables such as self-directedness, motivation, problem solving efforts and attitudes. It is therefore difficult to assess learning outcomes because in effect each student is encouraged to pursue different perspectives of their learning objectives. In contrast a “guided discovery” approach follows specific learning objectives which are identified by curriculum developers for each problem, scenario or “trigger”. Continuous assessment alongside written essays, portfolios, reflective essays and clinical assessments are usually part of the assessment process. Assessment of learning outcomes possess fewer problems in this approach since the learning objectives that guide problems or “trigger” objectives can also guide and test development.

There is a wide range of instruments being applied in assessing the outcomes of enquiry based learning. However, these need to be explicit to EBL objectives and the
learning outcomes. In one study reviewed, in which effectiveness is defined as knowledge based performance as opposed to clinical competence, identifies no difference in learning between a student led versus tutor led learning, but warns against student led learning groups, in which a deficiency in the development of problem solving skills was identified due to short cuts in the learning process, that may have undermined the value of enquiry learning (Steele et al 2000). Assessment of learning outcomes, in this study, was carried out through a number of methods mainly objective examinations, questionnaires, focus group discussions and observation. A study which examines students' conception of their learning in a problem solving approach, uses diverse strategies and methods for collecting data and concludes that students were more aware of goals and expectations from such an approach, that efficiency and expertise was expected, and that the role of the tutor, was influential in the conception of learning (Caplow et al 1997).

In 1991, Swanson et al, stated that there was a need for a process oriented assessment such as the use of portfolios to include evidence of communication, group dynamics, team display, problem solving skills, learning to learn and how to access resources to gather information. Traditional assessment process does not seem to examine or determine competency skills of effective communication and evidence of empathy and intuition as demonstrated through reflective writing in portfolios. However, the literature around assessment through the use of portfolios is inconclusive (Ball, Daly & Carnwell 2000, Pitts, Coles & Thomas 2001, Harris, Dolan & Fairbairn 2001). Learning logs need to be kept to summarise activities and for assessment of learning to be both reliable and valid it must be on-going from one situation or trigger or assessor to the next. However triggers may vary in structure, context and complexity throughout the curriculum and marker's subjectivity of judging clinical competence through portfolios remains an issue (Norman et al 2002, Webb et al 2003, Spence & El-Ansari 2004, Driessen et al 2005).

Marks-Marar & Thomas (2000) amongst others (Spence & El-Ansari 2004) discuss the suitability of assessment and evaluation through a complete PBL curriculum for measuring of midwifery competencies. They support the view by Norman (1991) that assessment should be seen as a vehicle for learning and should specifically measure competencies in the context of "nurturing problem-solving skills" and the acquisition of knowledge through this process. Portfolio assessment is suggested as a positive influence on student learning yielding positive and affective outcomes and appears to encourage spontaneous collaborative learning (Tiwari & Tang 2003). Earlier literature
examines the effectiveness of assessment process within an enquiry based learning strategy (Phillips et al 1996, 2000, James 2000, Tait & Godfrey 1999, Fearon 1998) and arrives at varying conclusions. However, the main findings are that a variety of assessment processes are applied mainly through written and practical examinations, peer, self and tutor assessment, concept mapping, oral presentation and written reports. More recent studies confirm that a mixed method approach to assessment of competence might be the way forward (Norman et al 2002)

As discussed earlier little or inconclusive evidence exists on the effectiveness of reflections in portfolios as part of the assessment process in this enquiry based learning strategy. One such study, which uses portfolios as assessment tools within secondary school education, suggests that portfolio assessment causes anxiety to inexperienced tutors using this method and may result in additional time required to score or grade students' work (Wolfe, Chiu & Reckase 1999). Positive aspects of using portfolios, as a learning tool, have been documented, and through which personal and professional development has been identified in clarifying and achieving learning goals. It is believed that portfolios encourage ongoing self-reflection (Lonka et al 2001). Others state that portfolios may be used as a learning tool but have suggested that used an assessment tool may be unwelcome (Snadden & Thomas 1998). Webb et al (2003: 897) identify various models of portfolios which relate to the different aspects of assessment. The authors argue that the "key issue is whether portfolios are valid forms of assessment of learning and competence" and conclude that different models fulfil different assessment criteria but more research is required in this field. Other suggest that portfolios may have a high face validity in terms of their usefulness as formative assessment tools but disappointing from an inter-rater reliability aspect because of the disparity in expected contents of portfolios (Roberts et al 2002). Pitts et al (1999) suggest that using portfolios as either formative or summative assessment tools changes the structure of the portfolio itself.

Besides a process oriented assessment there needs to be an outcome oriented approach to assessment which can be integrated through the portfolios of evidence to demonstrate that students have achieved the learning outcomes for triggers, modules and eventually the programme. Criteria of evidence is derived from reflections of the students, mentor/user/ client feedback and achievement of skills competencies. A reflective approach, as described by Schon (1983), is underpinned by a perspective, which uses portfolios as a method of assessment. Others examine
the reflective process as method of learning and development (Miller 1999, Stewart & Richardson 2000, Stuart 2000, Taylor 2000), but varying conclusions are reached.

The underlying factor which must be remembered is that this programme in midwifery was developed in response to the recommendations of the Fitness for Practice document (UKCC 1999) to ensure competent practitioners at the point of registration. Thus it is assessment of competence that drives this curriculum, and a review of the literature on competence and its measure will be carried out in chapter 9.

2.9 Evaluation of Enquiry-based Learning and Conclusion
Evaluation of an enquiry approach to teaching and learning, again, is multinational and covers many disciplines. Various methods of evaluation have been used and a review around evaluation of an EBL process is examined in depth through the work of Davis et al (2000), O'Neill, Morris and Baxter (2000) and Jones, McArdle and O'Neill (2002). Most evaluations use a mixture of qualitative and quantitative methods through questionnaires, interviews or focus groups. Most use self-reporting methods from tutors and students, which always introduces an element of bias because of the novelty element and enthusiasm for a new strategy. Evaluations inevitably examine different variables in different approaches to enquiry based strategies within curricula and thus cannot really be compared for methodological approaches. Outcomes measured may also vary between each evaluation. A multidimensional evaluation of enquiry based learning, as reviewed by Connelly & Seneque (1999), maintain that knowledge construction should promote critical construction regardless of structure, content or self-direction of the evaluation.

Studies from Stanford University (Lieux 1996 : 19) suggest that assessment of a problem solving process tends to “emphasis growth in group communication and problem-solving skills rather than improvement in test scores” and indicates that such skills development will encourage transferring of knowledge to new domains, new professions and can help students’ successful futures towards employment and societal needs.

Portfolio assessment is one strategy that has been used in the evaluation of programmes (Gredler 1995). The authors maintain that it is an alternative tool in the evaluation process and is seen to enhance the quality of learning. Wolfe (1989) identifies the components of a portfolio as being biographies of works, a range of works and student reflections. The first two components are seen to illustrate the
depth and breadth of work carried out whilst reflections identify students' growth in learning and in a sense develops ownership of the assessment process. However, if used as an assessment tool the portfolio must identify and demonstrate evidence of competence (Moss et al 1992). Measuring competence serves as evidence of the programme's outcome, and must fulfil set criteria and standards. Such evaluations raise issue of validity and reliability in terms of agreement of portfolio scoring. The authors conclude that evaluation of programmes through a portfolio assessment may not be reliable evidence. However, another more recent review of portfolios and assessment of competence suggests that a variety of assessment methods are desirable and portfolios seem to have a potential to integrate these assessment methods (McMullan et al 2003). Wilkinson et al (2002) suggest that carefully specified portfolios can identify and meet the student's own learning needs and therefore useful as an assessment of that student's competence.

However, a meta-analysis of evaluative research for PBL indicated that irrespective of assessment, this method of teaching and learning was found to be significantly superior with respect to students' programme evaluations and measures of students' clinical performances (Vernon & Blake 1993). However, it is not sure how old methods of evaluation work in this new learning environment, are appropriate as tools in determining effectiveness of this enquiry process in teaching and learning. When evaluating the EBL process, learning achievement and the acquisition of knowledge to result in theoretical and practical competence, is what appears to be of importance and value, both from a student and, tutor and mentor perspectives. It remains to be seen, through this thesis, whether, this EBL strategy serves, both as stimulus for the search of knowledge, and as an effective tool for teaching and learning to retain this knowledge and applied competently in practice.

Finally before moving on to the next chapter to examine the methodological approach adopted in my research, an outline of the literature on enquiry based learning is summarised to identified the known gaps and where gaps in the research provides scope for development. As identified, Albanese & Mitchell and Vernon & Blake carried out meta-analysis of PBL in 1993. The conclusions reached from most of the literature reviewed was that a PBL approach to teaching and learning supported more humanistic perspectives to adult learning and the majority of students were satisfied with this approach. Data consistently favoured a problem solving approach but was found to be weak in supporting bioscience knowledge as applicable to medicine and nursing. Norman and Schmidt in 2000 examined the effectiveness of
PBL through a literature review on the subject and concluded that students developed a greater intrinsic interest in learning through this approach and that self-directed learning was enhanced. In addition scientific concepts were integrated to problem-solving skills in clinical situations. Initial difficulty with understanding underpinning scientific concepts was identified as a weakness of PBL by a number of studies but long term retention of knowledge was a positive aspect, together with collaborative group learning and the development of facilitation skills by tutors were other outcomes.

In this same year Colliver's (2000) controversial evidence was presented to suggest that PBL in medical education was not as effective as it was initially perceived. However Albanese (2000) responded with evidence that the approach taken by Colliver was essentially flawed when considering effect size in comparative studies between those using traditional curricula or those using an PBL approach as outcomes of PBL examined by the various researchers varied enormously. Newman (2001) who also carried out a review of published research on this subject, concluded that despite the volume of literature the evidence is inconclusive about the effectiveness of PBL.

Apart from these meta-analyses carried between 1993 and 2001, the literature presented in examining this PBL approach is diverse with many opinion, discussion, debate and descriptive papers available to introduce varying perspectives. The remaining literature is a collection of firstly, comparative quantitative studies of traditional versus PBL curricula in a variety of professions ranging across the world Brooks & Brooks 1993, Conway & Little 2001, Murray & Savin-Baden 2000, Hutchings & O'Rourke 2001). However, the majority of these are focused in health care professions of medicine and nursing in the UK (Grandis et al 2003, Glen & Wilkie 2000), Canada (Camp 1996), Australia (Hay & Katsikitis 2001), Hong Kong (Rolfe et al 1995) and the Netherlands (Dolmans & Schmidt 1996) to mention a few. Only a few papers documented effects of PBL on midwifery curricula (McCourt & Thomas 2001, Packham 2000) but none examined or carried out longitudinal studies of whole programme outcomes and effects in midwifery programmes using PBL/EBL. The rest of the literature reviewed utilised evaluation research of either quantitative or qualitative methods or a mixture of both through a case study approach using questionnaires, surveys, documentary analysis, focus groups, discussion groups or interviews.
The literature documents a variety of aspects of the PBL curriculum and examines various aspects. These were in terms of course process (Caplow 1997) or modular outcomes of effects of PBL on knowledge base, development of interpersonal skills and reasoning, clinical and research skills, motivation for self-directed and lifelong learning, ability to work autonomously (Packham 2000) and using evidence based interventions (Brewer & Chen 2000). In addition, studies examined the student and tutor perspectives of a PBL approach (Dolmans et al 1998, 2001 & 2002). This was either through the use of questionnaires to document individual perspectives, or through experimental research comparing outcomes of traditionally taught students with those who were introduced to the PBL intervention as either for students or from a tutor perspective (Dornan et al 2005). Another aspect of the effects of a PBL approach is that of competency outcomes and the development of models of competencies (Fearson 1998) or proficiencies in skills (Price & Price 2004) together with the assessment process of this approach.

Key textbooks, (Barrows & Tamblyn 1980, Boud & Feletti 1991, Glen & Wilkie 2000 and Grandis et al 2003), examining problem or enquiry based learning in nursing or midwifery education, were also reviewed to give an overview of a PBL approach and a better understanding of its basic principles. In conclusion the process and outcomes of such approaches are well documented but a dearth in theoretical exploration and conceptual underpinning of the problem based learning concept eventually became evident.

The conclusions reached were that generally a PBL approach was viewed favourably by the majority of participants but displayed both strengths and weaknesses in its delivery. These seemed to include an enjoyable, stimulating and challenging approach to teaching and learning, improved interaction between participants (but not the process of how this came about), development of a number of skills to include self-directed and motivated learning, co-operative decision making and problem-solving, learning to learn, improved clinical performance and interpersonal relationships through group support and feedback. Weaknesses of a PBL approach include a need to carefully plan and develop effective triggers or problem scenarios, tutors need to learn the skills of facilitation, students can experience difficulties with this approach to learning and do not perform well in science-based examination and display gaps in their knowledge in the initial stages of the programme (Thomas 2001). In addition the literature on assessment of a PBL intervention in curricula is inconclusive and therefore needs further research (Ball, Daly & Carwell 2000).
This review has therefore identified what is already known about PBL and the gaps in the literature, which include an exploration and development of the underpinning concepts and theories of a PBL process. Further research is required into the process, effects and outcomes of small group learning as identified through a PBL or EBL intervention in curricula and the student, tutor and mentor perspectives of this approach, as specific to midwifery programmes requires further examination. Issues of competency or proficiencies as an outcome of this approach and the corresponding assessment approach is inconclusive from the literature and needs further exploration.

I conclude that the overall aim of my research is therefore to explore the process and outcomes of an EBL strategy within a midwifery curriculum from students’, mentors’ and tutors’ perspective involved with this curriculum. In particular the focus will be on group learning, development of personal and professional perspectives through an EBL strategy, overall outcomes of this approach in terms of effect on teaching and learning and effects on practice learning in terms of confidence and competence. In addition, this thesis explores and may contribute further knowledge on the use and assessment of critical reasoning and reflection within the learning process and the value of group learning in motivating self directed learning and integrating theory to practice. The effectiveness of an EBL approach in developing competence in practice and appropriate methods of the assessment of these competencies is examined further. Finally an exploration and development of the underpinning concepts and theories of enquiry based approaches is carried out alongside this evaluation.
CHAPTER THREE
THE RESEARCH APPROACH

3.0 Introduction
In the previous chapter I have explored the many aspects of outcome evaluations of an enquiry-based (EBL) approach in teaching and learning. This chapter discusses the research approach adopted in evaluating the effectiveness of EBL in this study. In the discussion so far I have outlined the structure and aims of the evaluation in chapter 1 and reviewed current literature on EBL outcome evaluations in chapter 2. This chapter explores the purpose of educational and evaluative research in making changes within a midwifery curriculum in an attempt to constantly improve the outcomes of new approaches such as EBL. The relevance of the methodological approaches to this study is discussed here in greater depth.

For the purpose of this thesis, a case study approach within a broader evaluative research study was used, combining both qualitative and quantitative approaches during a three-year programme for midwifery students. The discussion in this chapter addresses the strength and weaknesses of both in exploring different aspects towards answering the research question. The purpose of using both qualitative and quantitative is to generate valid and robust evidence from this study, which will contribute to the changes that are recommended and implemented throughout. Since this is one curriculum being evaluated in an institution and not being compared to any in other institutions, a number of approaches to validate the evidence is necessary. It is essential to recognise changes during the evaluation process and this will involve participants through an interactive process with the researcher in making such changes within the curriculum to improve teaching and learning outcomes and achieve competence in practice through more effective and collaborative construction of midwifery knowledge.

The previous chapter has identified the many aspects of an EBL approach and consequently on examining this curriculum, I conclude from the review that it is not based on any set framework using EBL but a combination or a hybrid EBL approach. The curriculum was constructed by combining the most effective aspects of an EBL approach. Therefore, this curriculum is different in content and approach to teaching and learning and cannot be directly compared to any other curriculum. A case study approach within the evaluation research study was therefore considered to be the most appropriate method of enquiry. Alongside this, the known concepts of EBL as
articulated through the literature, are useful in examining its effectiveness of EBL and its outcomes. However, the concept of EBL as a teaching and learning approach is explored in depth in the second part of this thesis.

This chapter explores how the outcomes of an EBL approach were initially examined through the student reflections, which formed part of the assessment process through the use of portfolios. Constructs were generated from the data, which equated to the concept of effectiveness of EBL. From these constructs, statements or indicators were developed and questionnaires refined. Similar questionnaires were distributed to tutors and mentors to reflect the constructs investigated through the student questionnaires. Interviews with various participants followed in the final year of the curriculum. Finally, ethical issues, time scale and funding for the research are discussed in the concluding part of this chapter.

To summarise, this chapter is divided into the following sections to identify the various relevant approaches in this investigation:

3.1 Educational research through an evaluation approach
3.2 Evaluation research
3.3 A form of action research
3.4 Case study approach to include discussion on triangulation of data
3.5 Issues of sampling
3.6 Methods for generating data to include the rationale for a multi-method approach
3.7 The researcher effect on the study
3.8 Ethical consideration and funding

3.1 Educational research through an evaluative approach
There are three basic approaches to educational research (Cohon, Manion & Morrison 2000). The first is based upon proving scientifically the creation of theoretical frameworks through experiments, replication and refinement to solve problems and improve practice and fits into an action research approach. The second is through an interpretative and subjective approach, which seeks to understand and interpret the work of participants, which fits into a case study approach. Finally the third approach examines critically the political and ideological context of educational research.
It appears that few educational reforms or innovations in nursing and midwifery education have been adequately tested before being implemented. This is also true for this curriculum under investigation. An enquiry based approach in a midwifery curriculum was launched on the basis of this teaching and learning approach having had some success in other professions. An EBL strategy seemed to address some of the deficiencies of the 1999 midwifery curriculum at this institution as discussed in chapter 1. However, Boyd (2000: 349) suggests that there is a need to

be able to determine 'what works' in education, for what purpose and under what circumstances.

He cautions against making claims more than a study can support and in making generalisation, neglect the contextual limitations of the study.

For this reason a case study approach was deemed to be the most suitable research method in examining this curriculum, and through the interpretations of findings, adjustments could be made for improvements of the curriculum. It is however, important to bear in mind the purpose of this research and to acknowledge the competing forces, which brought about changes in midwifery education. Such tensions exist between the need to educate midwives to a competent standard, ensuring public safety, and the role of government health polices in driving such changes. A dichotomy arises between the drive for health reforms and the need to address and voice a demand by childbearing women for user-centred care, as identified in my own previous research on these issues (Brown 1996). In fact, Mortimore (2000: 9) suggests that

Government(s) appears intent on pushing ahead with policies which run counter to research evidence.

It appears that today's focus for institutions and educational communities is on financial viability and management structures which create tension between stakeholders and those accessing the curriculum (tutors and students) in terms of aims and objectives of a curriculum and how these are achieved. The multiple and competing goals of midwifery educational reform need to be kept in mind throughout this evaluation and it would be impossible to measure the different interests and outcomes as affected by an EBL approach within this research. So what counts as educational research for the purpose of this thesis?
Educational institutions must increasingly consider the users and trust providers of midwifery education today. This is especially true for health care providers and the students that progress through a programme of practice and theory experiences to be deemed competent practitioners at the point of registration into the profession. The changes that seek to accomplish this public and professional expectation normally drive and shape curricula and the teaching and learning approaches that are adopted. What is required is to evaluate such changes and place such evaluations within a framework of needs analysis to inform practice and education of midwifery to improve maternity services and provide a competent workforce to carry out these services. There is a need to evaluate the effects of change in preparing professionals and the outcomes of such strategies such as enquiry based teaching and learning from the perspective of students, tutors and mentors. Users can then inform their choices to ensure improving and creating more effective educational approaches, which will impact on practice. Educational research therefore has a place in evaluating such changes and making recommendations for the future. However evaluative methods within educational research, have moved from purely scientific approaches of measurement of outcomes to a movement which emphasises the more humanistic and critical dimensions of educational research (Guba & Lincoln 1981). Such an approach uses qualitative and interpretative information to understand and explain the reasons and outcomes for change.

3.11 Data and theory
Although data play a role in theory development, examining the evidence on outcome evaluations of an EBL approach raised further questions after the initially inspired research questions as generated through data from student reflections. Consequently the data analysis must be theoretically underpinned to have any meaning. Participants socially construct, generate and represent data (epistemology) in determining the nature of and conceptualising EBL (ontology). Chen (1990) argues that without a theory driving the research, programme evaluations follow a "step-by-step cookbook method" mechanically applied without consideration for the theoretical implications of content, process, outcomes and participants amongst others. The author believes that the focus of such evaluations is purely on input and outcomes without considering the theories that transformed the process in between. This leans towards the idea of a prescriptive theory, which dictates what ought to happen, and not what is seen to be the reality. However, in dealing with a number of issues which need addressing to ensure effective outcomes, evaluations are carried out in
conjunction with an approach that requires a responsive and utilising stance in achieving the desired end results, in this case competent midwives.

The theories alone may be inadequate in promoting and transforming practices and teaching and learning approaches. What is required is an examination of the data from participants (students, mentors and tutors) and the ability to examine this in light of the theories, such that existing theories are illuminated or new theories emerge. Glaser & Strauss (1967) suggest that theory follows from data rather than preceding it. Lather (1991: 55) states that

not only must theory illuminate the lived experience of progressive social groups: it must also be illuminated by their struggles.

In other words conventional methodologies of inquiry would not fulfil the purpose of this thesis. Constructivist methodologies are more suited to this enquiry process in that they access tacit knowledge from a purposive sample of participants who jointly construct the experience of EBL. As a result theory is built on or developed rather than imposed (Lather 1991). Guba & Lincoln (1989: 149) suggest that a hermeneutic (interpretative) dialectic (systemic reasoning) approach meet these requirements of a constructive enquiry, of "comparing and contrasting divergent views to form a connection". Such a constructive connection reflects the emic (insider) view of participants as well as the etic (outsider) perspective of the researcher.

However, there can never be said to be an ideal approach to evaluation. Williams & May (1996: 104, 67) suggest that an examination of

Theoretical concepts ... penetrate a given reality in order to reveal its underlying properties.

In other words EBL as a reality, through participant interpretation, may display properties that require theoretical concepts to be revealed. However, they concede that,

Our best guesses as to what others are thinking are based on evaluations of the thoughts from our viewpoint.
In conclusion therefore, certain methodological approaches in evaluating effectiveness of EBL may be subjective. However, the overall aim of the study is to improve midwifery education in terms of professional competence (the process), and effectively translate this competence into appropriate care for women (the outcome) in practice. The focus must be on application of this research both in education and practice. In other words, education research must fulfil the function of changing individuals on the programmes and addressing public needs (Bridges et al. 1997 cited in Smeyers & Verhesschen 2001).

What ultimately drives evaluation research is the purpose that it is required to fulfil. Chen (1990: 28) concedes that refining research methods, such as a case study approach is helpful, but what are required

may be conceptual and theoretical efforts to systematically integrate conceptual factors and research methods.

The purpose of the evaluation is to examine the perceived effectiveness of an EBL approach and therefore by implication participant input drives the exploration. The EBL concept by its nature is one that allows a process of enquiry which is student led, varied and therefore may produce multiple outcomes through its impact on individuals. Empirical data generated by individuals, is analysed and examined from the multiple perspective of known theories and of new emerging theories, which become evident. Multiple perspectives of individuals may be underpinned by theories, which need to make a connection to the empirical data and attempt theoretical resonance to make any sense of the research questions (Mason 1996).

Constructivist methodology does not necessarily exclude quantitative methods of enquiry. Measurement and quantitative approaches also have a place in evaluative research in supporting or corroborating qualitative data. For the purpose of this research questionnaires are a useful tool developed, grounded in the emic views of participants through analysis of student reflections. Analysis of data develops the knowledge base in terms of education and practice but also has usefulness in developing research methods within education. As a result educational research should be developing in line with social needs and changes within midwifery. At the same time educational and practices changes that are inherent within midwifery culture, are important foci for educational research. Outcome evaluation of such changes should be applied and are a driving force in planning and delivering future
midwifery education and practice, in keeping with continuing professional development and lifelong learning policies.

Multi-perspective data contributes to the knowledge base that will inform an outcome evaluation of an EBL strategy within this midwifery curriculum. Such research will develop a knowledge base that will contribute to practice and also identify problems within the education of midwifery practitioners. It opens up possibilities and avenues for transformation and change in both education and practice. The greatest challenge is to carry out such transformation in line with public opinion or needs, government initiatives and policies, and professional and educational expected competencies and required professional standards (OECD 1995).

Carr & Kemmis (1986) suggest that curriculum research responds to a variety of interests in diverse social, political and cultural contexts. An approach purely as a means and end method in educational research fails to recognise that other aspects of a curriculum are intrinsically related. These include its aims, content, process, product and the context and policies which are of value in achieving the aims of a midwifery programme. Prescriptive midwifery curricula which dominate content, process and behaviour fail to consider such values which resulted in traditional, educational curricula in the past, initially structured by behaviourist model, which underpinned medical models adopted by midwifery education and practices.

For this reason, Carr & Kemmis (1986) suggest that educational research should describe and interpret findings to reach understanding and meaning leading to action, and move away from approaches which rely on explanation to predict outcomes. Thus social reality is derived from the meanings and understanding by participants in the curriculum, which is structured and created by their interpretation of events. Participants' actions can only be interpreted subjectively by the participants themselves and the researcher who interprets their intentions and actions. However, normally, individuals are governed by certain social rules, which give rise to certain social activities and therefore have implications for their reality. In other words, reflections are confined within the context in which they occur and must always be value laden.

To gain a better understanding of the significance of changes in the curriculum, and help to develop a coherent concept of curriculum based on research, theories need to explore the outcomes of the curriculum. Interpretative social theory makes sense
of individuals’ accounts by the individuals themselves but also through other concepts and understanding eg offering alternatives and examining their own construction of reality through critical and reflective reasoning. Carr & Kemmis (1986), state that,

Practices are changed by changing the ways in which they are understood. Interpretative methods to validate knowledge entail that theory effects practice by exposing the theoretical context that defines practice through self-reflection and is tested through participant confirmation.

An interpretative theory provides a means of exploring in a deeper and far more reaching understanding of the participants interpretation, in a systemic manner, in an attempt to link theory to practice. Student reflections, as a data source for my research, are seen as the first step to give an insight into this interpretation. The interactive process during interviews constructs and confirms the interpretation.

However, as already suggested, reflections especially are value laden and therefore by implication their interpretation is too. I expect therefore, multiple interpretations, which may even turn out to be contradictory, as individual views from participants. The aim of social science is to understand and not merely to confirm the theories through statistically tested evidence. Theories cannot be rejected or verified simply by providing a view and an interpretative approach will not generalise and objectify data. Social interactive processes of learning provide multiple understanding of the realities of the curriculum, but the interpretation of these activities does not take into account origins, causes and results and neglects social conflict and change. It also neglects external factors and circumstances and only recognises interpretation within the context as bound by the individuals’ social experiences.

Educational theories are concerned with knowledge that is organised for some practical activity. And since education is value laden it cannot be explained by value neutral theories. A dichotomy arises between practical and theoretical discourse of educational research. Carr & Kemmis (1986: 122) state that,

The purpose of educational research is to develop the theories that are grounded in the perspectives of educational practice.
Hence educational practices are conducted to achieve aims and goals, learning outcomes that are seen to be idealistic and desirable such as enquiry based teaching and learning strategies. These come from beliefs and theoretical understanding that recognise the need to change and how to achieve it. However, these preconceptions and assumptions from habitual or traditionally held beliefs are embraced without being critically and reflectively examined. The aim of this thesis, after analysing the data in part one of this thesis, is to examine in part two, critically and reflectively, the theories generated from enquiry based teaching and learning strategies which have been integrated into the present midwifery curriculum.

Therefore as Carr & Kemmis (1986) suggest, the point of educational research is not to produce theories but to make practice more theoretical, enriched through critical and reflective thinking and enquiry. The source of educational theories and knowledge is the practical experience out of which these situations are created. Educational research is concerned with forming theories grounded in educational practices. In other words, inductively driven developing theories from the “data”. It could be argued that theoretical understanding and beliefs may have influenced and instigated the initial research questions towards this thesis when examining the initial data from student reflections. However, it appears that the research is both inductive and deductive due to the nature of the curriculum. On the one hand it is required to be prescriptive in achieving professional standards and competencies, and on the other facilitative through a student-led enquiry approach. Deducing the outcomes of the prescribed element of the curriculum in support of the known theories and inductively developing theories generated from the participants drives the research. Both a prescriptive and creative paradigm is attempted in constructing the ideal midwifery curriculum. In examining the critical and reflective process of an EBL strategy, the underlying interactive and critical reflective theories mirror this process.

However, Carr & Kemmis (1986: 126) concede that it is

practice which determines the value of any educational theory, not theory that determines the value of an educational theory.

In theorising about the effectiveness of enquiry based learning and teaching as part of the new midwifery curriculum, the reality of this effectiveness may only be evident in practice. Using qualitative and quantitative methods to examine effectiveness of EBL will give an understanding of this strategy in several senses. Educational
participants, both teachers and students, are the source through which examination and understanding of problems and practice are carried out. Carr & Kemmis (1986) suggest that this is a move from an objective reality, over which individuals have no control, to

the central task of emancipating people from positivist domination of thought, through to their own understanding and action.

Such principles could be examined through critical theories. Through the development of theories positivist approaches have moved the philosophies towards measurements and scientific methodologies as is true of the natural sciences, whilst critical theory approach moves social sciences away from the natural sciences to a more humanistic approach to research using both quantitative and qualitative methods.

3.2 Evaluation Research

Educational research is inevitably bound by the political agenda that drives the research. In a sense the research agenda has been set by a need to evaluate the effective of a new innovation in the curriculum, and funding for such an evaluation limits the scope of the research. Cohen, Manion & Morrison (2000: 38) suggest that research

Ceases to become open-ended, pure research and instead becomes the evaluation of given initiatives.

Patton (2002) distinguishes between summative and formative evaluations and suggests that summative evaluations make overall judgements about the programme whilst formative evaluations aim to improve the programme. Verma & Mallick (1999) support this view in using evaluative research as a means to assess programmes with the intent of engineering change as necessary. This evaluation is formative and responsive in nature, as the information that is generated throughout this evaluation is utilised in making changes during the delivery of the programme. These changes include those made to the portfolio structure to increase reliability of its function as an assessment tool, and changes in facilitation of enquiry based teaching to enhance effectiveness of learning. (See data analysis in chapter 4)
In the past evaluation implied testing, strictly adhering to known methods of quantity assessment and guided by well-tried and tested theories. However, society regards educational values as equally important and considers their evaluation and the modes of knowing and the forms through which what one knows is represented as multiple ... it makes no sense to restrict inquiry to a single form (Eisner 1985 : 7).

Guba & Lincoln (1989) suggest that approaches in evaluation have moved from measurement to description, on to judgement and finally reaching a fourth stage or generation, of responsive and constructive evaluation. They perceive evaluation to meet the needs of several stakeholders and responding to those items that have been identified as requiring changes, through the collectively constructed information from participants in the evaluation. Such evaluations deny objective reality but take and use socially constructed realities as an outcome of the data generated.

Some of the principles of a fourth generation evaluation seem to fit in with the aims and purposes of this evaluation. Guba & Lincoln (1989 : 71) suggest that such an evaluation addresses the claims, concerns and issues that an EBL approach within a curriculum ensures effective learning and therefore prepares a more competent practitioner and secondly “it utilises the methodology of the constructivist paradigm”. A fourth generation evaluation seeks to address the following:

- Identifies and includes all participants involved in the evaluation.
- Gains an insider view of the interpretation or construction of the effectiveness of an EBL strategy.
- Provides a context and a constructivist method for the different interpretations of various participants about EBL.
- Generates some common claims, concerns and issues about the EBL approach.
- Identifies discordant data from the various methods and informs the various participants of these varying interpretations.
- Establishes where changes are necessary and inform participants eg adjustments in portfolios as an effective assessment tool and workshops for facilitators to deliver EBL more effectively.
- Sets the framework for a report to be delivered to Head of School, for Nursing & Midwifery, within the Institute, to ensure that the aims of funding for this research
are fulfilled and evaluation outcome of an EBL approach within a midwifery curriculum are disseminated and utilised in making changes for future curricula.

- Ensures a process of continuing evaluation.

These principles are well suited to this evaluation and therefore have been used as guidelines for this study.

The different perspectives of outcome evaluations are not restricted to the curriculum or to the specific content of the programme. They examine teaching and learning approaches such as an enquiry based strategy and its impact on students, tutors, mentors and practice development. Outcome evaluations become multifaceted in terms of the above-mentioned aspects but must also be considered in terms of self, interaction with others and interaction with the educational and practice organisations as impacting on each participant. A variety of approach to the research have been outlines in Figure 4 and the discussion for the rationale of their application follows.

Figure 4. Overview of the Research Process

<table>
<thead>
<tr>
<th>Case Study Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBL Process</td>
</tr>
<tr>
<td>(Ethnographic Approach)</td>
</tr>
<tr>
<td>Student Reflections</td>
</tr>
<tr>
<td>5 Main Themes Identified</td>
</tr>
<tr>
<td>Questionnaires (x3—for 3yrs)</td>
</tr>
<tr>
<td>Students</td>
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Interviews to triangulate data findings and explore concepts further. A self-ethnographic approach alongside these approaches to explore insider/outsider researcher role was applied.
3.3 Case Study Approach

Guba & Lincoln (1989: 180) suggest that a case report is a joint construction that emerges as a result of the hermeneutic dialectic approach. Yin (1994) defines case study research method as an empirical enquiry, which investigates a contemporary phenomenon within its real-life context using multiple sources of evidence to define the boundaries between phenomenon and context. Within this,

> case study is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances (Stake 1995: x i).

It therefore seems that a case study research method is well suited to evaluate, as one case study, the use and outcomes of an EBL process within this curriculum under investigation. I have already suggested that since this is a new teaching and learning approach at this institution, it was not possible to compare, this teaching and learning approach to others previously used on the programme. Therefore a case study approach would examine its uniqueness within this curriculum.

Case study approaches can vary. However, it appears that a phenomenological, reflective and interpretative method is particularly suited to this programme evaluation (Stake 1995), since the reflections from students were readily available as part of the assessment process in portfolios. These portfolios were a rich source of data and I sought to understand how reflection had aided in developing the enquiry aspect of this teaching and learning method. However I am aware that reflections alone would not give the complete picture of an EBL approach and its outcomes and therefore, questionnaires were distributed to three participant groups followed by interviews, as additional sources of data.

In taking on the responsibility of evaluating the impact of EBL on midwifery education in this specific case for this cohort of students, the objective was to identify the success and need for improvements in developing and achieving competent midwives at the conclusion of the programme. Stake suggests that there could be a dual approach to a case study in terms of the interest in evaluating the programme and in terms of EBL as a concept, in accomplishing competence. Therefore this is both an intrinsic and instrumental case study (Stake 1995). For this very reason I opted to address these issues in two separate stages initially and then integrated the two later in the thesis. In the first stage I asked the What question of, "what is the
perceived effectiveness of an EBL approach in this curriculum?" In the second stage I asked the *How and Why* questions which makes this EBL approach the concept that it is. No doubt, the focus is different in evaluating EBL as a teaching and learning strategy and its outcomes and consequences, and EBL as a concept, in determining effectiveness in preparing competent practitioners. Ultimately the two foci are reliant on each other to come to any sensible conclusions. Since the reflections are not from an individual student but a cohort of students, I sought corroboration of their perception of EBL and therefore this approach became a collective case study. Tutor and mentor input are additional perspectives of the outcomes and consequences of EBL and therefore useful in strengthening this corroboration. However, I am well aware that individuals may have varying opinions and could perceive widely varying outcomes of this approach but this could possibly widen and enrich the data.

This led on to framing the questions in terms of outcomes and consequences of EBL and starting from some defined point. As discussed in the introductory chapter, it was useful to define what ‘effectiveness’ was perceived to mean. Therefore, an initial assessment of reflections from the first module of the programme helped to identify students’ perception and interpretation of the effectiveness of enquiry based learning. These interpretations would then be analysed at a second and third stage throughout the programmes. The third module at the end of the first year would identify how these interpretations had evolved from the start of the programme. A middle point in the programme, which fell in the second module of the second year would continue to monitor changes of students’ perception in relation to the effectiveness of an enquiry based approach and gave scope for changes to be made to the curriculum before the final year of the programme.

Initially, student reflections accessed as pilot data shaped this meaning of effectiveness, and therefore some idea of the concept of effectiveness as perceived by students was identified. The student data through reflections would give the researcher an initial and general understanding of how enquiry based teaching has an impact on student learning and gave some idea of its effect. It could be argued that this may have limited or excluded other constructs of effectiveness that individual participants might consider to be important. For this reason this enquiry was followed up by input from both tutors and mentors to give a more balanced view.

It is suggested that EBL does encourage broad perspectives of the issues explored and learning is generally student led (as identified through the known literature in
Chapter Three- The Research Approach

Chapter 2) and therefore effectiveness is multivariate. However, some categorising was required to make sense of the vast amount of data generated through student reflections. The most frequently occurring issues in relation to effectiveness of EBL to shape the research questions, were identified, and made up the various constructs pertaining to the concept of the effectiveness of EBL within the context of this study. This systemic approach later facilitated structuring of questionnaires and the interviews carried out.

It could be argued that since this is a case study of one cohort using EBL within a new curriculum, the sense in which one can generalize from the data is in need of clarification. It could be argued that a generalization has already taken place by implementing a new approach to learning, based on the known evidence from the literature, which claims that EBL would constitute a better curriculum. However, generalization of data is only possible amongst the individuals participating in the research, and comparisons of these results of an outcome evaluation of an EBL approach could be made to the known literature. On the other hand, Yin (2003: 10) does suggest that, "Case studies are generalizable to theoretical propositions and not to populations". Therefore, this case study remains unique in terms of its context in time and place and not generalizable to the EBL approach in other contexts. It may only be possible to make generalizations of EBL in terms of its concept. Perhaps, although no entirely new theories may be developed about an EBL outcome, a new perspective of this understanding is created and adds to and refines the general body of knowledge around EBL. The potential limitations of this study is that it may not be possible to make generalizations from the empirical data but which explores and illustrates the theories to arrive at a synthesised and more coherent theory underpinning the EBL concept.

Yin (2003) concedes that a critical case study is capable of checking out, confirming, changing and extending the known theories. Ultimately, the objective of case study method is to present the multiple realities of the participants and allow flexibility in putting forward collaborative and differing viewpoints. One must however consider that interpreting the perspective of individuals in this case study approach may be said to be highly subjective, influenced by not only what the researcher observes, but what influences the researcher to come to certain conclusions. My own personal experiences as a midwifery tutor on this programme and as the evaluator of this programme undoubtedly influenced the interpretations I put on the data and the conclusions I reached.
3.31 The Nature of the Case Study

A case study within an ethnographic approach is well suited to the examination of this teaching and learning approach as introduced within this curriculum under investigation. It describes, explores and examines the case and process of EBL in a midwifery programme. Yin (2003) suggests that such an approach in evaluation research contributes to knowledge about participants, which in this case are the cohort of student midwives, mentors and tutors. It is useful in examining the social and political context in which it uniquely exists as related to a new intervention such as EBL. It can also be carried out to reveal new findings and examine the data on a longitudinal basis over three years. Such a case study approach would contribute to the conclusions reached, which would culminate in a written report suitable for evaluation purposes. It may also contribute towards the final Quality Assurance Agency (QAA) report as evidence when this major review takes place in May 2006.

A case study approach explores the real live events of an EBL strategy within a midwifery programme, describing its development and progression over the three years and explains how these events match or rival the known literature on outcome evaluations. It contributes towards the investigation by adding data from documentary evidence in the shape of student reflections, questionnaires from 3 participants groups (students, mentors and tutors) and interviews of participants from a selection of each of the 3 groups. In addition is my, the researcher’s direct observation of events as an outsider and my observations of participants’ interactions as an insider.

This case study attempts to illuminate a decision to use EBL, why and how it does this and with what results. In a sense it is the best approach to link an explanation of the programme’s implementation with an examination of its effectiveness. It describes the EBL intervention and the real life context in which it occurs. Finally it explores the situation in which the intervention has no single set of outcomes. Arguably, it is the most appropriate approach to connecting data to the research questions, resulting in conclusions, which can be presented in a report format.

Yin (2003) identifies essential elements in a case study approach to ensure rigorous address of the research. It is necessary to address construct validity by using multiple sources of evidence and establishing a chain of evidence. Internal validity is ensured through pattern matching, explaining the data through the theory,
identified through the known literature in terms of outcomes from an EBL intervention. The case study analysis is concerned, "with the overall pattern of results and the degree to which the observed pattern matches the predicted one" (Yin 2003: 117). If data do not fit the theory then alternative explanations must be developed and rival data followed up. A logical model of expected events could be identified in which the immediate effect of an EBL intervention encourages more interactions between students and tutors. This results in an intermediate effect of satisfaction with the EBL process as a teaching and learning strategy, leading to shared knowledge and greater link between theory and practice. This leads to the ultimate outcome of improved competent practitioners and a more effective maternity service. This approach is also suitable for time series analysis to identify changes over time from the EBL intervention and is useful in examining the effectiveness of EBL in terms of competence in practice. External validity relies on analytic generalization. It is acknowledged that external factors may change the validity and that extraneous variables can be the cause of outcomes besides the EBL intervention (see appendix 4). Finally reliability minimises errors and biases and is addressed later.

3.32 Case Study versus Action Research

A case study approach is concerned with a vivid and rich description of events as experienced by participants and an interpretation through analysis of these events (Yin 2003). The focus is on participants and their perception of the effectiveness of an EBL approach in this particular curriculum, highlighting certain identified aspects or constructs of the meaning of an EBL approach. The researcher is both observer and participant in this approach and is useful in evaluating a process of events.

In contrast an action research approach does not only understand and interpret an EBL process through scientific analysis but also seeks to make changes and improvements from these findings during the research process. It identifies problematic issues within an EBL process and involves working co-operatively with colleagues, participants and organisational personnel. Therefore, an action research approach was not entirely possible because of difficulties in involving all participants in either the investigative or research process or in putting into action the findings, after raising awareness of difficulties within the curriculum and attempting to make immediate changes. In addition, time restricted consultation with stakeholders, users and facilitators of the curriculum on a large scale approach. This means that it involves intervention into a process that is still being evaluated for its outcomes and therefore such an approach could not legitimately be undertaken. Action research in
addition, not only seeks to change the process but also the participants, which is not
the aim of this case study approach to examine the case of effectiveness of an EBL
approach. The fact that participants are inevitably changed through this approach in
learning may be a result of the EBL process.

Action research is designed to bridge the gap between research and practice. It
contributes to improvement in practice and the theory combining diagnosis with
reflection through a collaborative approach. Theory is tested and developed through
the practice and actions taken, through problem solving and seeking solutions
through the research process (Smith et al 2000). In case study evaluation the case is
evaluated to generalize to theoretical concepts but not to the population or group
experiencing an EBL process. This implies then that “case studies exist in their own
right as a significant and legitimate research method” (Cohen, Manion & Morrison
2000: 183) whilst action research can be preliminary used as pre audit, survey or
experimental research. As this was not my intention in carrying out this evaluation a
case study approach was more appropriate. However Stenhouse (1985) suggests
that within case study approaches various elements of the case study could be
developed to include the ethnographic, historical, psychological and sociological
aspects of the case of effectiveness of an EBL approach being studied. In a sense
this would then mean that an ethnographic, evaluative and educational approach to
the case study has been taken in examining the process of EBL by carrying out an
in-depth evaluation of the process and in understanding its phenomenological or
conceptual meaning educational research has been carried out. Once the
strengthens, weaknesses and perceptions of an EBL process are identified
recommendations can be made for change and improvement and in a sense action is
taken within the case study to plan adjustments for future curricula. In this situation
collective knowledge from participants is used by the researcher to make these
changes whilst action research through a systemic learning process gives ownership
to participants through collaborative empowerment to act deliberately and make
changes necessary in the curriculum. Alternately an evaluation process takes place
within the action research process as part or series of spirals in a cycle of
observation, analysis, reconceptualizing problems, planning of intervention, action
and an evaluation of the effectiveness of that implemented action (McKernan 1991).
In addition feedback as part of this cyclical process involves reflection on the part of
the group (McNiff 1988).
Although, both action research and case study evaluation involve participation in the processes, in action research the participants carry out these changes whilst in case study evaluation the researcher is instrumental in these changes. However, in many instances the boundaries between the two are more blurred than this. In addition both involve self critical analysis through reflection and an understanding of practice situations. However, action research involves participants applying theories (of management and change and critical theory) about practice through systemic understanding and analysis by the group or participants. Whilst in a case study evaluation participants analyse outcomes of situations and give their perspectives to the researcher but may not necessary theorise or create new theories through the process. It is usually the researcher who develops such theories (based on the case study being evaluated) but may discuss these with participants to generate knowledge and understanding as emerging from recurrent patterns but is equally valid in considering important single events as perceived by individuals. All data, including observation, in case studies contribute to a number of aspects of the evaluation to present a more complete approach. In a sense, action research mostly involves group activity to generate an understanding of issues being examined and decisions about change are made between participant/participants and researcher. Whilst in case studies some group activity may be taking place but generally the researcher generates an understanding through a collective contribution by individuals but may make recommendations for change through his or her own perception of the contributions made by participants and is representative rather than participative.

On the other hand, there may be disadvantages to a participative action research approach. These include the issues of group agreement, which excludes individual contribution to the understanding of the process, and phenomenon of an EBL strategy. This could mean shaping action to capture the majority of views to conform to a general expectation of required changes and leaves little room to consider alternative views of individuals. Successful outcomes from a purist action research approach require a democratic and consensual activity, which may be impossible to achieve unless participants share values, beliefs and aims (Morrison 1998). However, through case study evaluation these alternative views may be taken into consideration by the researcher and although are subjectively analysed may be equally considered within the broader perspectives of this approach to research.
In attempting to balance the need for quantitative outcome research for the benefit of educational audit and qualitative outcome research to determine the effectiveness and quality of new teaching and learning strategies and their impact on practice, a case study approach was deemed to be the most suitable to this evaluation. Such an evaluation needed to be effective, responsive and useable to have any purpose within educational research. In other words it had taken on some qualities of an action research approach, in that its participants do not solely share their knowledge of the curriculum but actively shape it and produce it (McKernan 1991). However, as previously discussed, not all personnel involved in the management of the curriculum took part in the research and had no part in designing the evaluation tools (McNiff 1988). Consequently, it cannot be claimed that this is action research in its pure form. However, despite these shortcomings, this approach seemed to be an ideal method through which theory and practice can be linked through the evaluation of innovations in action. Elliot (1991) suggests that the fundamental aim of action research is to improve practice rather than to produce knowledge. The production and the utilisation of this knowledge are secondary to the need for improvement and change. An EBL approach appears to be fulfilling both. On implementing this innovation of an EBL approach in the curriculum, whilst addressing the need to improve competency in midwifery practice, the evaluation of its effectiveness inevitably produces an understanding of how it functions (its process and outcome). In addition, it also creates an understanding of its underlying concepts (collectively produced through its participants). Coulter (2002) claims that an additional factor is that reflection focuses this theory and practice relationship to articulate as action. In evaluating the quality of an EBL approach, theoretical knowledge and judgement are applied to move on to the deliberation and justification of changes required.

Most action research focuses on using research to learn about practices and much of this research supports the belief that action research is a suitable method for promoting change (Smith et al 2000), but requires certain criteria to be effective (Marrow 1998). This includes participant development, interaction and collaboration and a continuous process of evaluation. Participation, interaction and evaluation are achieved through the reflections from students and the one to one interviews with the various participants (students, mentors and tutors). Walker (1985 in Boud 1985) suggests that writing brings objectivity to a situation to enable learning and development to be achieved. It is possible that an EBL process can instigate this learning and that interaction of the various participants, through critical subjectivity, develops a collaborative understanding of the EBL concept. Kemmis (1984) holds
the view that through a discussion and collaboration of perceptions by participants, reflection and action are the result. Participants change themselves and their behaviour through the process of critical reflection, giving validity to the interpretation of the reality of the process and outcome of an enquiry based approach. Such information would be deemed reliable through the social construction of the reality of this process and an understanding of its concept. On-going evaluations of these aspects through the three-year programme ensure the action and reflection cycle promotes change. Feedback from participants ensured that any issues, which were highlighted through the evaluations, could be addressed and improvements made to result in change.

In addition to the identified participants' perspective is the perspective of myself, the researcher. Throughout this research process I was constantly mindful of my own aims and incentives for this research. I have taken into account the subjectivity of student reflections and individual perspectives as influencing the interpretation that is placed on the issues under investigation. I have considered my own interpretations of the students' perception of an EBL approach and have reflected critically on how my own role either as a tutor on the programme and as a researcher with different initiatives in the different roles may have an effect on the process. Many of these issues I have addressed later in this chapter but predominantly, because I perceived this curriculum to be unique to myself and to the participants, I adopted a case study approach to this research.

3.4 Triangulation
This section addresses the issue of triangulation. In this thesis I sought to ensure corroboration of data through various methods within the case study approach. The emphasis placed on predominance of a method will identify and fill the gaps of other methods required. Brannen (1992: 31, 48) suggests that where a multi-method approach addressed the same question in which all

sets of data were used ... to confront contradictions and highlight the fragmented and multi-faceted nature of human consciousness. This benefit is one which supersedes the commonly acclaimed advantage of increased data validity.

She suggests that in relating each set of data to the theory that underpins it, then it can be identified how the data sets contradict and complement each other. In a
sense the research is seen to be both inductive and deductive by moving “from ideas to data as well as from data to ideas”.

Data were initially generated through a qualitative examination of student reflection through a content analysis method. My intention was to seek an understanding of the effectiveness of EBL. Having identified the various constructs relating to effectiveness I sought to explain how these related to each other through correlative statistics. Therefore the use of a quantitative method was introduced through the distribution of questionnaires which were developed through statements pertaining to each identified construct of effectiveness of EBL. Participants were given the option to expand on these issues through open-ended comments in the questionnaire. These were then followed up by interviews to further clarify my interpretation of participant perception. I had come full circle, back to a qualitative method, through the use of interviews in corroborating data and using as many methodological perspectives as possible (Denzin 1989). Data triangulation is also maximised through repeated yearly questionnaires over a three-year programme, to ensure examination at different times on the programme, and in different situations through personal reflective writing, through structured questionnaires and through one to one interactive interviews. Yin (2003) suggests that this ensures lateral and longitudinal verification of data. Further corroboration is achieved through the use of various sources of data in terms of participants. Besides the students in this cohort, data was generated through questionnaires and interviews with mentors and tutors facilitating practice and academic learning of this curriculum. Denzin (1989: 237) suggests that

Personal data point, of course, to the most common unit of analysis- the social organisation of persons through time and space. These three units- time, space and person- are interrelated. A study of one demands a study of the others.

Ultimately it is not merely an attempt to triangulate the data but to obtain a wider picture from a multi-perspective approach.

3.41 Theoretical Generalization

Theoretical generalization will also be mentioned here, although this is explored in full in part 2 of this thesis. Denzin (1989) suggests approaching empirical data with multiple perspectives and interpretations in mind, weighing up various theoretical perspectives juxtaposed to assess their ability to resonate (Mason 1996), or bring to light paradigms only possible through socially constructed knowledge of a multiple
interpretation. In this exploration I have referred to critical social theories to explore the interactive development between students, mentors, tutors and myself the researcher and myself the tutor, and how critical social theory examines the space between practice and theory. It explores how the concept of an EBL approach within this curriculum could be seen to bridge theory and practice through the process of enquiry. In addition, interaction between participants and a move towards effective and autonomous action, draws on Dewey’s and Schon’s work, and refers to Gramsci’s work on counter-hegemony.

I have also drawn on reflective theory as explored in terms of its link to critical examination of culture and practices in midwifery development. The examination seeks to explore how a reflective phase in the EBL process, may be able to change participants’ perception of midwifery practices and education. This leads to an examination of changing attitudes of participants from a personal and professional approach and therefore is explored through a psychological perspective and refers to Vygosky’s theories. Lather (1991: 56) suggests that such emancipatory aspirations offer empowerment to participants and opportunities to act to the extent that it enables people to change by encouraging self-reflection and a deep understanding of their particular situations.

The many curricular and education theories explored, attempt to place this EBL approach within its present context (chapter 7). Chapter 6 examines the relationship between midwifery knowledge, learning and power, through a historic, cultural and sociological background in exploring its impact on the social construction of knowledge and its relevance in empowering its users.

Denzin (1989) indicates that theoretical generalization has two requirements: (1) a body of empirical material which is presented in the next chapter and (2) an exploration of a number of theoretical, interpretative frameworks at the same time which is presented in the second part of this thesis. These strategies use interpretations as frameworks to arrive at an understanding in which theory is useful in developing interpretations but will not dictate or prove and disprove the facts. Its purpose is to illuminate an understanding of the interpretations of an EBL approach, through thick descriptions, to contribute to the particular perceptions of the participants, embedded historic and prior social and cultural understanding and interpretations, and pertaining to phenomenological principles. It could be argued that different aspects of a phenomenon such as EBL, as examined through many data
sources and diverse methods, would present a different interpretation of that same phenomenon. An example is that students may be exploring their experiences of EBL whilst mentors and tutors may be focusing on the attitudes towards an EBL approach. However, the object of this thesis is to gain a broader, deeper and more complex understanding of the multiple perception of the effectiveness of EBL, and EBL as a concept in itself. Lincoln & Guba (1985) suggest that generalisation should underpin any single item of data to gain multiple representation of the phenomenon under review and Patton (1980: 331) concedes that attempting to compare multiple data sources will,

seldom lead to a single, totally consistent picture. It is best not to expect everything to turn out the same.

To conclude, Bryman (1988) concedes that on producing different kinds of answers through the various methods used, the researcher must ensure a link between objectivity and validity. Qualitative accuracy of meanings through reflections and interviews will ensure internal validity. Whilst quantitative generalization through the questionnaire statements ensures external validity. It could be argued that qualitative data has facilitated quantitative data and visa versa. The qualitative data has identified and then interpreted the relationships between the various constructs of effectiveness of EBL. Ultimately the aim of examining data is to identify if an EBL approach has achieved its goals of legitimising midwifery knowledge, improving learning and enabled such learning to be applicable to practice and promote competence.

3.5 Sampling
Case study evaluation needs to be pragmatic and therefore to increase validity and robustness multiple methods approach has been used. A wide range of data from students, mentors and tutors has been to investigate the various aspects of the curriculum in terms of its effectiveness using an EBL approach. The researcher in a participant and observer role during the collection of data adds another dimension through the aid of field notes taken to record events during group activities. Participants were informed of this happening and consented to my taking notes of the interaction and discussion, which occurred during these activities.
### 3.51 Students

Participant selection was through purposive sampling involving the whole first cohort of 26 students on the new 2001 three-year midwifery programme, which included 16 diploma and 10 degree students. These ranged in ages as follows:

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Diploma</th>
<th>Degree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24 years</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>25-30 years</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>31-40 years</td>
<td>7</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>41-older</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>10</td>
<td>26</td>
</tr>
</tbody>
</table>

In the piloting stage for selecting data from the reflections for analysis, students' names were coded and given numbers. Seven students were randomly selected by blindly selecting their number and these participants were approached to give consent so that their reflections, as part of their portfolio assessment, at the end of the first module could be analysed. When the selected students were matched against age groups, representation was fairly equal and covered one reflection from each age group for the diploma students except for the 31-40 year old group in which two students got selected. Two degree students were selected, one from the youngest and another from the oldest age groups. It was felt that this random selection represented fairly the views of the different age groups and both the degree and the diploma programmes.

To represent the changes from the beginning to the end of the first modules, reflections from these identified students were examined at the end of the first and fifth trigger, which covered this module.

All the 26 students were sent questionnaires at the end of the first year and then to the remaining 24 students in the subsequent 2 years of the 3 year programme. Two students left the programme at the end of year one: one was for personal reasons and the other for academic failure.

Students selected for interview were on a self-selection basis, when they were invited to put themselves forward during one of the student group meetings. Twelve students volunteered out of which seven students were selected to represent the different age
groups and the diploma and degree participants. A second diploma student from the 31-40 year group volunteers was chosen to better represent the largest group in this category as there were no degree volunteers from the second and third age groups.

3.52 Mentors
All 26 named mentors attached to each of the 26 students were sent questionnaires in the first year of the programme. However, in the second year one of the 24 remaining mentors took long term sick leave and could not be sent the questionnaire. A new mentor supporting this student was not familiar with the EBL process and therefore could not realistically contribute to the data.

All mentors from the five individual trusts supporting students on this programme were invited to an interview meeting. Seven consented which coincidentally represented one each of the five trusts and an additional two mentors volunteered. In addition two practice facilitators supporting students in trusts were approached to take part in interviews exploring further issues around effectiveness of using EBL in practice. This was viewed positively in terms of reducing bias and gathering data only from certain trusts.

3.53 Tutors
There were ten tutors facilitating sessions on this programme in the first year. Five of these were midwifery tutors and five were adult tutors contributing to the taught elements of specialist subjects in bio-sciences, law and ethics and sociology and psychology. In the second and third years of the programme numbers of tutors increased both in the midwifery and adult nursing departments. However, only midwifery tutors were invited to volunteer to be interviewed and only 50% consented. 5 of the 10 midwifery tutors did not come forward due to time constraint, teaching and family commitments. Therefore at the end of the three-year programme only 5 midwifery tutors were interviewed.

The concept of sampling of subjects is to be able to make inferences about a larger population from the small sample identified. For the purpose of this research the sample is restricted by the needs of this research in terms of evaluating data from a whole cohort of students, as a case study, of the effectiveness of EBL within a midwifery curriculum. Therefore this is identified as a purposive, nonprobability sample. In purposive sampling Berg (2001: 32) suggests that "researchers use their special knowledge and expertise about some group to select subjects who represent
this population". This is especially relevant in this case study, accessing a convenient sample of students, tutors and mentors using an EBL approach.

The whole cohort of 26 student midwives using enquiry based strategies in a midwifery curriculum was accessed at this university. Inferences about relationships between constructs or dimensions could be extended to other student midwife populations experiencing enquiry based learning at this university on future programmes. However, the question of generalizability of findings has been debated and discussed elsewhere in this thesis. Generating data from ten tutor participants facilitating enquiry based learning for this cohort of students, was perceived to be an appropriate measure of the effectiveness of EBL and together with the data generated from 26 mentors, supporting and assessing this cohort of student midwives in practice, corroborated the perceived effectiveness of an EBL approach within this curriculum. (Five were midwifery tutors and five were adult tutors teaching on the midwifery programme. The skill mix of tutors on this programme changed over the three years of the programme but the initial five midwifery tutors remained on the three year programme for it's duration and were therefore selected for interview in the final year.) Related approaches to qualitative and quantitative methods were used to generate data. A discussion on how the research questions evolved is carried out next.

3.6 Methods
I commenced this thesis with the conclusions I had reached from the review of the literature and the gaps identified that required further exploration. Alongside this knowledge I commenced this thesis with the raw material that I had gathered towards this evaluation (Chapter 4). The data generated came as text, on dozens of pages of students' written reflections, as part of ongoing portfolios in assessing students' progress throughout the curriculum.

3.61 Content analysis of the student reflections: This was the method of analysis used for the initial approach. Within these reflections there appeared to be descriptions, perceptions and analysis of the learning process and the practice experiences from interaction with colleagues, peers, clients, mentors and tutors. The data spanned three monthly periods for three modules over each curriculum year, of a three-year programme. The data generated were vast, subjective and could be interpreted from many aspects (Chapter 5). However, reality is not objectively determined but is constructed by participants under the effect of and within the
context of their own experiences and reality, leading to shared constructions and perspectives. These will not necessarily lead to a final truth or reality but which, I think, empowered participants and made more valuable the experience and consequences of an enquiry based approach within this curriculum.

Presented with such a large amount of data I sought to formulate my research question, which eventually started off as a very generic enquiry posed as,

"What is midwives' perceived effectiveness of an enquiry based teaching and learning strategy within a new midwifery curriculum?"

This question implied the need to explore a variety of perspectives or views of this particular cohort of users accessing this new curriculum using EBL. Such participants then, would include primarily the students of September 2001 commencing three-year programmes in midwifery at the institution being researched. Other relevant perspectives would be from those facilitating the teaching through an EBL approach, academically and in practice, the tutors and mentors. My role as the researcher was also considered and was addressed from both an insider perspective, as a tutor on the programme and personal tutor to a number of these students, and an outsider perspective (Coffey 1999) as the researcher evaluating this programme. This role is explored in depth in section 3.81. One other aspect was considered: that of the client perspective on the receiving end of maternity care as delivered through this new approach to midwifery education. This perspective was rejected as being valid but outside the scope of this present evaluation but would be considered at a later date in a follow up study.

Effectiveness of EBL had therefore to be considered, from these three perspectives of student, mentor and tutors and thus "a case study approach to this evaluation" was adopted. My next question was to consider the nature of the evaluation. Primarily my task as an employee funded by the university, was to evaluate the outcome of such an intervention as EBL within this new midwifery curriculum and therefore "a process and outcome evaluation of a midwifery curriculum using EBL as one teaching and learning strategy" became part of this enquiry. As discussed earlier, the main objective of this new approach to midwifery education was to ensure competent practitioners at the point of registration. Therefore effectiveness of EBL within this curriculum was central to my question, but defining what effectiveness meant or
entailed was proving problematic. Fraser *et al* (1998) identified these issues through their own research in defining effectiveness in midwifery curricula.

The large amounts of raw data from student reflections were the starting point. A qualitative approach was employed and the texts analysed to define what effectiveness meant to students resulting in the following questions,

"What was the impact of EBL on the learning process?"

This question would address the learning achieved through an EBL approach but to examine, more specifically the students' own development, the following questions were asked:

"How did this affect their personal and professional development?" and to examine developing students' communication skills through such an approach the following question was asked:

"How did the EBL process affect their interactive skills with peers, colleagues and clients?"

Those questions would address some aspects of the effectiveness of EBL but other issues of effectiveness in practice were equally relevant. My next question then was:

"What was the impact of EBL on students' practice?" and more specifically,

"What was the impact of EBL on students' confidence and competence in practice?"

I suspected that students' reflections would be both personal and subjective but may give some insight into how an EBL process may empower users in their teaching and learning as indicated by the literature. However, to improve rigour of analysis to this enquiry and give a more structured perspective, a quantitative approach was developed. The above questions became the basis for the five themes or constructs in exploring effectiveness of EBL within this new midwifery curriculum which gave rise and justified the use of a multi-method approach. It also appeared to address some of the gaps identified in the literature about the process and outcome of an enquiry based process in a midwifery curriculum.
3.62 **Questionnaires:** These five themes from textual analysis of student reflections, became the sections within which statements were developed into a questionnaire. The statements were statistically tested, in a pilot questionnaire, using a Cronbach's alpha test and the revised questionnaires were then distributed to students, mentors and tutors to contribute to the multiple perspectives of the participants. Corroboration between participants was attempted.

3.63 **Interviews:** Finally to explore the idea of triangulating data (Denzin 1989) both from a qualitative and a quantitative approach, open-ended comments within the questionnaires were further examined through an interview process of participants contributing to the data. Corroboration of data between methods was attempted. (See Fig. 5 for structure of the research).

I have examined how each method contributes to research questions and what part they address. I have argued how the different methods feed into each other and how they integrate logically. I have discussed how the textual analysis of student reflections have supported or corroborated with the interview findings and the statistical analysis from the questionnaires and how my role as researcher has influenced each approach.

Thus multiple realities of EBL were explored through multiple methods, providing a kaleidoscope of knowledge on content, process, outcomes and consequences of this intervention within a new midwifery curriculum. Well informed, multidimensional but value-laden data are a result of the observer/observed interaction, the role of researcher/participant and the role of researcher as insider and outsider to create a constructed reality of the effects of EBL within this midwifery curriculum. Ultimately, these various methods have been employed because this is a totally new teaching and learning approach and cannot be compared to traditional curricula in terms of outcomes or concepts.

Finally these strategies have been integrated in a discussion on the relationship between the empirical perspective and the theoretical facet. The argument for empowering strategies in teaching and learning in midwifery education is explored through a multi-perspective understanding of empowerment from a social and reflective practitioner perspective, in support of the empirical evidence. Thus "theoretical resonance" is here attempted (Mason 1999).
**Fig 5. THE STRUCTURE OF THE RESEARCH**

<table>
<thead>
<tr>
<th>PILOT</th>
<th>REFLECTIONS</th>
<th>QUESTIONNAIRES</th>
<th>INTERVIEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1 (2002)</strong></td>
<td>Sampling from students' written reflections from module 1 year 1  - 5 themes identified  - pilot questionnaire devised from above themes</td>
<td>Content analysis of student reflections from module 3 year1 (same 5 themes identified)</td>
<td>End of year 1  (same 5 themes used as in pilot questionnaire)  Mirror questionnaires for:  - Students  - Mentors  - Tutors</td>
</tr>
<tr>
<td><strong>Year 2 (2003)</strong></td>
<td></td>
<td>Content analysis of student reflections from module 2 year2 (same 5 themes utilised)</td>
<td>End of year 2  Repeat questionnaires sent to:  - Students  - Mentors  - Tutors</td>
</tr>
<tr>
<td><strong>Year 3 (2004)</strong></td>
<td></td>
<td></td>
<td>End of year 3  Repeat questionnaires sent to:  - Students  - Mentors  - Tutors</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td>- Content analysis  - Cronbach's alpha for inter item reliability  - Normality tests</td>
<td>- Content analysis according to the 5 themes</td>
<td>- Spearman' to correlate age groups/groups  - Pearson's corr test for the means of the 5 themes  - Unpaired 2 tailed t-tests to compare these means across groups  - ANOVA(years, groups)</td>
</tr>
</tbody>
</table>
3.64 Data Collection
This next section identifies the various methods used to generate data in this enquiry. These predominantly were:

- Content analysis of student reflections

- Statistical analysis of questionnaires applying:
  Cronbach's alpha for inter-item reliability of questionnaires
  Spearman's test for comparing non-parametric data on age groups, diploma and degree students
  Normality tests to determine skewness and kurtosis of data presented
  Pearson's Correlation tests for 5 Constructs of Effectiveness Means for parametric data
  One way ANOVA to identify differences from the data of the 3 groups across each year
  Unpaired T-Tests to examine these differences between groups
  Two way ANOVA to examine differences across the 3 groups over the 3 years

- Content analysis of interviews from a sample of the 3 participant groups

In addition to this field notes as a tutor participant observer and as a researcher carrying out a case study within evaluation research contributed to the data.

3.641 Qualitative Data – Reflections from Portfolios
The use of qualitative data generated through student reflections from portfolios, open-ended questions from questionnaires and interviews are presented in an unstructured manner and cross-validated or triangulated using other techniques as discussed earlier in this chapter. Content analysis was applied to the student reflections and to the text from open-ended comments in the questionnaires and for analysing interview texts. This was seen to take the form of:

a) Personal structure analysis through open-ended questions, verbal responses and the construction of themes.

b) Interactive process analysis through interviews and analysis of the reflection texts

A content analysis approach examined meanings of statements within the content reflections, open-ended answers in the questionnaires and interview texts. A single
message may convey many contents to one interpreter about the phenomenon explored apart from that which is directly observed (Krippendorff 1980: 22, 23). Inferences from the data were made within the context of the data through "a systemic and objectively identified specific characteristics" within the context of the text examined.

In the analysis of the text, from students' personal reflections, inferential techniques emerged, such as thematic analysis (Krippendorff 1980). Indicators or statements when grouped within themes formed the constructs or dimensions that made up the concept of effectiveness examined in this study. Such constructs defining effectiveness of a teaching and learning strategy within a curriculum, are only meaningful within the context examined and therefore are systemically described and analysed with implications for the curriculum being evaluated. Language is used to convey knowledge and to understand the knowledge conveyed by others. "Inferences are drawn on the basis of this understanding" (Krippendorff 1980: 43). A midwife tutor checked the data to ensure validity and reliability of this analysis throughout the content analysis process.

Reflections were part of a portfolio assessment submitted by students at the end of each module throughout a three year programme in midwifery studies. These resulted from student professional tutor groups of discussions around practice and EBL sessions and feedback between students and facilitators. Therefore assumptions were made about content and direction that reflections would take. However, care was taken to ensure that distortions were not introduced by favouring some findings over others. Transparency of the process of analysis is made evident to ensure that other researchers may evaluate and replicate the findings (see appendix 6 for sample of coding process). Students reflected on practice issues and linking theory to practice, group and tutor interactions, and impact of EBL on learning, personal development and confidence and competence on practice.

Statistical tests were carried out to see whether any relations existed between the variables which would predict correlation or if some fixed variables, example age or cohort (degree or diploma students), would effect validity within the context of the data. Inferences could be made from the data as long as these were justified in terms of the known stable factors within the context of the data. Contributing mediating factors were acknowledged and the statements of each analytic construct, formulating the concept of effectiveness, were operationally defined. Thus rules of
inferences were defined in advance and the kind of evidence needed to ensure validity was specified. The analysis of this data is found in the next chapter.

The data through reflections may become dissociated from the context and therefore the content analysis was constructed based on my knowledge as a facilitator of the programme and my target of evaluating its effectiveness through this content analysis. Inferences could then be made which are sensitive to the context of the data. Many confounding invalidities were considered which may be a source of error into the data being analysed:

a) Students are aware they are being tested  
b) Students become the respondents or interviewees and may conform to that role and try to please  
c) The influence of the measurement process on the students  
d) Stereotypical responses  
e) Facilitator/researcher interaction effect on the students

Questionnaires and interviews are more susceptible to these errors but students were predominantly aware that their reflections were subject to scrutiny as part of the assessment process and therefore may have been cautious when expressing the truth about their perceptions of EBL. However, initial first reflections were subject to examination after they were submitted for assignments and consent gained from students for analysis, and therefore essentially unstructured. Other categories not presumed or considered, emerged when examining the text in greater depth. Large volumes of data, from student reflections were available and therefore analysis was restricted to a random selection of reflections from portfolios throughout the three years on the midwifery programme. In this way reflections submitted for assessment were analysed through content analysis. A pilot selection of reflections from the first module was used to formulate the questionnaires at the end of year 1 (see appendix 5).

Content analysis has been considered in terms of subject matter, analysis for references to certain characterisation and analysis for thematic analysis. Whilst it is often easy to identify themes, it may be difficult to identify them reliably, and hence may involve compromising unreliable information by exclusion from the analysis. Reliability checks have been carried out independently by a midwifery tutor (who examined anonymous reflections and ensured inter-researcher reliability). Findings
based on this data only led to insights about real phenomena when the data from the content and the context were clearly identified and related. The constructs had to be "exhaustive and mutually exclusive", in representing all aspects of each construct and for the data language to identify the various constructs which formulate the concept of effectiveness (Krippendorff 1980).

Inevitably intuitive determination of inferences were carried out in the initial analysis, however this may have been highly subjective and may have influenced the structuring of constructs examining effectiveness. There are two sides to this analysis. On the one hand, looking for emergence of meanings from the repetition of constructs of effectiveness and on the other hand seeking the emergence of meaning from a single statement. Both are relevant in understanding the EBL approach and in understanding the effectiveness of EBL and the relationship between its constructs (Stake 1995). Patterns which were drawn from the pilot data through students' reflections served as a template for the analysis, whilst new patterns emerged from the data during the three-year programme and enabled refining the questionnaires.

Reliability and efficiency improves with familiarisation of the construct statements and maintaining unidimensional references to the construct. Analytical constructs may be defined in terms of a theory about a context which examines independent variables and the dependent variables which represent the concept of effectiveness to infer, predict or explore the context of the data. However, inferences will never prove certainty and other intervening variables were considered (See variables mapping Appendix 4).

Through each construct, within reflections, a portion of reality pertaining to effectiveness of EBL was examined further in year 2 and year 3 reflections. Each statement was a component of that construct, examined for relationships with other components.

3.642 Piloting reflections
A pilot sample, of student reflections on the curriculum, was subject to content analysis (See appendix 5). The resulting statements were used to structure the pilot questionnaires as a means of triangulating data and to ensure concurrent validity. Piloting the data from these questionnaires, on a random sample of students accessing EBL, were subjected to a Cronbach's alpha test to determine inter-item (statement) correlation. The results identify which statements were reliable indicators
of the constructs examining effectiveness of EBL. Thus statistical validity is ensured. Open-ended sections of the questionnaire were examined to further develop the statements over the three-year programmes and inform the content of future interviews.

Content analysis of a pilot sample of reflections was a good starting point from which to generate statements that would examine the themes generated in the form of a questionnaire. Standards of effectiveness of these EBL teaching strategies can be judged against Nursing and Midwifery Council (NMC) proficiencies in terms of academic criteria and practice skills competencies.

3.643 Quantitative Data – Questionnaires
Generating data on characteristics of a single group over time, at yearly intervals over three years, is presented in the next chapter. Descriptive statistics have been applied from which relevant correlation between traits is examined. Thus the quantitative part of this study is correlation research over a three-year period. Correlation is of association of concepts or traits against time. Other variables considered are that of age groups and the two groups of degree and diploma students within the cohorts. The constructs generated through the reflections from students' assessments were categorised into the five themes as identified from the pilot data. Similar concepts have been used in previous studies to examine the effectiveness of EBL in post registration nursing programmes and these had been examined for validity and reliability as reported in Newman's work (2001).

3.644 Measurement Instruments
The rationale for making use of questionnaires is discussed in this section. The measurement instruments were embedded in a questionnaire design to be completed by student midwives over the three years. Questionnaires were developed through analysis of student reflection, within which content data were generated, and from which the five constructs were refined. At the start of the questionnaire participants were asked to identify whether they were diploma or degree students and asked to indicate to which one of four age groups they belonged. The reasons for these categories was to test for differences between diploma and degree students and to identify if there was a relationship between maturity of students and the various constructs of effectiveness of EBL.
A structured format was used for each construct within which a number of statements or indicators were used to operationalise the various constructs. Highly structured statements are useful in generating frequencies of response amenable to statistical treatment and analysis (Cohen, Manion & Morrison 2000). These questionnaires examine the five constructs of effectiveness of an EBL process derived from the student reflections submitted as part of their portfolio assessments. A seven point Likert rating scale, ranging from very strongly disagree to very strongly agree, has been used to give greater scope and flexibility to replies and better represents the range of views. However there can be no assumption of equal intervals between the categories (Oppenheim 1966: 81-104). To allow respondents an opportunity to add comments related to the concepts, each section had a space provided for additional comments (De Vaus 1996).

Care was taken to ensure that uni-dimensionality was measured at any one time. Positive and negative statements or indicators were equally balanced in each of the five constructs to ensure that the participants did not get into a mental set of ticking answers within the same columns and to avoid boredom and lack of concentration. The stem of negative statements was underlined as respondents do not always read and realise that a negative statement has been used. Negative statements are also a way to ensure that a construct could be tested out using a negative approach. However, negative statements may be difficult to recode if more than one recoder or researcher are involved when analysing the data. This however did not present a problem during the research.

The advantage of questionnaires is their ability to offer anonymity and are less costly and time consuming than other methods. Some of the disadvantages are that statements could be misinterpreted producing bias in the response (Preece 1994). Response rate may be low and can be prone to serious bias because the respondents who complete the questionnaire are self selected and rarely a random selection of the sample intended. Obviously, the opinions of non-respondents can never be examined (Polit & Hungler 1993).

3.645 Analysis of Data from Questionnaires
Classification/ ranking traits of age groups and type of midwifery programme i.e. degree or diploma were the demographic data collected from the first questionnaires (Hicks 1996). Quantification data, resulting in continuous data, of perceived effects of enquiry based learning on interactive skills, professional and personal development,
impact on practice, confidence and competence in practice and impact on the learning process were generated through the questionnaires. These variables generated through a Likert scale ranged from strongly agree to strongly disagree and presented as continuous data. Regardless of the instrument used, i.e. the questionnaire, measurement design must be examined for validity, reliability, and objectivity (Black 1999).

3.646 Validity
The validity of a measure depends on how well the scale measures what it is supposed to measure. Potential sources of construct invalidity may not only be with the instrument but with how the underlying construct has been defined. Construct validity aims to maximise the consistency between concept, construct and operational definitions (Black 1999). Content analysis from student reflections explored the concept of effectiveness of EBL, which when refined acquired more specificity of meaning for constructs defined through the statements or indicators developed to make up the questionnaires and resulting in operational definitions of the concepts (Black 1999).

To ensure external validity the whole cohort of student midwives was accessed to ensure that the sample was representative. The debate on generalisability for case study research has been discussed elsewhere.

To ensure face validity piloting the questionnaire may ensure whether the participants perceive the instrument as being valid (Black 1999).

To measure the validity of these measuring scales for the constructs within the concept of effectiveness of EBL, triangulation using mirror questionnaires to mentors and tutors was carried out. The outcomes of EBL were explored further through interviews of all three groups of participants i.e. students, mentors and tutors. This ensured that concurrent validity was considered (See Appendix 7 for three sets of questionnaires).

This analysis is not valid in determining causality, and therefore internal validity, about whether the statistical association of implementation of EBL and the outcome measurement of its effect can reasonably be considered as a casual association. Instead the analysis explores the construct (predictive) validity of using various measures to forecast future effectiveness of these concepts. Construct validity is
referred to "as the validity with which inferences are made about constructs on the basis of particular manipulations and measures" (Rutman 1977: 105) i.e. the five constructs measuring effectiveness of EBL. It seems that in collecting this type of data, correlations are an appropriate choice of statistics and therefore maintain statistical validity (See Appendix 4 for Variability map to show extraneous and intervening variables).

3.647 Reliability
The reliability of an instrument is the degree of consistency with which an instrument measures a concept. The less variation an instrument produces in repeated measures of a construct, the higher is its reliability. Thus reliability should equate with stability, consistency and dependability of a measuring tool. The stability of a measure refers to the extent to which the same scores are obtained when the instruments are used with the same subjects more than once (Polit & Hungler 1993). Longitudinal design using test-retest reliability procedures, administering the same measure to a sample of people on two occasions and then comparing the scores obtained, is one way of assessing reliability of the assessment tool used. Internal consistency exists if all the statements relating to the constructs are measuring the same concept. This can be measured statistically using the Cronbach's alpha coefficient and Pearson's product moment correlation for item-total correlation.

3.648 Tests of Analysis
First, non-parametric data were examined through the use of Spearman's Rho test to compare the five construct means of effectiveness between diploma and degree students and to examine the relationship between the different student age groups and construct scores. Normality tests were applied to examine skewness and kurtosis of the data. This identified data to be suitable to parametric testing.

Correlation is used when the strength and direction of a linear relation between two variables or constructs/indicators of continuous data are to be examined. The $r$ value or Pearson's product-moment correlation coefficient fulfills the following criteria. The population from which the data are drawn should be normally distributed. This was examined through normality tests as previously outlined. Analysis of variance is used when repeated measures are made on each participant. Each $r$ value, between -1 to +1, is accompanied by a P value, which expresses how likely an association of this strength would be to have arisen by chance, or a confidence interval, which expresses the range in which true $r$ occurs. This value may be between 0.01 and
0.05 for some of the indicators but may not however, prove causal relationships (Greenhalgh 1997).

For the purpose of this research, analysis of results will evaluate the new midwifery curriculum and determine if an association exists between effectiveness of EBL over a three-year period within the mentors, students and tutors groups. The perceived effectiveness of EBL to facilitate the learning process and bridging theory and practice is the outcome examined. The impact or association this may have on student personal development, confidence and competence, and academic achievement through the implementation of an enquiry based curriculum, are some of the associated variables, which will be analysed through statistical tests as outlined.

By using the means of each construct of effectiveness of EBL across the groups continuous data are presented, which lent itself to parametric testing. In the first instance, one way ANOVA to compare the three groups at the end of each year of 2002, 2003 and 2004 was applied and secondly a two way ANOVA test compared the three groups across the three years.

ANOVA identifies the differences that exist between groups and across years but does not identify where these differences lie. T-tests identified the differences between the three participant groups eg. students versus mentors, students versus tutors, and mentors versus tutors. These differences were explored further at the end of the three-year midwifery programme, through interviews of a sample of participants from each of the three groups. Data generated from interviews was also a means of corroborating the data generated from content analysis of student reflections and the data from questionnaires.

3.649 Missing data
In order to prevent distortion of data it is essential to deal with missing data. It is inevitable that respondents in the questionnaires may fail to respond to some of the items or statements within the questionnaires. For this reason there are a number of ways to minimise error variance during statistical analysis either by deleting the case completely from the analysis, or by deleting the variable which is missing values in the questionnaire. Case can be excluded either by 'listwise' or 'pairwise' deletion (De Vaus 2002). 'Listwise' deletion occurs when any case with missing data in any variable is eliminated from the analysis. 'Pairwise' deletion occurs when calculating
the correlation between two variables, which was carried out. All cases with non-missing data from those two variables are used to calculate the correlation between them, even when those cases have missing values in other variables being used in the analysis. As a result less cases are dismissed using 'pairwise' deletion and this can be carried out through the SPSS for Windows programme to avoid distortion of the results. If missing values are less than 15% then distortion of data is minimised using correlation. Alternatively if missing data are more than 15% (which it appeared to be) then converting values to 'group means' or 'sample means' avoids further distortion (De Vaus 2002) However 'group means' divides the sample into subgroups for those with missing data reducing the number of cases further. On the other hand 'sample means' provides an alternative as a measure of the central tendency of that variable, without reduction of cases or biasing of the data and was easily carried out through the SPSS programme.

3.7 Interviews
Interviewing is usually defined as a conversation with a purpose (Berg 2001: 66). It is a technique requiring conversation to learn about a phenomenon through the exchange of information for research purposes (Fink 2000). A sample of randomly selected students (to represent the 4 student age groups and type of programme – diploma and degree), tutors (five of ten midwifery tutors on the programme were interviewed) and mentors (to represent the trust and hospitals at which the various students gained their practice experience) were interviewed at the end of the programme to collaborate and clarify data analysed from other data generated methods used (See App 8 for example of semi-structured interviews). Britten (1996) suggests that interviews are the most commonly used qualitative methods in research or studies within health care settings. For the purpose of this study in clarifying issues thrown up by content analysis of the student reflections and comments in the open-ended sections of the questionnaires, a semi-structured technique was employed. This initially defined the area to be examined and from which further exploration of the issues could be developed. A couple of pilot interviews with practitioners were conducted to test the technique of semi-structured interviews and to make any necessary adjustments before interviewing of selected participants took place. In reality new ideas and ideas which were not anticipated at the outset of the research were uncovered to give a wider perspective of the effectiveness of EBL. In other words, meaning about the effectiveness of EBL was constructed during the interview process with each participant that was interviewed to form a connection. It is the researcher who defines and makes these connections
using personal knowledge and experience to make sense of the data through coding and analysing and interpretations of hidden meanings (McCracken 1988 in Fink 2000).

The interactive process during the interview aims to examine concepts in greater depth. First hand information is an attractive added dimension to generating data, although may be laborious to analyse. However there may be both advantages and disadvantages to this process. An advantage is that through this method it is possible to probe areas or issues of enquiry in a face-to-face situation (McKernan 1991). The participant's viewpoint is explored without restrictions or limitations of either textual analysis or questionnaires. One disadvantage is the issue of the researcher effect on the method used. This is explored in greater depth in the following section. Another is the length of the interview, which if unstructured may be of a long duration and therefore may lose the interest of the interviewee. These issues were addressed by ensuring that the interviews were no longer than 30 minutes and that some key questions pertaining to the five constructs relating to effectiveness of EBL guided the interview process. Some flexibility was possible within this time during which other issues of interest to the participants surfaced and were discussed, resulting in some interesting perspectives other than the initially five constructs that were included. However, there was an added difficulty at times in attempting to answer questions from the interviewees about EBL and providing explanations about these queries. A note was made of these queries and participants were invited to discuss these issues after the interview was completed.

The effects of conducting an interview on the participants must be considered. As with content analysis of reflections many confounding variables need to be considered which may be a source of error or bias in the interview data. These again include issues of the effect of the researcher on the participants during which participants are placed in an unnatural position of typed interviewing and therefore aim to give the expected or most pleasing answers. However being a participant observer in the research process may have unexpected advantages in that participants may feel able to divulge information, concerns or opinions freely because the researcher is well known to them and has knowledge of the EBL process. Corroboration of data is possible through this process in attempting to answer the research questions. An ontological position suggests that participants' first hand knowledge and viewpoints are understood, interpreted and actively constructed through this interactive process (Mason 1996). Interviewing explores the social reality
of the effects of EBL on the participants. From an epistemological perspective it is a legitimate method through which the research question is addressed through interaction and as articulated by participants. However an epistemological disadvantage is that participants may articulate a viewpoint but in reality it is acted upon in a very different manner.

3.8 Ethical considerations of the various methods used
The various methods used in this study were examined in terms of ethical consideration of each approach applied to the research. It is recognised that reflections are value laden and subjective, and may reveal personal thoughts and issues which participants might not reveal in questionnaires or a one to one interview. It was therefore necessary to seek consent to use students’ reflections from their assessment portfolios. An information sheet was sent to all student participants with a request to return an enclosed consent form indicating a willingness to participate in the research by submitting reflections for data analysis. Return of signed forms implied consent and only reflections of those students with signed consent was accessed for the research (see appendix 9 for example of letter of signed consent).

The questionnaires were again sent to all students in this cohort. A mirror questionnaire was sent to the students’ mentors in practice and the tutors teaching on their programme (see appendix 7 for questionnaires). Return of completed questionnaires implied consent. As with the reflections, questionnaires too may have introduced an element of bias through the self-selection process.

The sample of participants who were interviewed was randomly selected. However, consent to be interviewed was part of the process. Both tutors and mentors were sent an invitation to be interviewed and could refuse to do so if they chose (see appendix 10 for the interview invitation and consent). Students were also invited during one of the PTG meetings and could decline to attend.

3.81 Effects of Researcher on the Research
The issue of bias from an insider/outside perspective of the role of the researcher is addressed in this section. It explores the investigator role and investigator triangulation issues.
To ensure inter researcher reliability a midwifery tutor was asked to examine the qualitative data to determine what most commonly occurring themes emerged. All data submitted could not be identified as names, time and place of data collection were anonymous. The tutor identified very similar themes to the ones I had already listed. (See table 4.10 and appendix 11 for themes and sub-themes from qualitative data).

The effects of the researcher on the interviewee are many and may bias the research. The significance of my own background to the research has been considered in the first chapter. As discussed the research topic had emerged from the data available and from the literature on the effectiveness of EBL, which had been examined. The choice of theories underpinning the concept of an EBL approach will be explored later in the thesis. The research methods and rational for their uses together with the process for data collection, analysis and presentation of results has already been discussed. However, the effects of the researcher on the researched are discussed in greater depth in this section, as is the necessity of including the researcher in one’s research.

The degree of interactivity between the researcher and the participant may determine the quantity and quality of the data generated. If the interviewer is too rigid in the manner in which the questions are asked, important data may be missed or curtailed if further probing is not followed through in which issues could be explored and clarified. On the other hand, a researcher must keep within the topics of interest to answer the research questions. Britten (2000) suggests that wording and topics have to be interactive and sensitive to the participant’s understanding. Patton (1987) writes that questioning should be neutral, clear and sensitive. It is very easy to imply the researcher’s own point of view in the way the question is verbalised. Stating questions clearly and simply will allow the participants to express their own views and must not be directed by the researcher’s agenda or influenced by the values of the researcher.

I felt that during the interviewing phase of the study it was important to give participants the permission to express honest views. There is a risk that participants may try to give the answers that they think the researcher expects. In a sense this is where the insider role of the researcher may bias the data. Knowing the students, mentors and tutors as a participant on the curriculum is bound to create familiarity and a need to maintain conducive relationships. Students may feel that expressing
negative views would jeopardise their marks or support from tutors and mentors, and mentors and tutors want to be viewed in a favourable role as participating in their facilitation of an EBL process. This has political implications for those practitioners who share this type of "censored" information, and who may have been concerned about their interests within the institution. However others saw this familiarity as advantageous, treating me like a friend and confidante, displaying a trust when sharing their experiences. Fraser (1997) discusses similar issues in relation to her own research when examining ethical dilemmas and practical problems for the practitioner researcher and concludes that careful planning about the potential effects on others must be considered.

Merriam et al (2001) argue that there are three issues which frame the insider/outsider debate. These are the notion of positionality or the perceived position of the researcher as held by the participants, relations of power between researcher and the researched, and representation of the findings in ensuring that the participants perspective is truly represented. I believe that I was perceived to be in both roles by various participants in various contexts. When viewed in an insider researcher role, by some of the participants, there were two aspects to this role. Lather (1991: 57) suggests that reciprocity play a part in moving the researcher on two planes. First "from the status of stranger to friend and thus is able to gather personal knowledge from subjects more easily" and secondly as possessing expert knowledge empowered to judge and offer advice to the various participants. I was treated as the professional who had the right answer. On the other hand I was perceived, in the outsider role of the researcher, able to promote changes in the curriculum based on the information (be it positive or negative) generated through an honest account from all participants. In a sense participants subtly negotiated power by being in control of the information they shared. Either way I could affect the participant's view through my role and the power relationships that were negotiated throughout the research process. Merriam et al (2001: 413) suggest that "participatory action research also focuses on the political empowerment of people through participation in knowledge construction". In order to avoid biasing the results, Holstein & Gubrium (1995) argue that both the researcher and participant during an interview should actively construct meanings and arrive at some common conclusion regarding the issues. The interview is there to provide the space in which such an activity takes place and an interviewer can be viewed as playing both roles of the insider and outsider researcher. Witz et al (2001: 197) suggests that the investigator during an interview should be
emphasizing unique empathetic insight into the individual participant's nature, consciousness and experience.

Zeni (1998) suggests that with each cycle or stage of the research a deeper enquiry results through the research questions themselves or the constructs of effectiveness may change during the process. Power relations amongst participants or between participants and researcher may change during the enquiry process. A dilemma surfaced when I wondered how much of my participants I could write into the analysis to maintain a holistic approach to the qualitative paradigm, without breaching confidentiality and privacy. Greenbank (2003) recommends that a reflexive approach is also clearly articulated in the writing of the thesis. To overcome this problem, both a subjective view and an objective perspective were maintained throughout the research although this was difficult at times when my interpretation of the participants' narrative did not coincide with my own beliefs or view. Added to this was an increasing suspicion that EBL as portrayed in the literature was displaying elements in its delivery and effectiveness to be less effective than it claimed to be. I began to question whether I was viewing an EBL strategy through rose-tinted spectacles. I reflected on this for some time and concluded that I could not let my pre-conceived ideas of EBL bias the investigation, but I would let the data speak for itself without coming to any conclusions before the final analysis of all the data. Reflection as research was part of the process towards this thesis. This reflexive approach is supported by Rolfe et al (2001: 153, 161) who state that

> Reflexivity is posited as a method that fully embraces and exploits the subjectivity of the researcher” and “The practitioner-researcher does not merely wish to bring about change, she wants improvement, and that entails making a subjective value-judgement, what Reason (1988) terms 'critical subjectivity.'

As Mason (1996: 41) suggests I had “conceptualised myself as active and reflexive”.

Through this active and reflexive process I had to ensure that my own commitment to the research and ultimately to the curriculum would remain at the forefront of my study. I had to ensure that I spanned the divide between outsider and insider during the research process by maintain each role with each group of participant, whether in the trusts or at the university and my commitment to developing both curriculum and the practice of midwifery. Brook (1992) maintains that the researcher's subjectivity must always be examined to ensure that interpretation from participants must not be
biased by one's insider role. The other issue was not to let preconceived ideas about the effectiveness of EBL to shape these interpretations. Ethically I also had to make decisions about what was to remain as privileged information and what could be published. Peshkin (1988) suggests that using one's own experiential knowledge and inside knowledge of the midwifery culture would enable an honest interpretation of the data. Finally I had to decide whether to write myself into the account. Coffey (1999: 132) states that such an inclusive approach,

allows for a view of the author as an active creator or producer of knowledge, and in part a product of knowledge and social life produced by other.

The author concludes that it is useful to conceptualise oneself as an analytic topic rather than an inert source of the research, making textual links between reality and the representation of reality and the "lives" of participants as the product of their narratives which are "inextricably interwoven and networked". This connection and networking ultimately would involve myself as the researcher through which I would hope to experience personal and professional growth both as tutor and researcher (Coghlan & Casey 2001).

3.82 Other Issues Considered

The following section presents the time scale of the research, ethical issues and funding for the research. It was expected that the research would take up to minimum of four years and a maximum of five years to complete. A report for the organisation funding the research, was submitted within six months after completion of the midwifery programme, which commenced in Sept 2001. This included the first part of this thesis as an outcome evaluation of an EBL strategy within this midwifery curriculum.

(See Appendix 12 for time scale for the research)

3.83 Funding

The institution at which the research was carried out has funded the study for four years. Study time was given to go out into the practice trusts to distribute and collect the various questionnaires and to interview a random selection of the various participants in the study.
3.8.4 Ethical Approval

Ethical issues pertaining to the researcher were discussed in depth earlier in this chapter. However, other ethical issues have been dealt with in this section. Approval to interview and distribute questionnaires to tutors and students has been sought through the Head of School at the institution where the research was to be carried out. University Ethics Committee has been approached and approval to carry out this research has been granted (Appendix 13).

Individual Trusts supporting student placements on this curriculum have been approached individually to seek approval for distributing questionnaires or interviewing mentors in practice. Applications for approval have been processed through the Research & Development Committees for the five link Trusts which support students in placements. All R & D Committees approved the research and one Ethics Committee granted approval for the study as the leading research committee covering the five Trusts linked to the university. (Copies of letters of approval have been included, together with Information letter and Consent form to participants as an Appendix 14)

3.9 Conclusion

It was anticipated that the data from this evaluation will further develop future curricula and continue to inform enquiry based teaching and learning strategies, throughout the three years, on the new programmes in midwifery. The aim of this thesis is to encourage further developments in the education of midwives and the standards of midwifery practice of the future. In this chapter I have identified the aims of this educational study and the type of evaluation research carried out using a case study method within educational research. I perceived this process to pursue both an inductive and deductive approach and a discussion on how qualitative and quantitative methods contributed to the aims of triangulation followed. In addition to this the researcher effect on the research methods applied has been considered. Finally the type of sampling used and the use of piloting to identify tests applied and the direction of analysis is summarised here and explained fully in the next chapter. Time scales for the research, funding and some ethical issues have been discussed in the above section.
CHAPTER FOUR
DATA ANALYSIS

4.0 Introduction
In the previous chapter the structure and process of analysis has been outlined. This chapter describes and discusses analysis of data generated during this evaluative research. This includes the qualitative data from reflections and comments from questionnaires distributed to students, their mentors and tutors at the end of Year 1, 2 and 3 of a midwifery curriculum, using enquiry based learning as one of its teaching and learning strategies. Quantitative data from the questionnaires at the end of the programme follow, together with the statistical tests that were applied for analysis and the rationale for their use. Finally qualitative data from interviews with a number of participants are used to highlight and clarify the findings from the questionnaires.

The conclusions from the content analysis of student reflections, defined in the previous chapter, structured the five constructs, which would examine the concept of effectiveness of an EBL teaching and learning approach. These constructs became the five main sections of the questionnaires within which statements were developed to examine each construct (Table 4.0)

Table 4.0 Concept, constructs and statements defining Effectiveness of EBL

<table>
<thead>
<tr>
<th>The Concept of Effectiveness of Enquiry based Teaching &amp; Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Constructs (or dimensions) of Effectiveness</td>
</tr>
<tr>
<td>1. Group Interaction (12 statements/indicators)</td>
</tr>
<tr>
<td>2. Personal and Professional Development (10 statements/indicators)</td>
</tr>
<tr>
<td>3. EBL on Teaching &amp; Learning (20 statements/indicators)</td>
</tr>
<tr>
<td>4. Confidence &amp; Competence (14 statements/indicators)</td>
</tr>
<tr>
<td>5. Outcomes of Enquiry based learning (14 statements/indicators)</td>
</tr>
</tbody>
</table>

The following is an outline of the structure of the research:

- Pilot data from student reflections to develop the five constructs examining the concept of effectiveness of an EBL approach.
- Pilot questionnaires, which were tested using Cronbach's alpha test for inter-item reliability (containing statements for each construct).
• Analysis of number of reflections from student portfolios over the years.
• Revised questionnaire after the content analysis of reflections from Year 1 subjected to Cronbach's alpha test again. Open-ended option included with questionnaires. These questionnaires were distributed to students, mentors and tutors at the end of year 1, 2 and 3 to examine the changes.
• The analysis from the reflections and the comments in the open-ended sections from the questionnaires semi-structured the interviews to explore further the issues raised. These interviews were held at the end of year 3 with a randomly selected number of students, mentors and tutors.

4.1 The Pilot Data from student reflections
At the start of Year 1, the reflections of seven students were analysed from the initial first modules for degree and diploma students commencing on this new midwifery curriculum, Fundamentals of Professional Skills and Foundations of Professional Practice. The students recruited were randomly selected from the cohort of 26 students and identified as having returned a signed consent form (Appendix 9) (Ethical issues have been discussed in the previous chapter). This sample consisted of 5 diploma students spanning the 4 age groups (18-24, 25-30, 31-40, 41- older) and 2 degree students, each one representing the lowest and highest age group (see next chapter for analysis of data).

Coding of constructs was derived inductively from the data sourced through students' reflections. It could be argued however, that these constructs to define the concept of effectiveness of EBL could also have been derived deductively because assumptions are made after reviewing the literature. This offers alternative interpretations of the constructs, which are based on prior theory. Thompson (1992) suggests that a comprehensive knowledge base comes from understanding the ideas or experiences of the students and connecting this to the researcher's already known and held facts and beliefs. As a result of this process five themes emerged from the content analysis of reflections from the first and fifth trigger reflections of these first modules (See appendix 5 for colour coding and analysis of the pilot reflections). These five themes were the constructs, which defined the concept of effectiveness of an enquiry based teaching and learning strategy supporting this curriculum:

1) Interactive processes within the learning environment through the EBL process
2) Perception of personal and professional development
3) The impact of EBL on the learning process  
4) Perceived confidence and competence in practice through the EBL process  
5) Outcomes of EBL as a teaching and learning model

The constructs were colour coded throughout the text and compared across participants to derive similarities and differences. This coding process was applied to the interview data of participants later in the research (see appendix 5 & 6 for coding process).

4.2 The Pilot Questionnaires

The constructs examining the concept of effectiveness of EBL were developed into statements in a questionnaire format (see appendix 7 for questionnaires). The discussion on the design of the questionnaires has been carried out in the previous methodology chapter. Internal consistency of the statements relating to the constructs measuring the same concept of effectiveness was tested statistically. A Cronbach’s alpha coefficient test was applied to the data to test the reliability of the statements. A Pearson’s product moment correlation test was applied to the data to test for item-total correlation.

When these tests were applied to the data from the pilot questionnaire, having imported the Excel spreadsheet of data into a SPSS package, the average correlation among all the items that made up the scale for each of the five constructs measuring effectiveness of EBL, was calculated from the mean scores using a Cronbach’s alpha coefficient test. The results ranged from 0.65 to 0.90 for the five constructs of effectiveness examined. Four of the constructs fell within the widely accepted social science cut-off value, which is 0.7 or higher, whilst one was 0.65. The alpha value was calculated for each of the five constructs pertaining to the concept of effectiveness of EBL. Some of the statements within the constructs appeared to be weak or negative in value. An alpha value was also given which indicated what alpha would be if one of the items, examined for item-total correlation, was removed. (See table 4.1).

If alpha became higher when one of the statements was removed, then this indicated that it was not suitably defining the construct and was removed (Bryman & Cramer 1995). It is documented that the better the statements, the lower the error variance, and therefore the higher will be the reliability (Black 1999).
Table 4.1. 
Pilot data for students using Cronbach’s alpha to test for instrument reliability and testing for inter-item reliability (n=10 student midwives)

<table>
<thead>
<tr>
<th>Constructs of Effectiveness and Impact on:</th>
<th>Cronbach’s Alpha</th>
<th>Power at 0.01 sig</th>
<th>Power at 0.05 sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group dynamics and student interaction (S1mean)</td>
<td>0.810</td>
<td>0.70</td>
<td>0.93</td>
</tr>
<tr>
<td>Perception of personal development (S2mean)</td>
<td>0.645</td>
<td>0.50</td>
<td>0.53</td>
</tr>
<tr>
<td>Enquiry based learning on Practice (S3mean)</td>
<td>0.898</td>
<td>0.98</td>
<td>1.00</td>
</tr>
<tr>
<td>Enquiry based Learning on Confidence and Competence (S4 mean)</td>
<td>0.788</td>
<td>0.60</td>
<td>0.89</td>
</tr>
<tr>
<td>Outcomes of Enquiry Based Learning (S5 mean)</td>
<td>0.890</td>
<td>0.97</td>
<td>0.99</td>
</tr>
</tbody>
</table>

The number of statements, for the five constructs equating to effectiveness, ranged from ten to twenty in number. However it is possible that the statements were not measuring the construct. The distribution of the means for each of the constructs was inspected for normality using normality tests (see Fig 6-10 for year 1 data analysis and appendix 15 for normality tests (Years 2 & 3). Appendix 16 gives an additional example from year 2 and year 3 of graphic representation for each of the means of the five constructs). Normally distributed data lend themselves to parametric testing. Assuming normality, parametric tests may be used for subsequent analysis. A two-tailed test to measure the extremes of the distribution was used through the Pearson’s product moment correlation test. This is to ensure that data are analysed with statistical tests designed to show whether unusually low or high readings had arisen by chance. It can never be assumed what the direction of the EBL will have on the various constructs for effectiveness as indicated through the statements for each of the five constructs equating to effectiveness (Greenhalgh 1997).

To conclude, the pilot questionnaire demonstrated that some of the statements had to be removed to ensure that Cronbach’s alpha value was raised and the item-total correlation became strongly correlated. The results indicated that the statements
within the questionnaires were reliable indicators for the constructs examining the concept of perceived effectiveness of an enquiry based teaching and learning strategy in a midwifery curriculum (See Appendix 7 for questionnaires for students, tutors and mentors).

4.3 Analysis of student reflections at the end of year 1 (Sept 2002)
Analysis of reflections from Holistic Midwifery Module, the final module at the end of year 1 of the curriculum was analysed as per colour coding used for the pilot reflections. (See appendix 4). No further themes were identified for effectiveness of EBL from this analysis.

4.4 Analysis of Data from Questionnaires for Year 1 (Sept 2002)
A revised questionnaire at the end of the first year of the programme was issued to all 26 students in the cohort. A corresponding questionnaire was issued to their mentors and 10 tutors facilitating EBL, with some additional statements inserted on aspects about teaching using an enquiry based approach. The response rate is shown in Table 4.2.

<table>
<thead>
<tr>
<th>Group</th>
<th>No. of identified participants</th>
<th>No. of respondents</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>26</td>
<td>21</td>
<td>87.6%</td>
</tr>
<tr>
<td>Mentors</td>
<td>26</td>
<td>11</td>
<td>42.3%</td>
</tr>
<tr>
<td>Tutors</td>
<td>10</td>
<td>5</td>
<td>50%</td>
</tr>
</tbody>
</table>

The means of the five constructs for effectiveness were analysed using a Cronbach’s alpha test. Comments by tutors and mentors in the pilot questionnaire indicated that some additional statements were necessary to explore issues of effectiveness further. These were included in the revised questionnaire. Statistical tests were carried out as previously used on the pilot data. The revised questionnaires were again subjected to Cronbach’s alpha tests to determine inter-item (statement) correlation. Power calculations were also carried out as before and indicated strong inter-item correlation at 0.01 and 0.05 significance. (See table 4.3)
Table 4.3 Cronbach's alpha to retest revised questionnaire for inter-item reliability and power calculations where Student n=21, Mentor n=11 and Tutor n=5

<table>
<thead>
<tr>
<th>Constructs of Effectiveness</th>
<th>Cronbach's Alpha</th>
<th>Power at 0.01 sig</th>
<th>Power at 0.05 sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 1 Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group dynamics and student interaction</td>
<td>0.838</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>S 2 Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception of personal development</td>
<td>0.857</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>S 3 Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The impact of EBL on Practice</td>
<td>0.951</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>S 4 Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enquiry based Learning on Confidence and Competence</td>
<td>0.855</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>S 5 Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcomes of Enquiry Based Learning</td>
<td>0.882</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>S MT Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional core questions for mentors and tutors on teaching with EBL</td>
<td>0.701</td>
<td>0.91</td>
<td>0.98</td>
</tr>
</tbody>
</table>

Means and standard deviations were calculated for each construct defining effectiveness of EBL. The distribution of S1, S2, S3, S4 and S5 means were inspected for normality. Normality tests indicated that the five variables were normally distributed (see Table 4.4, and Figures 6 to 10). The skewness value provide additional information about the distribution of scores on continuous variable i.e. the scores from the five constructs pertaining to effectiveness of EBL. Skewness provides an indication of the symmetry of distribution and with perfect symmetry would be equal to 0. Negative skewness values indicate a cluster of high scores (Pallant 2001).

Normality tests are presented in Appendix 15. A Kolmogorov-Smirnov test is used to compare two groups of data from different subjects and is applicable to small participant numbers. This test requires continuous unequally distributed data as generated through a Likert scale, which ranged from 1 to 7 in the questionnaires. This scale does not indicate equal distribution of responses but is assumed to be equal. A Kolmogorov-Smirnov test seems the most appropriate as it is more sensitive.
to the number of categories in the Likert scale i.e. 1 to 7 and makes no assumptions about the distribution of data.

The Shapiro-Wilks test is a similar normality test that calculates a statistical value that tests whether a random sample from s1, s2, s3, s4 or s5 comes from a normal distribution. Small values are evidence of departure from normality.

Table 4.4
Summary Statistics for distribution of scores on continuous variables for the 5 constructs of effectiveness for Year 1 data (2002)

<table>
<thead>
<tr>
<th></th>
<th>S 1 MEAN</th>
<th>S 2 MEAN</th>
<th>S 3 MEAN</th>
<th>S 4 MEAN</th>
<th>S 5 MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>37</td>
<td>36</td>
<td>37</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Mean</td>
<td>5.7045</td>
<td>5.6466</td>
<td>4.9479</td>
<td>5.1520</td>
<td>4.7644</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>.90178</td>
<td>.88161</td>
<td>1.06129</td>
<td>.78142</td>
<td>.98169</td>
</tr>
<tr>
<td>Minimum</td>
<td>3.50</td>
<td>3.60</td>
<td>2.60</td>
<td>3.36</td>
<td>2.86</td>
</tr>
<tr>
<td>Maximum</td>
<td>7.0</td>
<td>6.90</td>
<td>6.65</td>
<td>6.50</td>
<td>6.79</td>
</tr>
</tbody>
</table>

The following figures 6-10 are a graphic representation of normal distribution for the means of the five constructs of effectiveness presented as by a histogram and supported by an inspection of the normal probability plots for each of the construct (labelled Normal Q-Q plots). In these plots the observed value for each score is plotted against the expected value for the normal distribution. A reasonable straight line suggests a normal distribution (Pallant 2001: 59).
Fig 6. Histogram S1 Mean (Group dynamics & student interaction)

![Histogram of S1 Mean](image)

Normal Q-Q Plot of $s_{1\text{mean}}$

![Normal Q-Q Plot](image)
Fig 7. Histogram for S2 mean (Personal & Professional Development)

Mean = 5.6466
Std. Dev. = 0.88161
N = 36

Normal Q-Q Plot of s2mean for year= 2002
Fig 8. Histogram for S3 mean (Enquiry based learning on practice)

Year 2002

Mean = 4.9479
Std. Dev. = 1.06129
N = 37

Normal Q-Q Plot of s3mean

for year = 2002
Fig 9. Histogram for S4 mean (Confidence & Competence)

Mean = 5.152
Std. Dev. = 0.78142
N = 37

Normal Q-Q Plot of s4mean

for year= 2002
Fig 10. Histogram for S5 mean (Overall effect on the teaching and learning process)

Normal Q-Q Plot of s5mean for year= 2002
At this point a decision was made to use parametric tests for analysis involving S1 to S5 mean as continuous data, except when examining relationship with demographic factors such as age bracket data. Consequently these variables, only available as data for the students, are examined within the circumspect confines of simple correlation for non parametric alternatives such as the Spearman’s Rank order correlation (rho) test. However, when examining the correlation of the means of each construct as continuous data, the Pearson-product moment correlation test was applied to the data. All constructs of effectiveness of EBL correlated at 0.05 level statistical significance.

Parametric tests (t-Tests) were used to compare construct means between the diploma (n= 10) and the degree student (n=11) participants at the end of year 1 (Sept 2002). There were no statistically significant results, for these means, indicating that at this stage in the programme, perceptions of effectiveness for the five constructs were the same for these two groups. Using the Spearman’s Rank correlation test to examine the relationship between age group and construct scores indicated that the older the student was the higher the values were for perceived personal development. This seems to indicate that older students perceived a greater change in their personal development and statistical values approaching significance suggested possibility of an association (Spearman’s rank correlation test S2 Mean rho = 0.406, p= 0.076 Table 4.5). However, in view of the small numbers of participants in this data these indications must be viewed with caution.

Table 4.5
Spearman’s Rank Correlation test to examine correlation of age/diploma or degree with means of each construct of effectiveness of EBL for Year 2002 (Year 1)

<table>
<thead>
<tr>
<th>Age/Group</th>
<th>S 1 MEAN</th>
<th>S 2 MEAN</th>
<th>S 3 MEAN</th>
<th>S 4 MEAN</th>
<th>S 5 MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>CorrCoefficient</td>
<td>.043</td>
<td>.406</td>
<td>.011</td>
<td>.073</td>
<td>.342</td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>.854</td>
<td>.076*</td>
<td>.962</td>
<td>.752</td>
<td>.130</td>
</tr>
<tr>
<td>N</td>
<td>21</td>
<td>20</td>
<td>21</td>
<td>21</td>
<td>21</td>
</tr>
</tbody>
</table>

A Pearson’s correlation test analysed the correlation between the constructs of effectiveness to determine any significant correlation between the constructs. Correlation was evident at 0.01 and 0.05 levels for all means as demonstrated in Table 4.6.

120
Table 4.6
Pearson’s Correlation Coefficient the 5 Constructs for Effectiveness for 2002 (Yr 1)

<table>
<thead>
<tr>
<th>Construct</th>
<th>S 2 Mean</th>
<th>S 3 Mean</th>
<th>S 4 Mean</th>
<th>S 5 Mean</th>
<th>S MT Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 1 Mean Group dynamics and student interaction</td>
<td>0.539**</td>
<td>0.606**</td>
<td>0.369*</td>
<td>0.484**</td>
<td>0.687**</td>
</tr>
<tr>
<td>S 2 Mean Perception of personal and professional development</td>
<td>0.572**</td>
<td>0.601**</td>
<td>0.597**</td>
<td>0.693**</td>
<td></td>
</tr>
<tr>
<td>S 3 Mean The impact of EBL on Practice</td>
<td></td>
<td>0.477**</td>
<td>0.776**</td>
<td>0.863**</td>
<td></td>
</tr>
<tr>
<td>S 4 Mean Enquiry based Learning on Confidence and Competence</td>
<td></td>
<td></td>
<td>0.543**</td>
<td>0.752**</td>
<td></td>
</tr>
<tr>
<td>S 5 MEAN Outcomes of Enquiry Based Learning Process</td>
<td></td>
<td></td>
<td></td>
<td>0.556*</td>
<td></td>
</tr>
</tbody>
</table>

**Correlation is significant at 0.01 level (2-tailed)
*Correlation is significant at 0.05 level (2-tailed)

A series of unpaired two tailed t-Tests were carried out to compare means for the 5 constructs of effectiveness between students and mentors, students and tutors and mentor and tutors for year 1 and are represented on one table 4.61 to identify any significant differences between the groups. Unpaired t-tests are used to test for significant differences between two groups of normally distributed data and a two-tailed test is used since it is implied that the variables are related. An underlying shift in means could be in either direction.

Table 4.61. Summary of comparisons of means for the 5 constructs across groups for 2002 (Yr 1)

<table>
<thead>
<tr>
<th>COHORT</th>
<th>N</th>
<th>MEAN</th>
<th>STD. DEV</th>
<th>t-Test, p values</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 MEAN Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentor</td>
<td>11</td>
<td>5.68</td>
<td>0.98</td>
<td>Stud v ment p = 0.887</td>
</tr>
<tr>
<td>Tutor</td>
<td>5</td>
<td>5.63</td>
<td>0.88</td>
<td>Stud v tutor p = 0.493</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ment v tutor p = 0.421</td>
</tr>
<tr>
<td>S2 MEAN Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentor</td>
<td>11</td>
<td>5.80</td>
<td>0.81</td>
<td>Stud v ment p = 0.171</td>
</tr>
<tr>
<td>Tutor</td>
<td>5</td>
<td>5.32</td>
<td>1.08</td>
<td>Stud v tutor p = 0.921</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ment v tutor p = 0.408</td>
</tr>
<tr>
<td>S3 MEAN Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentor</td>
<td>11</td>
<td>4.66</td>
<td>1.08</td>
<td>Stud v ment p = 0.282</td>
</tr>
<tr>
<td>Tutor</td>
<td>5</td>
<td>5.08</td>
<td>0.91</td>
<td>Stud v tutor p = 0.028*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ment v tutor p = 0.119</td>
</tr>
</tbody>
</table>
There were no statistically significant differences between students and tutors except for the means of construct 3 (the impact of EBL on practice), which is significant where (p = 0.028) with

S3 Mean = 4.66 (Std 1.08) for students
S3 Mean = 5.87 (Std 0.81) for tutors

This suggests that tutors perceived EBL to have a greater impact on practice than the students did. Analysis of the qualitative data supports this and suggests that tutors were eager to perceive or anticipate the usefulness of EBL in practice.

There were no significant differences between students and mentors except for the means of construct 4 (the perceived confidence and competence in practice), where p = 0.016 with

S4 Mean = 5.391 (Std 0.63) for students
S4 Mean = 4.74 (Std 0.78) for mentors

This suggests that students perceived themselves to be more confident and competent than the mentors had perceived them to be, supported by an enquiry based teaching and learning model within the new curriculum. Again the qualitative data in both the reflections and questionnaires reflect this finding which is discussed in the next chapter.

4.5 Quantitative data from questionnaires at the end of Year 2 and Year 3

The following section describes and discusses the analysis of data from Year 2 (2003) and Year 3 (2004) questionnaires. As previously indicated, there was no reason to imply that the statements examining the five constructs of effectiveness within the questionnaires had to be adjusted. This is borne out by analysis of the sample of student reflections from one of the year 2 modules. The same Year 1 questionnaire was issued to all second year students in 2003 and third year students in 2004 of the September 2001 cohort, and corresponding questionnaires were sent to a number of tutors teaching this cohort in 2003 and 2004. Mentors supporting this
cohort of students in practice were also sent a postal questionnaire in the corresponding years. The response rates are shown in Table 4.7 and Table 4.71

Table 4.7 Sample sizes and response rates for Year 2 (2003)

<table>
<thead>
<tr>
<th>Group</th>
<th>No. of identified participants</th>
<th>No. of respondents</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>24</td>
<td>12</td>
<td>50%</td>
</tr>
<tr>
<td>Mentors</td>
<td>23</td>
<td>8</td>
<td>34.7%</td>
</tr>
<tr>
<td>Tutors</td>
<td>18</td>
<td>9</td>
<td>50%</td>
</tr>
</tbody>
</table>

Table 4.71 Sample sizes and response rates for Year 3 (2004)

<table>
<thead>
<tr>
<th>Group</th>
<th>No. of identified participants</th>
<th>No. of respondents</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>24</td>
<td>17</td>
<td>70.8%</td>
</tr>
<tr>
<td>Mentors</td>
<td>24</td>
<td>5</td>
<td>20.8%</td>
</tr>
<tr>
<td>Tutors</td>
<td>20</td>
<td>12</td>
<td>60%</td>
</tr>
</tbody>
</table>

When comparing response rates for Year 2 to response rates for Year 1 (Table 4.2 discussed earlier), there is a drop in students' and mentors' response rates but no change in the response rate for tutors (more tutors had been employed since year 1 due to increasing student numbers in other programmes). When comparing response rates for 2003 and 2004 there is an increase in student and tutor response rates but a further drop in rate for the mentors. The drop in rate was expected as indicated by the literature (Black 1999), that sending repeat questionnaires may result in complacency and lack of interest in completing a second or third questionnaire. It was perceived that mentors were experiencing increased workload at the time that the postal questionnaires were sent to practice placements in the trusts. The improved rates for students and tutors can only be explained by the fact that personal contact had been made with the students and the tutors which may have encouraged them to respond to the evaluation of the curriculum at the end of the programme. In addition a reminder to return the questionnaires was sent to all participants in an attempt to improve response rates (see Appendix 9).

Statistical tests were carried out on Year 2 and Year 3 data as they were for Year 1 data. (See Appendix 15 and 16 for normality tests and graphic representation). Normality tests for year 2 and year 3 data indicate that the five construct means for effectiveness were normally distributed. Data were individually examined by years and then compared across the years for changes. Parametric tests (t-Tests) were again used to compare construct means between the diploma and the degree student participants and for the different student age groups. Again there were no statistically significant results, for these means, indicating that at the end of year 2
(Sept 2003), perceptions of effectiveness for the five constructs were the same for these two groups (dip n= 7 and deg n= 5). However, for year 3 (2004) for the S3 mean the diploma students (n=4, mean = 4.888) perceived EBL to be more effective on practice learning than the degree students (n = 13, mean = 5.366) perceived it to be where p= 0.043 (See Table 4.72). However, the small sample of diploma students needs to be borne in mind, and this finding is not supported by qualitative data.

Table 4.72 t-Tests for comparisons between diploma and degree students over the 3 years

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>5.9083</td>
<td>.9383</td>
<td>19</td>
<td>.308</td>
</tr>
<tr>
<td>Diploma</td>
<td>5.4642</td>
<td>.9977</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree</td>
<td>6.1531</td>
<td>.6518</td>
<td>18</td>
<td>.077</td>
</tr>
<tr>
<td>S2 mean</td>
<td>5.0951</td>
<td>.8432</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>4.8008</td>
<td>1.0945</td>
<td>19</td>
<td>.583</td>
</tr>
<tr>
<td>S3 mean</td>
<td>4.5316</td>
<td>1.1088</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>5.2643</td>
<td>.8004</td>
<td>19</td>
<td>.395</td>
</tr>
<tr>
<td>S4 mean</td>
<td>5.5056</td>
<td>.4408</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>4.9143</td>
<td>1.2471</td>
<td>19</td>
<td>.410</td>
</tr>
<tr>
<td>S5 mean</td>
<td>4.5130</td>
<td>.9285</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>5.4643</td>
<td>1.0317</td>
<td>10</td>
<td>.464</td>
</tr>
<tr>
<td>S1 mean</td>
<td>4.9667</td>
<td>1.2327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>5.9714</td>
<td>.9123</td>
<td>10</td>
<td>.743</td>
</tr>
<tr>
<td>S2 mean</td>
<td>5.7800</td>
<td>1.0545</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>5.2543</td>
<td>.6980</td>
<td>10</td>
<td>.139</td>
</tr>
<tr>
<td>S3 mean</td>
<td>4.0800</td>
<td>1.7960</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>5.6429</td>
<td>.6019</td>
<td>10</td>
<td>.783</td>
</tr>
<tr>
<td>S4 mean</td>
<td>5.7286</td>
<td>.3550</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>5.6122</td>
<td>.7364</td>
<td>10</td>
<td>.061</td>
</tr>
<tr>
<td>S5 mean</td>
<td>4.3143</td>
<td>1.3984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>5.2917</td>
<td>1.1637</td>
<td>15</td>
<td>.104</td>
</tr>
<tr>
<td>S1 mean</td>
<td>6.0321</td>
<td>.6005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>6.4250</td>
<td>.3500</td>
<td>15</td>
<td>.356</td>
</tr>
<tr>
<td>S2 mean</td>
<td>5.9923</td>
<td>.8713</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>4.8844</td>
<td>.5094</td>
<td>15</td>
<td>.043*</td>
</tr>
<tr>
<td>S3 mean</td>
<td>5.3654</td>
<td>.7315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>7.7321</td>
<td>.6478</td>
<td>15</td>
<td>.741</td>
</tr>
<tr>
<td>S4 mean</td>
<td>5.5850</td>
<td>.7911</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>5.0893</td>
<td>.6761</td>
<td>15</td>
<td>.549</td>
</tr>
<tr>
<td>S5 mean</td>
<td>5.4286</td>
<td>1.0281</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When applying the Spearman's Rank correlation test to examine the relationship between age groups and constructs, scores gave indications of a continuing trend in that the older the student was, the higher the values were for perceived personal and professional development (S2 mean).
Spearman’s rank correlation tests (see tables 4.5 and 4.73):
Year 1 (2002) \( \rho = 0.406, p = 0.076 \)
Year 2 (2003) \( \rho = 0.550, p= 0.064 \)
Year 3 (2004) \( \rho = 0.534, p = 0.027 \)

In addition to this for year 2, there is statistical significant association between the older students and perceived effective interactive process and improved group dynamics (S1 mean) as compared to the younger students (Spearman's rank correlation test \( \rho = 0.671, p= 0.017 \) Table 4.73). This was not the case in year 3.

Table 4.73- Spearman’s Rank Correlation test for correlation between age brackets and constructs of effectiveness for Year 2003 (Year 2) and Year 2004 (Year 3).

<table>
<thead>
<tr>
<th>Age Bracket</th>
<th>S 1 MEAN</th>
<th>S 2 MEAN</th>
<th>S 3 MEAN</th>
<th>S 4 MEAN</th>
<th>S 5 MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>CorrCoefficient</td>
<td>.671</td>
<td>.550</td>
<td>.024</td>
<td>.346</td>
<td>.243</td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>.017*</td>
<td>.064*</td>
<td>.942</td>
<td>.270</td>
<td>.447</td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

Correlation tests on data for year 2 (2003) and year 3 (2004) were applied to examine correlation between the means of the 5 identified constructs as had been applied to the data in year 1 (2002). For year 2 data, there were some changes to the correlation between construct means for S 1 with S 5, and S 3 with S 4. On examining the data in the Table 4.74 it was indicated that the relationships between S1 and S5 (student interactions and effectiveness of EBL on the learning process), and the relationship between S3 and S4 (the impact of EBL on practice and on confidence and competence) were not statistically significant any more (Table 4.74).

Table 4.74,
Pearson’s Correlation Coefficient for the 5 Constructs for Effectiveness for 2003 (Yr 2)

<table>
<thead>
<tr>
<th>Construct</th>
<th>S 2 Mean</th>
<th>S 3 Mean</th>
<th>S 4 Mean</th>
<th>S 5 Mean</th>
<th>S MT Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 1 Mean Group dynamics and student interaction</td>
<td>0.508**</td>
<td>0.543**</td>
<td>0.445*</td>
<td>0.286</td>
<td>0.214</td>
</tr>
<tr>
<td>S 2 Mean Perception of personal development</td>
<td>0.500**</td>
<td>0.529**</td>
<td>0.374*</td>
<td>0.369</td>
<td>0.369</td>
</tr>
<tr>
<td>Construct</td>
<td>S 2 Mean</td>
<td>S 3 Mean</td>
<td>S 4 Mean</td>
<td>S 5 Mean</td>
<td>S MT Mean</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td>S 1 Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group dynamics and student interaction</td>
<td>0.626**</td>
<td>0.726**</td>
<td>0.620**</td>
<td>0.585**</td>
<td>0.467**</td>
</tr>
<tr>
<td>S 2 Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception of personal development</td>
<td>0.645**</td>
<td>0.808**</td>
<td>0.673**</td>
<td>0.225</td>
<td></td>
</tr>
<tr>
<td>S 3 Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The impact of EBL on Practice</td>
<td>0.646**</td>
<td>0.818**</td>
<td>0.487**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S 4 Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enquiry based Learning on Confidence and Competence</td>
<td></td>
<td></td>
<td>0.629**</td>
<td>0.598**</td>
<td></td>
</tr>
<tr>
<td>S 5 MEAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.325</td>
</tr>
</tbody>
</table>

**Correlation is significant at 0.01 level (2-tailed)
*Correlation is significant at 0.05 level (2-tailed)

However in Year 3 (2004) S1 to S5 means were strongly correlated again in the final year. This indicated that the various constructs pertaining to effectiveness of EBL were perceived to be implying that the various aspects of this teaching and learning strategy were contributing to the overall effectiveness of EBL (Table 4.75). It was interesting to note that correlation between S1 and S5 means and SMT mean (tutors and mentors comparison of EBL effectiveness with a traditional curriculum, was no longer perceived to be significantly different as the curriculum progressed through 2002 to 2004. When tutors and mentors compared present students with students from past curricula perceived no differences in personal and professional development at the end of the programme. The qualitative data contradict these findings.
The only correlation which is significant at the 0.01 level for this SMT mean is with S4 mean for perceived confidence and competence which implied that an EBL approach was seen to develop confidence and competence more effectively than a traditional approach to teaching and learning.

When analysing data from the same group of participants over a period of 2002, 2003 and 2004, then if treating the effectiveness data as normally distributed interval data, the one way repeated measure analysis of variance (ANOVA) may be used. Two way ANOVA was applied to the data to compare all the groups over the 3 year period, to examine changes over the years and between groups. ANOVA is a test to assess the mean differences between three or more groups. This is done by comparing the amounts of variability explained by different sources. An F ratio can be calculated to represent the variance between the groups, divided by the variance within the groups. A large F ratio shows that there is more variability between the groups than there is within each group. ANOVA indicated a difference between groups but to identify where these differences appeared required applying unpaired t-Tests. This is assuming that "perception of effectiveness" is normally distributed and perception is the dependant variable when used in ANOVA with student, mentor and tutor groups and for the years 2002 to 2004. As individuals returning questionnaires over the years could not be identified and matched up between years then paired testing was not feasible. This was because questionnaires were filled anonymously.

When analysing data from the same group of participants over the three years and treating data at interval level then two way ANOVA, to compare two independent variable against one dependant variable, has been used (the independent cohorts or groups of students, mentors and tutors, over the three years of 2002 , 2003 and 2004, against the means of each construct, S1, S2, S3, S4, S5 and S MT Means) This test was carried out to investigate whether the mean scores were influenced by the individual groups or by the year. It is acknowledged that the interaction effect may have had a bearing on the results eg being a student in 2003 or in 2004 may have influenced over and above the individual above variables. (See Table 4.8).
Table 4.8 Two way ANOVA for Years and Groups

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 MEAN GROUP</td>
<td>2.082</td>
<td>2</td>
<td>1.041</td>
<td>1.324</td>
<td>0.271</td>
</tr>
<tr>
<td>YEAR</td>
<td>0.194</td>
<td>2</td>
<td>9.686E-02</td>
<td>0.123</td>
<td>0.884</td>
</tr>
<tr>
<td>2-way interactions</td>
<td>5.516</td>
<td>4</td>
<td>1.378</td>
<td>1.753</td>
<td>0.145</td>
</tr>
<tr>
<td>GROUP * YEAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2 MEAN GROUP</td>
<td>4.749</td>
<td>2</td>
<td>2.375</td>
<td>3.013</td>
<td>0.054*</td>
</tr>
<tr>
<td>YEAR</td>
<td>0.428</td>
<td>2</td>
<td>0.214</td>
<td>0.271</td>
<td>0.763</td>
</tr>
<tr>
<td>2-way interactions</td>
<td>4.904</td>
<td>4</td>
<td>1.226</td>
<td>1.556</td>
<td>0.193</td>
</tr>
<tr>
<td>GROUP * YEAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S3 MEAN GROUP</td>
<td>3.832</td>
<td>2</td>
<td>1.916</td>
<td>1.848</td>
<td>0.163</td>
</tr>
<tr>
<td>YEAR</td>
<td>1.085</td>
<td>2</td>
<td>0.543</td>
<td>0.523</td>
<td>0.594</td>
</tr>
<tr>
<td>2-way interactions</td>
<td>11.340</td>
<td>4</td>
<td>2.835</td>
<td>2.734</td>
<td>0.034*</td>
</tr>
<tr>
<td>GROUP * YEAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S4 MEAN GROUP</td>
<td>10.850</td>
<td>2</td>
<td>5.425</td>
<td>8.608</td>
<td>0.000*</td>
</tr>
<tr>
<td>YEAR</td>
<td>0.863</td>
<td>2</td>
<td>0.432</td>
<td>0.685</td>
<td>0.507</td>
</tr>
<tr>
<td>2-way interactions</td>
<td>4.748</td>
<td>4</td>
<td>1.187</td>
<td>1.884</td>
<td>0.120</td>
</tr>
<tr>
<td>GROUP * YEAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S5 MEAN GROUP</td>
<td>1.700</td>
<td>2</td>
<td>0.850</td>
<td>0.909</td>
<td>0.407</td>
</tr>
<tr>
<td>YEAR</td>
<td>0.819</td>
<td>2</td>
<td>0.410</td>
<td>4.38</td>
<td>0.647</td>
</tr>
<tr>
<td>2-way interactions</td>
<td>7.412</td>
<td>4</td>
<td>1.853</td>
<td>1.981</td>
<td>0.104</td>
</tr>
</tbody>
</table>

There were no significant changes for S1 Mean and S5 Mean but S2, S3 and S4 Means indicates some differences.

S2 mean approaches statistical significance at 0.05 level for the groups in terms of perceived effectiveness of EBL on personal development (p = 0.054).

S3 mean indicated an interactive effect of group and year suggesting a difference between groups in one year but not in another for the perceived impact of EBL on learning in practice (p = 0.034).

S4 Mean showed a highly significant difference between the groups in their perception of the effectiveness of EBL on confidence and competence (p < 0.0005).

To further examine where these differences lie, t-Tests were applied to produce p values across the 3 years for the 3 groups. A discussion of the findings follows the tabular representations of the results in Table 4.9. Unpaired two tailed t-Tests were carried out across the 3 years to compare means for the five constructs of
effectiveness between students and mentors, students and tutors and mentors and tutors.

Table 4.9
\begin{table}
\begin{tabular}{|c|c|c|c|c|}
\hline
\textbf{GROUP} & \textbf{N} & \textbf{MEAN} & \textbf{STD. DEV} & \textbf{t-Test, p values} \\
\hline
\textbf{YEAR 2002} & & & & \\
S1 MEAN Student & 21 & 5.68 & 0.98 & Stud v ment p = 0.887 \\
Mentor & 11 & 5.63 & 0.88 & Stud v tutor p = 0.493 \\
Tutor & 5 & 6.00 & 0.72 & Ment v tutor p = 0.421 \\
\hline
\textbf{YEAR 2003} & & & & \\
S1 MEAN Student & 12 & 5.26 & 1.10 & Stud v ment p = 0.039* \\
Mentor & 8 & 6.21 & 0.61 & Stud v tutor p = 0.602 \\
Tutor & 9 & 5.50 & 0.92 & Ment v tutor p = 0.082 \\
\hline
\textbf{Year 2004} & & & & \\
S1 MEAN Student & 17 & 5.86 & 0.80 & Stud v ment p = 0.690 \\
Mentor & 5 & 6.03 & 1.06 & Stud v tutor p = 0.081 \\
Tutor & 12 & 5.33 & 0.73 & Ment v tutor p = 0.133 \\
\hline
\textbf{YEAR 2002} & & & & \\
S2 MEAN Student & 20 & 5.80 & 0.81 & Stud v ment p = 0.171 \\
Mentor & 11 & 5.32 & 1.08 & Stud v tutor p = 0.921 \\
Tutor & 5 & 5.76 & 0.58 & Ment v tutor p = 0.408 \\
\hline
\textbf{YEAR 2003} & & & & \\
S2 MEAN Student & 12 & 5.90 & 0.93 & Stud v ment p = 0.897 \\
Mentor & 8 & 5.95 & 1.04 & Stud v tutor p = 0.223 \\
Tutor & 9 & 5.45 & 0.57 & Ment v tutor p = 0.229 \\
\hline
\textbf{Year 2004} & & & & \\
S2 MEAN Student & 17 & 6.10 & 0.79 & Stud v ment p = 0.502 \\
Mentor & 5 & 5.80 & 1.25 & Stud v tutor p = 0.001** \\
Tutor & 12 & 4.92 & 0.92 & Ment v tutor p = 0.135 \\
\hline
\textbf{YEAR 2002} & & & & \\
S3 MEAN Student & 21 & 4.66 & 1.08 & Stud v ment p = 0.282 \\
Mentor & 11 & 5.08 & 0.91 & Stud v tutor p = 0.028* \\
Tutor & 5 & 5.87 & 0.81 & Ment v tutor p = 0.119 \\
\hline
\textbf{YEAR 2003} & & & & \\
S3 MEAN Student & 12 & 4.77 & 1.35 & Stud v ment p = 0.110 \\
Mentor & 8 & 5.66 & 0.80 & Stud v tutor p = 0.326 \\
Tutor & 9 & 5.20 & 0.50 & Ment v tutor p = 0.167 \\
\hline
\textbf{Year 2004} & & & & \\
S3 MEAN Student & 17 & 5.16 & 0.77 & Stud v ment p = 0.776 \\
Mentor & 5 & 5.30 & 1.25 & Stud v tutor p = 0.066 \\
Tutor & 12 & 4.43 & 1.28 & Ment v tutor p = 0.223 \\
\hline
\textbf{YEAR 2002} & & & & \\
S4 MEAN Student & 21 & 5.39 & 0.63 & Stud v ment p = 0.016* \\
Mentor & 11 & 4.74 & 0.78 & Stud v tutor p = 0.367 \\
Tutor & 5 & 5.06 & 1.09 & Ment v tutor p = 0.513 \\
\hline
\textbf{YEAR 2003} & & & & \\
S4 MEAN Student & 12 & 5.68 & 0.50 & Stud v ment p = 0.339 \\
Mentor & 8 & 5.44 & 0.72 & Stud v tutor p = 0.022* \\
Tutor & 9 & 4.83 & 1.05 & Ment v tutor p = 0.207 \\
\hline
\end{tabular}
\end{table}
The above data present the results from t-tests comparing the means of five constructs for effectiveness of EBL over the three years and across the three groups of students, mentors and tutors. Data from year one have been discussed earlier and indicated but are summarised here.

**Students and Mentors**

There were no significant differences between students and mentors except for two instances. In year 1 (2002) the means of construct 4 (the perceived confidence and competence in practice) is statistically significant where \( p = 0.016 \) with

- **S4 Mean = 5.391 (Std 0.63)** for students
- **S4 Mean = 4.74 (Std 0.78)** for mentors

This suggests that students perceived themselves to be more confident and competent than the mentors had perceived them to be, supported by an enquiry based teaching and learning model within the new curriculum. Again, the qualitative data in both the reflections and questionnaires reflect this finding which is discussed in the next chapter.

The data for the end of the second year (Sept 2003) suggested that EBL was perceived by mentors to have an effect on the interactive process of students. This may indicate that communication skills (S1 mean) were perceived to be developing in the second year, where \( p = 0.039 \) with

- **S1 Mean = 5.26 (Std 1.10)** for students
- **S1 Mean = 6.21 (Std 0.61)** for mentors
Students and Tutors

In Year 2002 (Year 1) there were no statistically significant differences between students and tutors except for the means of construct 3 (the impact of EBL on practice), which approaches significance where \( p = 0.028 \) with
\[
S3 \text{ Mean } = 4.66 \text{ (Std 1.08) for students} \\
S3 \text{ Mean } = 5.87 \text{ (Std 0.81) for tutors}
\]

This suggests that tutors perceived EBL to have a greater impact on practice than the students did. Analysis of the qualitative data supports this indication and suggests that tutors were eager to perceive or anticipate the usefulness of EBL in practice.

At the end of year 2, analysis suggested an association where tutors perceived students to be more confident and competent (\( S4 \) mean) than students perceived themselves to be, where \( p = 0.022 \) is statistically significant. This had changed from year 1 data.
\[
S4 \text{ Mean } = 5.68 \text{ (Std 0.05) for students} \\
S4 \text{ Mean } = 4.83 \text{ (Std 1.05) for tutors}
\]

Analysis of data at the end of the third year (2004) indicated that there were differences between students and tutors for the \( S2, S4 \) and \( S5 \) means. Students and tutors showed differences for the means of construct 2, which indicated that there was a highly significant difference between the perceived personal and professional development of students by students themselves and the tutors where \( p = 0.001 \) with
\[
S2 \text{ Mean } = 6.10 \text{ (Std = 0.79) for students} \\
S2 \text{ Mean } = 4.92 \text{ (Std = 0.92) for tutors}
\]

This implied that tutors did not perceive that EBL had any significant effect on student personal and professional development.

There appeared to be a highly significant difference between students and tutors in their perception of the impact of EBL on student's confidence and competence, where \( p = 0.000 \). This indicated that students again perceived themselves to be more confident and competent than tutors saw them to be and
\[
S4 \text{ Mean } = 5.62 \text{ (Std = 0.74) for students} \\
S4 \text{ Mean } = 4.29 \text{ (Std = 0.95) for tutors.}
\]
There was also an indication that for S5 Mean students perceived a greater impact of EBL on the outcomes of this approach as perceived by tutors. This implied that tutors did not think that outcomes of EBL were as effective as the students thought they were, where \( p = 0.009 \).

\[
\begin{align*}
\text{S5 Mean} &= 5.35 \ (\text{Std} = 0.95) \text{ for students} \\
\text{S5 Mean} &= 4.34 \ (\text{Std} = 0.96) \text{ for tutors.}
\end{align*}
\]

**Mentors and Tutors**

There appears to be only one value of statistical significance between mentors and tutors and this was for S4 Mean which suggested that mentors perceived students to be more confident and competent than tutors perceived them to be, where \( p = 0.029 \). However this perceived difference was not as significant as that which was perceived between students and tutors as identified above where \( p = 0.000 \).

\[
\begin{align*}
\text{S4 Mean} &= 5.56 \ (\text{Std} = 1.07) \text{ for tutors} \\
\text{S4 Mean} &= 4.29 \ (\text{Std} = 0.95) \text{ for mentors.}
\end{align*}
\]

The above data is supported by analysis of the qualitative data as discussed in the next section.

To conclude statistical tests are a means of identifying and testing significant differences between participant groups but it is acknowledged that data from questionnaires relies heavily on self-selection and self-reporting which introduces an element of bias. Similarly qualitative data relies on individual perceptions and the multi-perspectives of these participants. No observation of individual mentors or tutors was carried out by the researcher but handwritten field notes were taken when observing students during the learning process. The next section analyses the qualitative data.

### 4.6 Qualitative data from open ended comments from questionnaires

Qualitative data from open-ended comments from questionnaires distributed to students, mentors and tutors were analysed to triangulate the quantitative findings in the questionnaires. Issues of triangulation and generalisability have been discussed in the previous chapter.

### 4.7 Analysis of Qualitative Data

Berg (2001) suggests that how one interprets qualitative data depend on the theoretical orientation of the researcher. The initial qualitative data from first year
student reflections were approached with a more general interpretative orientation to permit organisation and reduction of a vast amount of data, which uncovered patterns relating to effectiveness of EBL (see appendix 5 & 6 for example of first year student reflection and coding). Data from these reflections were colour coded and categorical labels given to the emerging themes. Each category related to a construct of effectiveness of EBL in midwifery education for this Sept 2001 cohort.

Five main themes or constructs emerged relating to the following:
1. Interactive processes within the group through EBL activity – code RED
2. Personal and professional development through EBL activities – code PINK
3. Effectiveness of the teaching and learning process through EBL activities – code BLUE
4. Development of confidence and competence in theory and practice through EBL activities – code GREEN
5. Enjoyment and satisfaction through EBL activities – code YELLOW.

Within these five main constructs several sub-themes where identified which at times seem to overlap with other sub-themes in other identified constructs (see Table 4.10 below and Appendix 11). Participants were identified as students – S with a corresponding number for each student sample. Example S1 to S7 for the samples of reflections [R] taken for year 1 (Y1) students would be identified as Y1[R] S1 to Y1[R] S7. Student reflections from year 2 were identified as Y2[R] S1 to Y2[R] S6 for the six student reflections. There were no reflections analysed in year 3 as interviews were being carried out in this year and any changes in the curriculum would be identified through this method.

Open-ended comments from the questionnaires for students over the three years were identified as:

Comments from questionnaires [Q] for students:
Year 1: Y1[Q]S1 to Y1[Q]S21
Year 2: Y2[Q]S1 to Y2[Q]S12
Year 3: Y3[Q]S1 to Y3[Q]S17

depending on the number of student respondents over the years. Similar coding was used to identify transcripts of student interviews [W] in the final year. The coding was as follows [W]S1to [W]S7.
Qualitative data from mentors and tutors were also coded in this way. Open-ended comments from questionnaires [Q] over the three years were identified again according to the number of respondents each year as follows:

Comments from questionnaires for mentors [M] and tutors [T]

**Mentors:**
- Year 2: Y2[Q]M1 to Y2[Q]M8

**Tutors:**
- Year 1: Y1[Q]T1 to Y1[Q]T5
- Year 2: Y2[Q]T1 to Y2[Q]T9

Interview [W] data carried out in the final year of the curriculum were coded in the following manner for mentors and tutors:


In addition, an attempt was made to carry out two unstructured interviews, which did not pre-empt the identified themes used in semi-structured interviews with the other participants. These were two interviews carried out with clinical practice educators/facilitators (PF) in an effort to identify additional issues related to EBL outside the "box" set by the already identified themes. The coding for these transcripts was as follows: [W] PF1, [W] PF2.

From the two unstructured interviews there were some additional themes identified, by the practice facilitators, which mostly related to assessment of students in practice. In this respect, practice facilitators did not think that an EBL approach could be effectively assessed entirely through a portfolio and recommended mixed methods of teaching, learning and assessment. They perceived that an increased number of practice assessments would more appropriately assess students' competencies in practice.

Table 4.10 and Appendix 11 presents the various sub-themes that emerge from the qualitative data within the five main constructs defining the concept of effectiveness of EBL. Several of the themes within each construct of effectiveness overlapped and merged which is supported by the quantitative analysis through correlation statistics in the first part of this chapter.
### Table 4.10 Constructs, sub-themes and overlapping themes of effectiveness of EBL

<table>
<thead>
<tr>
<th>Constructs of effectiveness defined by themes</th>
<th>Sub-themes</th>
<th>Collapsed sub-themes and resulting overlap</th>
</tr>
</thead>
</table>
| 1. Interactive processes and small group learning | A. Dominance of group members  
B. Rivalry and competition  
C. Learning from others, sharing  
D. Building relationships  
E. Collaborative working  
F. Tutor role in facilitation  
G. Feedback and support  
H. Building confidence in interactive skills  
I. Building knowledge and competence in practice  
J. Student age, experience and learning styles  
K. Supportive role of the mentor | • Teaching and learning  
• Personal attributes  
• Personal development  
• Professional development |
| 2. Personal and professional development | L. Leadership skills  
M. Motivation  
N. Personal life experiences & maturity  
O. Self-directed develop. and learning  
P. Interactive learning  
Q. Developing new skills and reflection  
R. Control and autonomy  
S. Linking theory to practice through reflection  
T. Developing confidence and competence  
U. Need for tutor and mentor support | • Personal attributes  
• Support in development  
• Developing new skills  
• Linking theory to practice competence  
• Development through reflection |
| 3. The impact of an EBL teaching and learning process | V. Integration and relevance of subject matter  
W. Broader, deeper and informal learning; styles and quality of learning  
X. Gaps in knowledge  
Y. Learning from others, interactive learning  
Z. Learning linked to personal attributes  
AA. Negative/positive aspects of large/small group learning  
BB. Bridging theory/practice gap, balance and confidence  
CC. Developing critical and reasoning skills. Personal development  
DD. Professional issues  
EE. Guidance and support in learning  
FF. The reflective process in learning  
GG. Dissatisfaction with T&L process  
HH. Lifelong learning | • Style and quality of learning  
• Theory and practice competence  
• Personal attributes driving learning  
• Support in learning  
• Outcomes of learning  
• Reflection underpinning learning |
| 4. Development of confidence and competence in theory and practice | II. Confidence through learning process  
JJ. Confidence in learning  
KK. Group support and learning  
LL. Importance of feedback  
MM. Theory & Practice linked to competence and practice experience  
NN. Autonomy and personal development  
OO. Support from mentors/tutors  
PP. Changing the learning culture | • Group learning  
• Theory and practice  
• Self development and confidence  
• Practice and competence |
| 5. Outcomes of the EBL process | QQ. Satisfaction linked to personal development  
RR. Satisfaction linked to group dynamics  
SS. Link to teaching and learning process  
TT. Link to confidence building  
UU. Link to competence achievement  
VV. Link to personal attributes and learning styles | • Personal development  
• T & L process  
• Personal attributes and styles of learning  
• Confidence and competence |
Content of texts in this instance has been analysed through both surface and deep structural meaning according to Berg (2001:204) to identify the theme behind the statements and then "to understand the meaning conveyed by the message". In a sense the sub-themes are according to Strauss (1987:33) in vivo codes, which tend to be the behaviour or process of the participants and are derived through an inductive process. Denzin (1978) suggests that themes must be grounded in the data from which they arise and is concerned with identifying recurring patterns. Using constant comparative analysis, of coded key words and phrases, such as 'competence', 'working in small groups' or 'autonomy' and 'reflection', the coded sections began to re-collapse and common themes identified. Thus, the final column represents the constructs, which I have deduced from the sub-themes and relate to my interpretation as the researcher influenced by my knowledge as a practitioner, tutor and theoretical perspectives through this research. Berg (2001: 246) suggests that a researcher's "experience thus underpins both inductive and deductive reasoning".

Throughout this process I was conscious of a need to identify if the data were answering the research question. In analysing the data through a manual process I felt more in control of having a visual grasp of all the various texts laid out together until all themes had reached a saturation point. An attempt to use NUD*IST to assist analysis, proved to be more confusing and was abandoned at an early stage in the process. Through this visual and physical process I was able to compare similar themes across data sources of texts from student reflections, open-ended comments from questionnaires returned from the three participant groups, students, mentors and tutors and the interview scripts from all these three participants. Each qualitative data set was coded according to source i.e. reflection [R], questionnaire [Q] and interview [W], together with participant identification of student [S1, S2 ...], tutor [T1, T2 ...] or mentor [M1, M2 ...]. Sections from text were colour coded, separated out and attached to emerging themes which were then finally grouped into the five identified constructs pertaining to perceived effectiveness of EBL (see appendices 5,6 & 11).

In this manner it could be ensured that there were no assumptions that any of the constructs relating to effectiveness of EBL would occur by chance or be pre-empted. Each data source would contribute an aspect of effectiveness for each of the constructs. This process does not test causal relationships but identifies the recurring themes.
Glaser & Strauss (1967) suggest that a further step in this process of analytic induction is combining analysis of data after the coding with analysis of data while integrating theory. This is completed in the next chapter where analysis of data is grounded to establish and develop the theory.

4.8 Conclusion
This chapter has analysed and presented the data from three sources: different participant groups (students, mentors and tutors), at different times (end of each curriculum year for three years) and different methods of data collection (reflective accounts, questionnaires and interviews) using both qualitative and quantitative analysis. In the next chapter the literature surrounding an EBL approach within this midwifery curriculum as presented in chapter 2, is integrated into the discussion prompted by data in this chapter.
CHAPTER FIVE
RESULTS AND THE THEORETICAL UNDERPINNING OF AN EBL PROCESS

5.0 Introduction
This chapter aims to integrate the analysis of the data with the theory and develop the theory further where data cannot be grounded in existing literature. The literature review carried out in chapter two established what is known about the effectiveness of an EBL approach in teaching and learning. The data analysed in the previous chapter illustrates how some of these data may be grounded in the known theory and how such theories may be developed further through the findings established through this research.

It must be re-emphasised that due to the nature of this evaluation as an examination of one case study of one cohort of participants utilising enquiry based teaching and learning, it may be possible to compare but not generalise these findings to other institutions using an enquiry approach to learning. Generalisation from the quantitative data is only possible amongst the individuals participating in the case study. Numbers of participants are relatively small and although appropriate statistical tests have been applied with this in mind, the results are not being taken at face value but as part of a constructivist methodology, which has a place in supporting and corroborating qualitative data to examine the effectiveness of an EBL process. It is also useful to remember that quantitative data generated through the questionnaires were developed through and grounded in the emic views of participants through analysis of written reflections. The object in support of Carr & Kemmis (1980) is to make practice more theoretical through educational research veering towards the descriptive and interpretative rather than explanatory and predictive to give meaning to this evaluation. This is in keeping with an ethnographic approach in examining the process of an EBL strategy.

On the other hand, qualitative data generated through reflective writing, open-ended comments in the questionnaires and interviews, are valuable in supporting and corroborating quantitative data adding diversity and richness from individual perspectives and examined through phenomenological principles to study the meaning that EBL has for participants. It is however limited in that findings are not generalisable to the whole cohort of participants who may concur or disagree on certain perspectives, although disagreements are important as sources of insight. Examples given are merely an illustration of varying perspectives seeking to identify,
support or develop the theories underpinning an EBL concept. The large amount of qualitative data generated in this study would be impossible to document totally here but has been analysed as described in a previous chapter to identify the constructs defining a concept of effectiveness of EBL. These constructs are illustrated with examples from the data in this chapter and explored through individual theories through the following chapters.

In the review of an EBL process carried out in chapter two, several authors have established that this approach appears to be effective in many respects. Its effect is discussed in terms of the development of autonomous practitioners, improved competence in practice and enhanced student satisfaction through independent learning and long term impact on practitioners and their commitment to continuing education (Engel 1991, Albanese & Mitchell 1993, Vernon & Blake 1993, Burns & Glen 2000, Savin-Baden 2000, Newman 2001). Findings from this research confirm that the various participants in the study evidence these aspects of effectiveness. Content analysis from the reflections initially identified the various themes in relation to effectiveness. These pertained to the EBL teaching and learning process, satisfaction by participants with this approach, its effectiveness on practice, its effectiveness in developing self and professional skills in terms of interactive and confidence/competent skills. These themes were further examined through questionnaires, which were followed up by interviews with a number of participants. As discussed in the previous chapter many of the sub-themes within the main constructs identified overlapped and the boundaries between each theme merged, such that in the final analysis five main constructs of effectiveness drove the analysis utilising evidence from all the sub-themes.

5.1 The general impressions of EBL as a teaching and learning process
When reviewing the data in their entirety, the perception is that a competency-based approach has driven the new midwifery curriculum and that these competencies are effectively developed through an EBL approach, which transcends expected content disciplines, encouraging self directed and independent learners. The quantitative data through correlation statistics examining the five constructs pertaining to effectiveness of EBL, were correlated/ highly correlated implying that the various aspects of this teaching and learning strategy were contributing to the overall effectiveness of EBL (Table 4.5).
This supports Camp's (1996: 1) belief that an EBL approach "incorporates goals that are much broader than the acquisition and application of content". Such expansive learning calls on development of skills, which encourages confidence in learning (developing the self) and competence in skills (developing the professional). However, quantitative findings suggest that when the three participant groups were compared in terms of perceived effectiveness of personal development, there was indication through approaching significant difference (p=0.054) varying opinions between the groups. This was also indicated in the highly significant difference between the groups in their perception of the effectiveness of EBL on confidence and competence where p=0.000. This is illustrated by the comments of some participants however, which implies that an EBL approach to teaching and learning may not be suitable to all adult learners and the development of desirable skills of confidence and competence may be purely due to personality and a willingness to learn. One student suggests that successful learning through an EBL approach:

Is due entirely to the individual students' personality and communication skills Y1[Q]S10.

Other students indicate a distinction between the impact of EBL on practice and on their academic learning in terms of their confidence and competence and say:

I think the mentor in practice has more impact on my confidence and competence than EBL Y1[Q]S17.

I do not feel that EBL has influenced my confidence and competence but being on the course in general, learning new skills and experiencing new situations has done that Y2[Q]S9.

My personal development is down to my personal efforts and not due to EBL Y1[Q]S11.

A mentor agrees that:

Development of skills depends on the individuals personality, experience and encouragement from their mentors Y1[Q]M5.

Some tutors suggest that:
EBL can indeed foster independence and creativity but equally can create dependence, isolation and lack of confidence Y3[Q]T4.

EBL is too prescriptive and dependant on learning outcomes Y3[Q]T9.

The known literature does not appear to explore these alternative views about the perceived ineffectiveness of EBL for adult learners. Further work is required in exploring why this group of participants felt that effective learning only took place because they already had the skills and necessary attitude, and that EBL was not responsible for their development in terms of confidence and competence.

However, as reviewed in Chapter two, there is some literature by Boud & Feletti (1991) which implies that generally a student centred approach engages students in the learning process and is useful in the construction and application of knowledge in context. It encourages systemic thinking, learning from experience and in the context of the enquiry, fostering the more positive attributes of motivational learning, grounded in a need to learn and related to one's own experiences. More recent research on this style of learning confirms the development of critical thinking, active participation in the learning process, teamwork, creative discussion and learning from peers (Cooke & Moyle 2002, Steinert et al 2005). The findings appear to be in keeping with Dewey's (1916, 1933) understanding of adult education as being a democratic process of growth resulting in both personal and social change, and Vygotsky's (1987) principles of 'scaffolding' knowledge through facilitation and interaction within a socially constructed context. Quotes from individuals taking part in this study demonstrate these aspects of personal change due to social interaction.

One aspect is learning from others and active participation is described below:

On occasions I did feel that some of my peers had more experience than me. Now I can see that I can learn from their experiences Y1[R]S3.

The information I have received from others will form the cornerstone to my knowledge when I go out in practice Y1[R]S5.

I had thought holistically about the client, and had a wide input from others' understanding of important issues that had not occurred to me. This also applies to the search for information; some of the sources showed imagination and a real entering into the client's world Y1[R]S6.
I think it is very clear from the contributions of the group that all members now seem to have a real understanding ... I feel it has much to do with the improved techniques of the group in working together... Y1[R]S1.

I formulate much of my research on my recent experiences in practice Y1[R]S7.

One’s own experience appears to be a valuable asset in promoting effective learning and is illustrated by some examples from the data.

I researched my information in a number of ways; information that I had from my own pregnancy... Y1[R]S5.

It (EBL) has helped me to develop life skills I brought with me at the beginning (of the course) and feel I have grown into a confident midwife Y3[Q]S16.

But requires the learner to be critical.

The work I produced was also shaped by my own experience of pregnancy and I am aware that this has been helpful but may also narrow my approach Y1[R]S5.

One of the most important things I have learnt from this (EBL) is to look at a given situation from many perspectives Y1[R]S7.

My slowly increasing knowledge of critical appraisal techniques allows me to pick up strengths and weaknesses of the research and feedback more accurately to the group... I feel more equipped to question them (findings from research) but also use those elements which I judge to be sound to inform my own practice Y2[R]S4.

It (EBL) has made me more questioning of what I do and I reflect more. .. and therefore you change the way in which you see things... it has made me more analytic of my practice and what the theory is saying [W]S6.

In addition learning takes place when one is motivated:

Although a lot of the learning has been self-directed I have researched many issues for myself and have grown in confidence, which is reflected, in my practice. I have enjoyed working on my own organising my time and workload Y3[Q]S12.
You do have to be motivated and you do have to be proactive to get the best out of EBL [W]T1.

It (EBL) works well with well-motivated students ... [W]M4.

I think this way (EBL approach) makes you motivated in the end it makes you work [W]S5.

Which is perceived by some participants to be dependent on other factors apart from a willingness to learn. An example from a mentor illustrates this:

It depends on the student and how motivated they are and some are very keen to learn and want to know for themselves ... I don't think age of a student has anything to do with confidence and developing interactive skills and communication skills but I think life experience [W]M2.

A student adds:

Without life experiences you won't necessarily have the right skills to deal with it (midwifery situation) [W]S4.

And tutors and mentors support these views and generally perceive that:

EBL develops enquiring reflective practitioners who challenge practice and take it forward and it becomes a life time habit as they become lifelong learners. It requires motivation ... and being more critical and therefore they are integrating evidence with the reality of practice and their own exploration of the knowledge [W]T2.

Students take ownership of their learning ... They are responsible for their own learning and EBL helps them to develop that. It has made the students far more questioning and more articulate in general [W]T3.

I think EBL work gives students the chance to think about practice and seek effective alternatives that might not be possible through other ways of learning. It gives the chance to discuss understand and reflect on practice issues Y2[Q]T9.

Where they have learnt for themselves and understood the theoretical basis of what they do, once they understand that, they are able to articulate what they are doing in practice [W]M1.
The above quotes illustrate the findings from the quantitative analysis on the perceived impact of EBL on learning indicating an interactive effect of group and year demonstrating a difference between groups in one year but not in another for this construct of effectiveness were $p=0.034$.

The next few sections in this chapter examine some of these findings in greater depth as explored through the five identified constructs pertaining to effectiveness of an EBL process.

### 5.2 Interactive Effects of the EBL process

Social interaction appears to be one of the conditions through which EBL fosters learning. Small group discussion and interaction are the basis for exchanging and developing information and the exploration of new concepts through critical reasoning and reflection (Maudsley & Strivens 2000). Data from the study concurs with the literature and has identified some relevant issues in terms of effective learning in small groups (Steinert 2004). Group learning as a construct of effectiveness of an EBL process was derived from the data using constant comparative analysis of coded key word and phrases as explained in the previous chapter and represented in Table 4.10. As a result of this analysis Group Learning was identified as S1 Mean in statistical analysis and colour coded red in thematic analysis of the qualitative data. A number of sub-themes were identified within the construct of Group Learning examining interactive effects of the EBL process. These were:

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<tr>
<th>Group learning</th>
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<td>Small groups</td>
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<td>Large groups</td>
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<td>Interactive groups</td>
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Other factors: Impact of maturity and life experience on group learning

Various data sets from reflections, open-ended comments from questionnaires and content analysis from interviews from students, mentors and tutors contributes towards the final analysis. From the above sub-themes there is evidence of the themes merging with other identified themes defining the effectiveness of EBL.

A sub-theme of the construct of Group Learning, that persistently appeared in various data sources, was the perception that dominant members or members not willing to actively partake in learning activities can hinder learning for the group generally. Although Colditz (1980, Firth 1986, Wolf et al (1998) and Dolmans et al (1998) support this view, in terms of insufficient participation by individuals and contribution to the group's activities, resulting in social dis-cohesion and negative group dynamics, this current study contributes to a better understanding of the negative aspects of the effects of dominant group members in small group learning. Some quotes from student participants concur to illustrate this issue:

There were several cliques in the group, which prevented total integration, and some group members were much more dominant than others. I felt this led to only superficial support and inhibited bonding and sharing Y3[Q]S3.

I find it annoying when I can see that another member of the group has made zero effort with their work in the feedback session Y1[Q]S4.

There is one member of the group who tends to be 'annoying' by trying to be bossy and controlling Y1[Q]S10.

Some students are not making as much effort as other students and therefore effecting all of our learning Y2[Q]S10.

I have found myself supporting an awful lot of other students. I feel very stressed that other people rely on me to give them the information because they know I will do a good job of it and then they come to me to help them with their assignment and I end up taking time out of my own time to help them [W]S6.

I was particularly intimidated by the forceful information of one of the students, which I found full of leading questions and assumptions. As this was a new and forming
group I felt it might seem like putting her (very well researched) work down if I challenged her at this early stage. So on this occasion I stayed quiet Y1[R]S2.

There were several conflicts within the group, which prevented total integration, and some group members were more dominant than others. This was not intended deliberately but just personality characteristics but I felt this led to only superficial support and inhibited bonding and sharing Y3[Q]S17.

... there were the stronger members of the group and they decided what they preferred to do ... There were problems with people not pulling their weight or giving quality to the work. There were some who worked hard and some who turned up with just a piece of A4 [W]S5.

I found myself supporting an awful lot of other students. I feel very stressed that others rely on me to give them the information because they know I will do a good job of it ... [W]S6.

My main concern was that we were not working as a team but as individuals desperate to impress Y1[R]S3.

It almost seemed that there was an element of competition amongst individuals Y1[R]S5.

A view confirmed by a tutor who says:

Some students seem unable to view the value of EBL. There is also a difference in how much work individuals contribute Y2[Q]T6.

These participants amongst others have identified how such members could negatively effect learning. More importantly however, the groups also identified a remedy through peer review and support in seeking a solution.

There were the stronger members of the team and they decided what they preferred to do. Eventually it all evened out and the group dynamics sorted themselves out ... it all panned out in the end because we would say we did not want to do this or the other. There were problems with people not pulling their weight or giving quality to the work. There were some who worked hard and others would turn up with a piece of A4. To be honest it didn't happen that often and the one person who always was a problem because we felt we were missing out on information, eventually left the
course and that was dealt with. I'm not sure how we would have dealt with it as a team but maybe eventually we would have had to involve tutors. [W]S5.

I think the actual group work has changed the group dynamics in the group. I think at first when we were sharing out the work the stronger members of the group would say what they wanted to do and what they didn't and it used to happen quite a lot but then we should have said something earlier. But now I say if I don't want to do something again because I've done it before then I will say. But they still end up with the better areas of the subject and I don't know how they've managed it. I think there is always someone who takes control of the group members. It is quite annoying when some people ... you know that they only did the work the night before and you had done all that research the day before and done a lot of work. I think we deald we it not individually but as a group and maybe in the beginning we should have set some ground rules about the quality of the work that we needed to produce and who was doing what. I think if things hadn't got better we would have gone to a tutor about it and we couldn't have dealt with it ourselves and let it carry on as normal. [W]S7.

Although Biley & Smith (1999) claimed that an EBL approach is only effective in terms of motivation to learn from a need to achieve success in examinations, and not as a reason to acquire and construct knowledge and become empowered through the process, the data in my research suggests otherwise. Participants perceived that an EBL approach was effective in promoting a quest for new knowledge, which was effectively applied to develop skills of confidence and competence in practice and engender feelings of empowerment and autonomy. These feelings of satisfaction with the learning process, coincide with both qualitative findings and statistical analysis and findings from quantitative data through the questionnaires. Perspectives of an EBL approach as being empowering and life changing may be underpinned by Freire's (1972, 1985) theories of emancipation and empowerment through learning. Some of the quotes illustrate these findings:

I must say this was the best EBL we have ever had. Each presentation elicited a lot of discussion and now that we have more knowledge and experience, these discussions were more in depth and appropriate and everybody joined in. We really talk through a lot of issues, relating these to our own practice ... Y2[R]S

You learn the responsibility of not letting the team down and sharing information and you learn that kind of team spirit through the EBL process [W]S6.
The more I see it (the EBL approach) the more experienced the students get and the more effective it seems to be, and the more students seem to like it [W]T1

They (PTGs) help to provide support between students ... issues can be raised collectively where there can be joint discussion with some facilitation from a tutor, [and look] forward to coming back (from practice) into the safe academic environment to discuss our discoveries with friends, to admit to our mistakes and to talk through our problems Y3[Q]S15.

Looking at the group discussion from a more positive angle, it was useful to hear what others had researched and I learnt a lot in this process Y1[R]S2.

We became more aware of each other's strengths and weaknesses as we began to know each other better and therefore able to work more coherently as a group Y1[R]S6.

People are working as part of a team, which not only gives each one a sense of support but encourages individuals to push themselves harder not to let the rest of us down Y1[R]S1.

Overall, we value each other's contributions. There is respect and trust in the group, which is demonstrated in the depth of our shared learning Y1[R]S2.

My apprehension of the teacher-pupil relationship dwindled ... I felt like she was helping me and not just out to find fault Y1[R]S3.

We could discuss our thoughts with other members of the group, were presented with new and alternative ideas, and could then relate this work to real life situations when in practice Y1[R]S7.

I feel that we work well together in our group ... the atmosphere was comfortable and respectful. The one group member who did draw back became more involved once I asked her a direct question. She visibly became part of the group from that point. ... it is clear that we value each other's contributions. There is respect and trust in the group which is demonstrated in the depth of our sharing Y1[R]S2.

A lively discussion took place, which concluded that a number of different philosophies are represented within the group, and that each of us has a right to hold these beliefs ... We all inevitably bring our previous life experiences to any current
situation, and need to retain sensitivity to both our own views and those of others Y1[R]S6.

They (PTGs) help to provide support between students … issues can be raised collectively about theory and practice where students can jointly solve problems with some facilitation from a tutor Y3[Q]T9.

I feel the PTGs are invaluable to our group development. They give us the opportunity to share experiences and ask questions in a ‘safe’ environment Y2[Q]S3.

And a tutor confirms:

Their (PTGs) effectiveness depends totally upon the manner in which they are facilitated and students feel listened to Y3[Q]T4.

These comments demonstrate the links between group learning, developing knowledge and communication skills and relating this to practice through group discussion. A student comments on the skills, which she perceived to have been developed most effectively and other students agree.

Communication I suppose because you’re presenting feedback using your presentation skills to give information to the group. That’s improved along the way and I’m definitely better now at presenting than I was before [W]S4.

I think my communication skills were quite good anyway because of my age [older student] and equally being within a group has developed these skills. Look at X (group member). She was so shy to start off with and now I am amazed when I see her. She is so confident and she says what she has to say and believe in it. Yes I think it (EBL) gives people confidence … and her communication skills have developed and she is now able to communicate with confidence… [W]S5.

My confidence and competence has definitely increased throughout the course through EBL but then again my experiences in practice through mentor support. [W]S4.

I am more confident in my practice and think in that way you are seen to be more competent [W]S6.

Others however, perceived this strategy to be unsettling and say:
... when it came to speaking to the whole group, I just can't ... the words just won't come out, or if they do they're incoherent ramblings. I'm usually a very rational person, and I know that this is totally ridiculous, but I can't control it, something completely irrational takes over... my feelings of terror increased ... I know this will change over time ... Y1[R]S4.

Alternatively other students found such interactive practices encouraging:

In future I will not carry out a discussion from my seat when we are seated behind desks ... it was fine when there were no desks as it felt like they obstructed views and created barriers Y1[R]S3.

This therefore implies that effective development and learning does not only occur because of an EBL strategy but also because of practice experiences and support by peers and mentors. However, mentors also perceive that knowledge acquisition, through an EBL process, developed students' confidence, feelings of empowerment, translating this into competent and autonomous practice. A mentor and student say:

I think it (EBL) has helped (in practice) because they (students) are able to say things like, 'I was reading about this' ... which has more meaning for them and therefore has more meaning in the way they are able to describe it to clients... I think that the students I have worked with are able to articulate to colleagues and mentors what they are doing. I know that sometimes colleagues (qualified practitioners) do not take kindly to students saying, 'Oh I found out this or I found out that'. They (mentors) are more likely to say, 'Oh well, this is the way I've always done it and this is how I'm going to do it'. I think midwives have always been challenged by any student who questions them ... I think it can be difficult (to make changes) ... I don't feel threatened by people who question what I do ... because I think there are always new things or different ways of doing things [W] M1.

EBL encourages you to read up... the idea of it is and I think what it has taught me is that if you have a deficit of knowledge you go away and find out. And it teaches the process (of learning) and makes you aware of your sources ... [W]S4.

Which is perceived, by one student, when critically examining practice who says:

We communicate easily with each other which I have been able to link to practice ... if I have an interaction with a client and it doesn't go well then I think what did I do
wrong there. Normally you would blame the client (laughs) but when you think a little deeper it is something you said, your attitude or your manner [W]S4.

A mentor also perceived developing skills of critique and reflection through an EBL process and says:

I think it (EBL) has helped to share their (students) practice and I think reflecting on individual situations through very clinically based evidence in which they're actually discussing live events that are happening and that really does help them to develop their critical skills and their practice [W] PF1.

And students agree:

I think EBL has had an effect on my development in practice especially if you are particularly reflective. I think it has made me more confident to say 'I know about this and therefore I am able to go out and do it' [W]S6.

Reflecting on my own performance ... is not something I have ever done before, but I found this stimulating; it really made me think about myself and the interaction of others Y1[Q]S14.

The triggers have been really relevant to what I've been doing and then it's helped me. I think it helps with your reflection process if it's relevant. If what you're doing in EBL is the same as what you're doing in practice then you can really learn about reflecting I really think reflection is invaluable. I'm really looking forward to reflecting without having to record it as part of the portfolio. Just reflecting on my experiences [W]S4.

EBL has given me the skills to carry out literature searches and to critique research in order to provide women with the best up to date evidence based care. When qualified I will continue to look at new research and literature to continue furthering my knowledge and provide women with up to date evidence based care Y2[R]S3.

I found myself reflecting on my own experiences ... I constantly evaluate and reflect on what I do, so the reflective process does not seem a struggle to me, as I have been using it as a learning tool for a number of years. I was able to share my prior experience with other students [W]S5.

The quantitative data identifies that this construct of student interaction and group dynamics, expressed as S1 Mean in the analysis correlates with the means for the
other four constructs of effectiveness but is particularly strongly correlated with S2 and S3 means, for personal and professional development and the impact of EBL on learning (See tables 4.6 for year 1). In year 2 there is no correlation between this S1 mean (group interaction), S3 (the impact of EBL on practice learning) and S5 mean (outcomes of an EBL process) (see table 4.74 for year 2 data). However, all 4 means become strongly correlated to S1 mean in year 3 which suggests that in this year group learning also impacted on confidence and competence and overall outcomes of the EBL process (see table 4.75). This data concurs with the qualitative data illustrated above.

As mentioned previously a factor, which seemed to surface in the analysis of the qualitative data was the impact of maturity and life experience on the learning process. These quotes are predominantly from practitioners who say:

...The older students no matter if they've got previous experience makes them far more able to cope ... certainly the younger students have many more problems. They have no life experience in dealing with situations in practice [W]PF1.

I think it comes down to those that have life skills and those that don't I can't image that they would get on in the course if they couldn't communicate [W]M3.

The more mature students with some life experience are more willing and able to discuss and question Y1[Q]M9.

If you have the more mature student, then it is so much better. They are organised and so well motivated. It is experience and communication skills, which an older person has and they are able to say (to a client) 'I can understand why you're feeling that'. They have got much more of an understanding [W]M1.

And one student confirms this view and says:

But looking at the younger students' communication skills might not be so well developed as ours (more mature students) then EBL might be the way for them [W]S5.

The quantitative data corroborates with the above data as identified in the data for year 2 where older students perceived in themselves more effective interactive and communication skills as compared to younger students (Spearman's rank correlation
test, table 4.73 where p = 0.017). These findings are also reflected in analysis through t-Tests which indicate that mentors also perceived that an EBL strategy seemed to have an effect on the interactive process of students in developing their communication skills, where p = 0.039. (see table 4.9).

This section concludes the analysis for the first construct of effectiveness for interactive processes and small group learning through an EBL approach.

5.3 Findings on personal and professional development

This section discusses the findings on perceived personal and professional development through an EBL process. Statistical analysis identifies this construct of effectiveness as S2 Mean and is colour coded pink in the qualitative analysis. As in the previous section many sub-themes emerged from the qualitative data to illustrate more than one construct. These were as follows:

<table>
<thead>
<tr>
<th>Personal and professional development</th>
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<tbody>
<tr>
<td>Personal- Maturity, age &amp; experience</td>
</tr>
<tr>
<td>New knowledge</td>
</tr>
<tr>
<td>Being inquisitive and motivated</td>
</tr>
<tr>
<td>Developing skills:</td>
</tr>
<tr>
<td>Communication</td>
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<tr>
<td>Confidence</td>
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<td>Psychosocial skills:</td>
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<td>Reasoning</td>
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<tr>
<td>Reflection</td>
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<tr>
<td>Professional- Midwifery skills:</td>
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<tr>
<td>Critique and Autonomy</td>
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<td>Competence</td>
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<tr>
<td>Outcomes-</td>
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<tr>
<td>Self-directed &amp; Lifelong learning</td>
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<tr>
<td>Other factors- Impact of small group learning on this construct</td>
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<tr>
<td>Facilitation of learning</td>
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<tr>
<td>Learning in midwifery context</td>
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</table>

Quantitative data concur with these findings and correlation of sub-themes through statistical analysis as presented in Tables 4.6, 4.74, 4.75, which indicate that S2 mean for personal and professional development is significantly correlated with all other means for the constructs of effectiveness for year 1, 2 and 3. There appears to be correlation of personal and professional development with interactive learning, impact of EBL on practice, development of confidence and competence and some favourable outcomes of EBL in terms of motivational and self-directed learning and
the development of lifelong learning habits. These perceived outcomes are illustrated below by quotes from 2 tutors and 1 mentor.

I think it (EBL) makes students into lifelong learners ... I think it makes them think for themselves rather than being told all the time ... but I think you do have to be self-directed and you do have to be proactive to get the best out of EBL [W]T1.

I think it works well with the well-motivated students ... but I think from an educational point of view it is a good way to learn because I do think that people need to be motivated and well supported you know ... [W]M4.

It develops enquiring reflective practitioners who challenge practice, question and take practice forward and it becomes a life time habit and they become lifelong learners [W]T2.

It is interesting to note that yet again those participants, who perceive an EBL approach to be effective in terms of developing personal and professional skills, also strongly suggested that those students with more life experiences were better placed to develop their personal attributes and professional competencies. This concurs with quantitative data and is discussed at the end of this section. Coles (1998) indicated that those students with prior knowledge, life experiences and values impacted on their ability to conceptualise new knowledge, in keeping with Kolb’s (1984) experiential learning cycle, and performed better educationally. What the current research adds to the known literature is that there appears to be a strong link between maturity of students or students with life experiences able to apply their learning more effectively in practice as on going professional development. Examples from the data student illustrate this issue:

We all inevitably bring our previous life experiences to any current situation, and need to remain sensitive to both our own views and those of others Y1[R]S6.

I am a more mature student and have experiences from my own personal life ... negotiating and reasoning and all those other things that come with my life ... and I have learnt to prioritise things that are important ... I think age or maturity has an enormous effect and I think it is because you have more experience of life ... if you are married and have children you have to learn to delegate, time management and things like that ... learn to be quite organised and you do transfer those kind of skills [W]S6.
And a mentor agrees:

The more mature students are motivated and apply theory to practice Y3(Q)M5.

The importance of integration into a midwifery culture by interaction with practitioners, in the process of learning is also important and supports some of the known literature (Nicholl 1998, Dornan et al 2005). Data from the study coincides with this view:

The philosophy of a professional discipline has a significant impact upon the development of an individual student who participates in the learning Y2(Q)T5.

All three sources for generating data support these perceptions and is evidence that triangulation of data, through both qualitative (the reflections & interviews) and quantitative (the questionnaires) methods, has taken place and supports similar findings. Likewise triangulation of data in terms of sources of data from three participant groups is consistent. The literature on triangulation of data through a variety of methods, participants and theory has been discussed at length in methodology chapter three. However, as discussed in a previous chapter, triangulation of data is appropriate in identifying the contradictions that arose from some sets of data and complemented others. As Brennen (1992: 31) suggests triangulation does not only increase validity but "confront(s) contradictions and highlight(s) the fragmented and multi-faceted nature of human consciousness" and explores the many perceptions of the participants, as these changed over the three year period of generating data.

Issues of relating theory to practice and the concerns in relation to gaps in knowledge as a result of an EBL approach are controversial in the literature (Albanese & Mitichell 1933, Norman & Schmidt 2000, Colliver 2000) but my findings suggest otherwise. Generally in my study, participants perceived that an EBL approach encouraged the integration of theory to practice, and disagrees with Colliver's (2000) evidence that knowledge base and clinical performance has not been enhanced through this strategy. This has been suggested through previous quotes and illustrated further through this example.

EBL has been a good learning tool as it provides us with 'real life' scenarios and encourages us to think how we would cope with that situation if we were faced with it
in practice, therefore developing our confidence when in practice. By researching a variety of different areas we are also developing our competencies Y2(Q)S10.

I think EBL has been a better way to learn about practice and you have more opportunity to discuss things because in lectures although they say to ask questions there is no chance to really discuss things and in a lecture room the atmosphere is not really good to hear what everyone is saying whereas in EBL you are in a group and you're really listening to each other as well and it gives you a chance to discuss things. You discuss it more and we are interacting more. Because we discussed each subject area and where and how to find information and that was really useful. And the feedback was really good as well because I'm really quite quiet and I thought of speaking in front of a group of people I was sort of a bit worried about it. That was really good the feedback because it helped in practice too to talk to people. I feel more confident. I thought being young would make it difficult but I'm alright with the women. It doesn't mean that I have any less knowledge because I have had the same training as everyone else. [W]S7.

It is perceived that the development of a knowledge base and its application in clinical practice develops the individuals personally in their professional behaviour. Participants identify these changes through students' performance of competence and their ability to confidently share their knowledge with colleagues, peers and clients.

EBL has helped me to build and develop the life skills I brought with me at the beginning. Most importantly I feel I have grown into a 'confident' midwife Y3(Q)S16.

The immediate clinical application for me is that I need to recognise that now I am seen as a professional ... and I have become aware that I must consider my answers (to the clients) with more care Y1(R)S6.

I think it (EBL) has made me more questioning of what I do and I reflect more. I think it makes you more reflective and therefore you change the way in which you see things. Yes I think it has made me more analytic of my practice and what the theory is saying [W]S6.

A mentor and tutor add:

I think they (students) are very research based. And they are willing to say 'I've read this, I've researched this' you know to try something new... So I think it (EBL) makes them very inquisitive and I do think the students who are coming through, they are
different and I think their knowledge base is better with a few little loop holes...

I think it makes them more confident and in the end they are able to perform well ... it promotes independence, self-directed learning and increased confidence.

These perceived differences are explored further in the next section on Teaching and Learning through an EBL Process and in the final section on Outcomes of an EBL approach. Confidence and competence appears to be a product of personal and professional development through an EBL strategy and is further illustrated by some of the quotes from participants who perceive that it encourages a questioning and autonomous development of practice. These issues are explored further in the Confidence and Competence section later on in the chapter.

Tutors comment on students' professional development and say:

Then rather saying we (midwives) shouldn't be doing this (certain practices), and not doing anything about it or just going with the flow because it is unit policy, they (students) actually go out and do a literature search and enquire about it and look at the pros and cons in practice and in that way make changes that are evidence based.

Students are more enquiring in practice and more critical and therefore they are integrating evidence with the reality of practice and their own exploration of the knowledge.

I think students take ownership of their own learning ... yes they are responsible for their own learning and EBL helps them to develop that. It has made the students far more questioning and more articulate in general.

And students add:

This first year has really made me think about things differently.

I understand more in depth the importance of respect and individualism for all clients that entrust us with their personal life... In my future practice I will develop essential qualities for this unique job... to show how a midwife should provide holistic care for her clients.
I feel more equipped to question but also use those elements which I judge to be sound to inform my own practice Y2[R]S3.

I think EBL has made me more determined to succeed. It has made me more self-motivated and enabled me to think about my role and develop that professional role as a midwife Y2[R]S3.

I am more inquisitive now and I want more answers (laughs) to everything. I want to know everything and I don't want anything left out. Yes that's probably right it (EBL) has made me more questioning. I think this relates to how I have developed professionally also. It impacts on your work then by asking you to try and behave more professionally [W]S1.

It is the self-motivating issues of wanting to learn that has a major influence through EBL. And I think it makes you far more autonomous because it makes you so self-motivated and the self-direction aspect of it; it helps you to make decisions and help you develop you thinking, that reflective element [W]S6.

I would say that EBL has had an enormous impact in my being a professional. I do feel now that I can practise independently. It has made me think about what it means to be a midwife and how I need to be autonomous in practice, being able to say what I think is right and standing up for what I think. And I think EBL has developed that confidence. It is all part of reflection, which gives me the confidence, and therefore the competence and I get the mentors to reflect with me. I sort of discuss things with them and ask them if they thought about things in a different way and then we talk about situations [W]S5.

I think it is a question of having a personal responsibility to learning. You need to identify where your weaknesses are and you do that by reflecting … and I will go and talk to my mentors about it as well [W]S5.

To be proficient in midwifery care and all related issues is unrealistic. I have spoken to my mentor who said that she has never stopped learning throughout her career … I suppose I have moved from feeling frightened about professional issues (like Codes of Conduct and Practice) … to being grateful they exist. Realising the purpose of these factors is not to trip you up but to ensure safe conduct and practice. Every time I sit down to write a reflection I see there are more and more pieces to the jigsaw of maternity care … I have come to realise that there is also a support network available … I hope that as an autonomous practitioner I actively put into practice the lessons I have learnt this week … Y1[R]S3.
And a mentor observes:

My student has shown immense improvement and insight into her beliefs Y1[Q]M11.

However, as previously discussed, and as evidenced through the data, these abilities may be already grounded in the more experienced students but are developed further through an EBL strategy.

I think it is down to personality and maturity as I think the more mature student has a better ability to communicate. They have life experience and they are not scared to communicate with the client [W]M1.

I think age has a huge impact on the way one learns and becomes competent ... I think age has a huge impact on the way one learns and becomes competent. Maturity hugely impacts how you behave ... as you get older you have a lot more life experience. I don’t think that has anything to do with having your own children. I don’t think that really matters. You just have more life experience and therefore the people you meet you can interact with and support [W]S2.

My mentor for my last summative (assessment) commented that my maturity, my longevity if you like, was handy in that I don’t panic ... you cannot panic you have to hold it together and I do ... I mean I may be panicking inside but I hold it together on the outside. I mean my life experience for me ... I think the midwifery profession is a tough job and if you haven’t got it within you to mature quickly, then you’ll flounder. And we are literally dealing with life and death ... [W]S3.

I am a more mature student and I have experience from my own personal life ... and negotiating and reasoning and all those other things that come with life ... and delegation, time management and things like that ... and you do transfer those kind of skills. I think life experience has an enormous impact on these skills and I’ve had feedback from mentors who say how much they enjoy working with the more mature students who can automatically communicate with women [W]S6.

Tutors and mentors support this view and add:

The older students with some life experience are more willing to discuss and question Y1[Q]M7.
And I found from personal experience that the more mature they are the better they are at communicating with people. They know the right thing to say and when not to say anything. It's life experience and it shows [W]M5.

It is experience and communication skills which an older person has. They say, 'I can understand why you're feeling that'. They have got much more of an understanding [W]M1.

And support the quantitative findings where Spearman’s Rank correlation test examining correlation between age and the S2 mean, of personal and professional development as a construct of effectiveness of EBL, is increasingly significant for data statistically analysed over the three years for these variables (see Tables 4.5 and 4.73), in which p= 0.076 for year 1, p= 0.064 for year 2 and p= 0.027 for year 3.

However when the means for the S2 construct of perceived personal and professional development is analysed across groups and years, there appears to be contradictions between the findings from the qualitative data as illustrated above and those resulting from quantitative analysis (see tables 4.8 and 4.9) ANOVA identifies a difference in the perception of personal and professional development between the groups where p = 0.054. This is further verified by t-Tests, which indicate that there is a highly significant difference between tutors and students of this perception of S2 mean in year 3 where p= 0.001. This implied that tutors did not perceive that EBL had any significant effect on students' personal and professional development as compared to the students themselves. This is not supported by qualitative data, which suggests that generally tutors perceived that EBL had an impact on students' personal and professional development.

I think it makes them more confident ... and able to perform well ... I think EBL makes them independent and self directed learners [W]T3.

Students are more enquiring in practice and more critical and therefore they are integrating evidence with the reality of practice and their own exploration of the knowledge. They may challenge practitioners about that (practice) although it should help the practitioner as well as the student [W]T2.

The quantitative evidence is only supported and implied by one participant tutor who suggests:
From a personal and professional perspective development … ehem … it is difficult to say. I wouldn't say that there is a huge difference between those reared through the traditional curriculum and those using EBL … No … I can't see a huge difference.\[WT4.

And one student did identify that there were some issues with the nature of learning through an EBL strategy, which may have impacted on her personal lives saying:

I mean it was difficult and stressful at first because the EBL and the curriculum overall took all of my life and I was this dark figure sat at the computer and occasionally I had to reacquaint myself with my children and husband … because I was too busy getting my EBL work and assignment finished. But I have learnt to prioritise things that are important. \[WS5.

This section concludes the analysis of the perceived personal and professional development as effected by an EBL approach as examined from both the qualitative and quantitative perspective.

5.4 Findings on the impact of an EBL teaching and learning process on practice

Teaching and learning processes within an EBL strategy aim to integrate theory and practice through a process of facilitation and critical enquiry carried out through small group learning. Tutors facilitate an enquiry based approach with students through critical examination of issues concerned, using backward reasoning in accessing prior knowledge and experience. Discussion leads to a common understanding of events, confined within students' individual sources of knowledge, beliefs and attitudes. The reflective process that results from this discussion appears to allow students to deconstruct this plateau of understanding to make room for multiple understanding of concepts resulting in a new perception of the issues addressed which are then applied in practice. Many sub-themes have been identified in this construct of effectiveness of EBL in terms of effects of teaching and learning on practice, labelled S3 mean for quantitative analysis and colour coded blue in thematic analysis. These were:

<table>
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<tr>
<th>Process</th>
<th>Linking theory to practice through alternative methods</th>
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<tbody>
<tr>
<td></td>
<td>Increased knowledge and recall Spiral learning Reflection &amp; critique</td>
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</table>
Once again there are several sub-themes that merge sub-themes from the other constructs of effectiveness. These are highlighted as above and some examples of qualitative data are given to illustrate the various sub-themes discussed. When examining the statistical tests for S3 mean in year 3, there is indicated an association where values approach statistical significance between diploma and degree students for this mean when this was not the case in the previous two years (p= 0.043). Diploma students perceive EBL to be more effective on practice learning than the degree students perceived it to be. The qualitative data does not identify a difference in the views between diploma and degree students.

However, qualitative findings from one participant, a practice facilitator, perceived degree students to be more effective learners in practice settings than diploma students. She says:

For some reason I think the degree girls are much more prepared for practice. I don’t really know what it is but I can point out to you the degree girls and they are coming out to practice and they seem ... their learning ability is much better. They seem much more able to apply things in practice. Now I did not think that that was going to be the case and I would have always said that it doesn’t matter but the reality of the students that we have today ... I think the degree girls generally are better prepared for practice [W]PF1.

In examining the data on the impact of EBL as a teaching and learning process the main issue addressed was that of linking theory to practice. However participants
perceived that in addition to an EBL approach alternative methods of teaching and learning would structure and enhance learning and direct the students. Some students suggest:

It (EBL) is enjoyable and does facilitate teaching and learning strategies but some traditional teaching methods can be useful Y2[Q]S12.

EBL should be interspersed with other learning techniques ... Y1[R]S5.

EBL raised many issues that were relevant to practice and from which I was able to learn and apply to the 'real world'. However traditional lectures also supply a lot of information and I would have preferred more of this type of learning as I feel I have not been tested enough on basic knowledge Y3[Q]S8.

And tutors and mentors agree:

EBL needs to be used as part of the teaching and learning strategy and not the only method and would suggest it is used wisely Y3[Q]T6.

EBL is a good method for teaching and learning but some direction is also required as some areas of learning may be missed Y1[Q]M1.

EBL is a good method for teaching and learning in a broader fashion, but some linear direction is also required to ensure that no aspects of the theories are missed out [W]T1.

Sometimes they go off on a tangent and start to explore other ideas, which may be relevant to the material at a later date in the curriculum. But that's ok because they are jumping ahead but it is relevant to them at the time and may be explored at greater depth when we need to [W]T5.

It (EBL) is with us to stay but we have just got to make it right for us, the teachers but predominantly for the students and more importantly for the public at the end of the day. I'm not sure that we prepare the tutors well enough ... We really need to look at that (delivery of the curriculum) from a professional perspective. I think practitioners (mentors) need to be involved earlier on (in the programme) and it is a two way thing for educationalists to be involved in practice, and practitioners to come in and be part of the university system [W]T3.
However the process of an EBL approach was perceived to be better than traditional teaching methods as it encouraged reflection on practice and learning, improved recall of information, developed spiral learning and was perceived to enhance skills if learning was carried out in the context of practice. However, ANOVA applied to quantitative data, identifies an interactive effect of years and groups indicating a difference between groups in one year but not in another for the perceived impact of EBL on practice learning, where $p= 0.034$. T-Tests further identify that this difference occurred in year 1 where $p= 0.028$ and implied that tutors perceived EBL to have a greater impact on practice than the students did. This is not implicitly evident in qualitative data but students, tutors and mentors seem to express diverse opinions on these issues:

I have found that I recalled trigger information out in practice Y1[Q]S1.

I genuinely believe that this is a superior learning method. It is more interesting than lectures type sessions and the information is retained more easily Y1[Q]S2.

I can see that with each module I am adding a further layer of understanding on the subjects covered Y2[R]S2.

I can always relate it (theory to practice) possibly because I remember better and I sought the information and then I can apply it [W]S1.

The amount of information that you end up with because everyone is doing their piece of work and the whole topic is covered but not just by you. I recall this information and retain that knowledge [W]S2.

This is a good way of learning and it really makes you focus on what you are doing and you remember better ... because you do all the groundwork yourself you are able to relate it to practice and it sort of falls into place when you are in practice [W]S5.

I think it made them more responsible for their personal development and they are not given the information as in books or by a tutor. They have to go out and find it for themselves and from that I should think they've learnt better, they can retain information better because of their own way of finding it [W]PF1.

However learning in context of practice was perceived to be the most appropriate strategy and stimulated spiral learning. Quotes from the data illustrate these issues:
We generated a vast amount of information and during the discussion everyone was able to relate back to an experience they had in the practice setting Y2[R]S1.

We are making better use of the range of resources available to us and also relating what we read to what we have seen and done in practice which makes a huge difference Y2[R]S3.

Several topics had been included in previous EBLs ... however it was useful to revisit the issues in light of the burgeoning practical experience and critically investigate them in more detail Y2[R]S5.

A tutor adds:

It is much easier to show them how and I think mentors need to be reminded that they have to teach students. I think that they have to be reminded that their input is important and if they don't teach them then they are going to let midwifery practitioners qualify that are not fit to practice [W]T1.

And a mentor perceives that the curriculum is more practice based and therefore suited to development of skills:

It is a definite improvement from the old curriculum, it tends to be more skills based which is better and that makes the improvement, making it more practical about things. It is better in that way [W]M1.

Mentor sometimes perceived that facilitation of learning in practice is not taking place and mentors should be encouraged to be more supportive of students through an EBL approach. They say:

I think EBL has affected the way in which students develop in practice because we are so bogged down with paperwork and staff shortages that they (students) are not getting the continuity and support that they should be getting. We need to encourage the mentors to get the students to question and we will get students who are totally new to skills. And I heard in the office, you know people (mentors) commenting, 'You know I've got a student who can't do this and she can't do that'. And then I think yeah but she hasn't had anybody to teach her yet and that's what you're there for. That's the idea to take students and teach them what they don't know [W]M2.
And they (students) need to share a little bit more about what they are doing. They may know the theory but you have to draw it out of them and say 'look this where it hangs in' and talk to them about how they can put it together ... but without questioning they are not learning which is not the object of EBL [W]M3.

I do think that practical skills are learnt in the practical situations because there is a limit to how much you can learn either by out of a text book, the computer, in the classroom or with a tutor but in the end your practical skills come with practice ... but I do think that that students need more support and guidance whilst they learn through an EBL approach [W]M4.

From the research point of view and the theory they are definitely more motivated. Perhaps from a practical point of view they are not always so well prepared [W]M5.

Recently there has been some literature which explores the mentoring role in greater depth. Pope et al (2003) identify a need to find ways in empowering mentors to strengthen professional clinical education. Others suggest that mentors need more structured support for their role and a need for effective mentoring to be recognised and valued (Finnerty et al (2005). Mentors in the current study agree and add that students need mentor support to ensure that EBL is effective in practice and say:

And they (students) need to share a little bit more about what they are doing. They may know the theory but you have to draw it out of them and say 'look this where it hangs in' and talk to them about how they can put it together ... but without questioning they are not learning which is not the object of EBL [W]M3.

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From the research point of view and the theory they are definitely more motivated. Perhaps from a practical point of view they are not always so well prepared [W]M5.

This mentor also adds that if students were encouraged to reflect more on their practice them learning would be enhanced. She says:
Them coming out to do practical skills and then coming back to reflect on it would push their practical experience even more. From an educational point of view of what they're learning is good, because they do have a good knowledge base and you need that and everything has to be research based and scientific but it is linking it to practice is where they're lacking and reflecting on their practice would link it to their theory [W]M5.

This coincides with Schon's (1983, 1987) understanding of the reflective process drawing on theories of critical thinking and reasoning. What this current study adds to the literature is that reflection is not always undertaken effectively and supports Jarvis's (1983, 1995) views that reflection does not always promote change or indeed learning. Some participants disagreed but also disagreed with the need to write reflectively as part of the assessment process and desired more 'constructive' or didactic teaching and learning approaches, together with more structured assessments, which suited their personalities. A student suggests that:

Reflection is a valuable tool, but I think it is something I do naturally in my head and with my mentors. On paper it is hard to focus ...Y1[Q]S11.

Students add:

I have reflected on areas of my practice that I could apply research learnt, to better understand the standard of care I offer clients and intend to continue to build on this knowledge in the future Y2[R]S4.

I think EBL has made me more confident to be able to say 'I know about this and therefore I am able to go out and do it'. It works in both ways really. You learn the theory, examine it and then you apply it or your go out in practice and you learn the skills and you examine them and then you, well you look for the evidence that supports the skill. Again the reflective process has been a major part in my learning. I go through the process methodically and think about the things that I need to do next. When the opportunity's arisen I would say 'I have thought about that and now I can try it this way'. And then again through reflection I can relate my theory to the practice. [W]S5.

Reflecting on clinical issues has allowed me to resolve discrepancies between classroom teaching and clinical reality, and has empowered me to increase my comprehension through discussion with colleagues, exploration of the literature and
perhaps more importantly self analysis ... increased understanding and the ability to relate theory to practice Y2[R]S1.

It (EBL) has made me more questioning of what I do and I reflect more. I think it makes you more reflective and therefore you change the way in which you see things. Yes I think it has made me more analytic of my practice and what the theory is saying. I think this way of learning will change people ... overall it will change someone's way of looking at things. [W]S5.

I think it (EBL) helps with your reflection process if it is relevant. If what you're doing in EBL is the same as what you're doing in practice then you can really learn about reflecting. I really think reflection is invaluable ... we could bring in our own trigger then (from practice) and really tear it to shreds and ... if you have a deficit of knowledge ... we could look at it and link it in to practice [W]S4.

When the time came to discuss in the group most people had clearly used research based evidence to support assertions and arguments... and I have been able to relate theory to the clinical situation Y1[Q]S8.

I had a wide input from others' understanding of important issues that had not occurred to me ... and I was immediately able to relate this particular area of new information to clinical reality Y2[R]S2.

You relate the knowledge of what you've learnt to what you need to learn, and go home and read it and think about it. You can relate things from practice. You can relate things from real life situations to the theory. Because sometimes when you're looking up things it is not real life and then you go there (in practice) and it's there. So it works both ways [W]S5.

It broadened my way of looking at things and certainly I now think differently. It made me more self-directed. When it comes to finding the information and using it I haven't consciously put the two together, but I have taken the same approach when I am with a real person I will go away and search the information related to their condition and I will come back with an answer that is relevant to them [W]S3.

I have become a 'reflective practitioner', thinking about not only what I am doing at the time (reflection in action) but also why I did it and how I could improve (reflection on action) Y2[R]S8.

And mentors and tutors add:
They're (students) actually going back and using the theories and using reflections which are a really personal thing and relating this to what they are actually doing and why a situation did not go the way it should have done [W]M2.

I do know that even from my own experience that if you explore things for yourself then you learn it much better. To find things out and the work that you put into it gives it meaning for you ... [W]M1.

They (students) relate the learning to the relevance in practice ... and discuss why we're doing things and (I) make sure that they actually understand why they are doing the things they are... and using reflections which are a really personal thing and relating this to what they are actually doing ... [W]M2.

They do the learning for themselves in a way that they reflect and understand what it is in midwifery it relates to. They are actually exploring and developing their midwifery knowledge and skills and their cognitive ability ... there are other ways of enquiry learning through self directed work ... which they (students) take ownership of and work at either individually or in small groups [W]T1.

It (EBL) has dramatically changed the way in which students learn. Making the students think about what they've seen and what they've done and the relevance of that...[W]T2.

It develops enquiring reflective practitioners who challenge practice, question and take practice forward and it becomes a life time habit and they become lifelong learners [W]T2.

Which illustrates how spiral learning could result from effective reflection and links theory to practice.

However a tutor perceived that the reflective process was not always used effectively as a learning tool.

The students often seem to have a lack of understanding of why they are doing what they are. I do not think they truly see the benefits of reflection Y2[Q]T6.
A student expressed the need to be 'delivered' the knowledge before they were able to reflect on or about practice and required “something on which to hang” new knowledge learnt, which could be tested through examinations. She says:

The stuff that we needed to be taught at the beginning we weren’t taught and so we were learning .... We were coming out ... and learning here (placement) which I know is a learning environment as well and that’s fine but we needed the theory before we started doing practice and we were doing the practice way before the theory [W]S2.

And a mentor agrees,

They spend a lot of time in practice and it is such a shame there isn’t a bit more that they can hang it on to, because they have nothing to hang it on to and it quite often will go over their heads [W]M3.

This mentor and others implied that maybe an EBL approach was more appropriate later on in the programme when students had some basic knowledge on which to reflect and on which they could build new knowledge.

However, from analysis of data, findings coincides with Dolmans & Schmidt's (1996) results that there are certain advantages, as already identified, to an EBL approach including retention of knowledge, enhancement of integration of concepts into clinical settings, development of self-directed learning skills and enhancement of students' interest in subject matter. Participants illustrate these issues and say:

I have found that I recall trigger information out in practice ...I genuinely believe that this is a superior learning method. It is more interesting than lecture type methods and the information is retained more easily ... I have had to be self-directed and motivated which are useful skills ... I have found that EBL has brought my tutor group together and we work well and I can transfer these skills to practice Y1[Q]S2.

Many of the EBL literature has arisen in practice and I have been able to relate theory to the clinical situation Y3[Q]S16.

It (EBL) enables the students to reflect on and in practice and question their practice. It's focus is on enquiry and investigation Y1[Q]T4.
EBL has been a great benefit because I enjoy and learn better by doing my own self-directed work and developing my own way of setting things out. I feel I have benefited from an EBL approach maybe more than I would have done with traditional teaching methods.

It has now been two years since the beginning of the programme ... I have been able to use the knowledge achieved through EBL as a reference source as my practice develops and changes. I can see how I have improved and changed and this gives me confidence that I am developing as a competent practitioner.

Statistical analysis of data applying Pearson’s correlation tests implied that S3 mean (impact of EBL on practice) correlated with the other S1 (interactive and small group learning), S2 (personal and professional development), S4 (confidence and competence) and S5 (outcomes of an EBL process) means for the constructs of effectiveness of an EBL process. This was true for years 1 and 3 but not in year 2 where it did not correlate with S4 mean (perceived impact on confidence and competence). As has been discussed earlier in this section, these findings are both refuted and supported by alternative data sources.

When examining the qualitative data, some students attributed this ability to improve learning and apply it to practice as a result of collaborative learning in small groups, as illustrated earlier. Small group discussion has been perceived to affect academic learning and data from this study concurs with the known literature (Kaz 1995, Miffin et al. 2000). Conflicting evidence that participation and presentation in group learning, involving sharing of ideas and information, is perceived to be intimidating, by some participants in the present study, and coincides with the findings by Treloar et al. (2000) and Gore (1993). Alternatively, other students found group learning to engender peer support and a motivation to learn, fostering a critical and reflective approach to learning in keeping with the findings by Savin-Baden (2001). Students say:

We generated a vast amount of information and during the discussion everyone was able to relate back to an experience they had in the practice setting.

The other students in the group also produced really useful and beneficial information that can be applied to practice.
As hospital experience increases we are participating in more lively discussion across the group and bringing anecdotal evidence from our practice Y2[R]S4.

I feel that EBL has provided me with the background evidence with which I can help empower women in their ability to give birth Y2[R]S5.

A number of disadvantages of an EBL process were highlighted however, which also concurs with the known literature. Schmidt et al (1996) and Murray & Savin-Baden (2000) also suggest that both students and tutors needed preparation to adapt to this approach to teaching and learning, and staff development appears to be a key component in the implementation of such curricula. Students suggest that:

We do not receive enough individual feedback and recognition to boost confidence. Hence we walk like blind men hoping we are not running in circles. There needs to be more balance between reflection, feedback and discussion ... getting no feedback is seriously detrimental to morale, motivation and participation ... there needs to be more of a balance between methods of teaching and learning Y1[Q]S14.

I understand that EBL encourages a student to be self-sufficient and inquisitive but there are times when I feel that more ‘taught’ sessions were required Y2[Q]S11.

There were occasions when I would have welcomed an individual tutor meeting to talk about issues that I did not want to raise in ‘public’ Y2[Q]S2.

It (EBL) is a useful and effective tool. However, the unavailability of learning resources makes EBL more difficult and limits the enquiry and literature searches Y2[R]S5

I found that its (EBL) disadvantage are ... has been for me the lack of feedback ... I would prefer more of a balance between directed learning and self-directed learning ... we need to know that we start here and end up there [W]S3.

And mentors and tutors add:

Students are able to develop their own knowledge through self-directed learning, but need guidance from their mentors and tutors Y1[Q]M5.

EBL is a good method for teaching and learning but some direction is also required as some areas of learning may be missed Y2[Q]M9.
I don’t think an EBL approach is detrimental to the learning but I do think how the approach has been implemented is detrimental [W]M3.

Different teaching methods suit different students. Good support from tutors and mentors makes much difference to the learning Y2[Q]M2.

More work needs to be done in the organisation and facilitation for colleagues in their understanding and skills of implementing EBL Y1[Q]T3.

It is time consuming and has not been fully integrated into the new programme which has been a disadvantage Y2[Q]T8.

The wide range of needs within a group means few students actually receive the level of support, which they require Y3[Q]T4.

The principles of EBL require careful student and tutor preparation; effective facilitation from tutors and encouraging students to actively participate in information shared by others Y3[Q]T5.

The effectiveness of this approach depends on the manner in which it is facilitated Y3[Q]T4.

They (students) miss out on the clinical skills because they get tied up looking at the theory so broadly [W]M5.

In addition expertise is essential to facilitate knowledgeable feedback to students in support of their learning to fill the gaps in knowledge (Miffin et al 2000, Morfu et al 1998). Mentors say:

The whole idea of having a lecturer or mentor in a specialist area is that a student could expand their knowledge and not just to go and read it from a book or get the information off an OHP [W]M4.

They might know all the research but that’s where your (mentor’s) knowledge comes in and it is the experience you can teach them. Let’s face it anybody can deliver a baby but actually is recognising what can go wrong and knowing what to do is where your knowledge and experience comes in [W]M3.
I do try to get to know what the person is like first to see what their needs are. And if the student is shy you really have to get to know them first before trying to teach them something [W]M2.

I think midwives have always been challenged by any student who questions them... but then over the years ... I became more open-minded myself and more questioning about all sorts of things ... I don't feel threatened, because I think, there are always new things or different ways of doing things [W]M4.

And tutors add:

I think sometimes some students feel threatened if they have to share thoughts and experiences. I think when you have group members who are older, more streetwise and confident they tend to dominate the discussion but then the facilitator is there to ensure that feedback is given to everyone and that all the students are included ... The important thing is that tutors are expert in their field, use their experience and their judgement... I think it is important that the facilitator combines their (students) learning styles with the teaching approach.[W]T2.

I think it could be seen that we're not spoon feeding them but the students could always come back with information which we may never have thought of. So it's certainly a two way system so I don't think ... Once you become experienced at EBL as a facilitator you know how much information to give and how much not to ... to hold back. I think they search quite widely and I think they certainly touch on all aspects of the NMC competencies but competencies are about ... very much about knowledge but also about practical ability [W]T3.

You certainly need an expert to facilitate feedback otherwise the students are giving the information and not getting any feedback. Yes it can feel that the students are talking to themselves and not getting any feedback so that's why the experienced tutor needs to do the feedback [W]T3.

In a traditional approach you are giving the students the information and in a traditional sense you are not really helping them to put their own thinking forward not whilst delivering lecture style learning. Whilst with EBL you are facilitating their ability to seek information and you are filling the gaps really if they haven't provided the information [W]T2.

Learning also depends on the student's approach to learning. Three quotes from mentors illustrate:
Development of skills depends on the individuals’ personality, experience and encouragement from their mentors Y1[Q]M5.

The success of EBL on practice depends on a student’s ability to apply learning in practice Y2[Q]M2.

EBL is beneficial only if the student is confident enough to question practice or applied enough to research the topic Y2[Q]M2.

A tutor agrees:

EBL helps some students develop their ability to go on learning and to share their new knowledge with mentors and peers but I do not believe that it improves their ability to practice. Students who are learning and doing well in practice produce good EBL work and portfolios Y3[Q]T10.

This quote in particular contradicts the quantitative analysis which suggest that tutors perceived an EBL process to have a greater impact on practice learning than other participant groups did. However these quantitative findings contradict the findings about tutors on their perception of students’ personal and professional development (as discussed in a previous section), where they did not perceive that EBL has been effective in developing these qualities and yet they thought that EBL encouraged learning in practice.

The qualitative data on effectiveness of EBL on practice learning coincides between the groups and some students supported this view:

I think the mentor I work with in practice has more impact on my competence skills than learning through EBL Y1[Q]S6.

I do not feel that EBL has increased my competence but that being on the course in general, learning new skills and experiencing new situations has done that Y2[Q]S6.

I think my confidence in caring from patients has come more from being on the wards than from EBL Y3[Q]S15.
Students find it difficult to accept that practice provides a number of ‘right’ answers as compared to a theoretical understanding of finding the ‘right’ answer to a situation. Mentors explain:

And we go through the learning objectives and relate this to practice. And I will set targets and then follow these up and discuss why we’re doing things and make sure they actually understand why they are doing the things they are … and I think they’re actually going back and using the theories and using reflections which are really personal things and relating this to what they are actually doing and why a situation did not go the way that it should have done [W]M1.

When you are learning you just feel that you need, you know, well everyone says one and one makes two, but you need to feel confident about what you’re doing. And sometimes they (students) struggle with the idea that they’ve got the right answers to the same question [W]M2.

And a tutor adds:

… and then they try to apply the research … but it doesn’t always work … a situation may be an actual grey area, where normal is fine and where abnormal is known but then the big grey areas in the middle where the research goes in and out … and sometimes the research is not necessarily matching practice but sometimes you know practice is not always evidenced-based and by the book [W]T1.

Generally, this approach to learning is perceived to be effective but participants also supported the argument by both Broadbent (1976) and Coles (1997), that multiple teaching and learning methods are necessary to understand links in the information and be able to network knowledge. As illustrated by the data, it seems that a mixed method approach emphasising reasoning and autonomy in learning appears to be the most effective approach and encouraging a spiral strategy to learning, which builds on learnt knowledge being critically and reflectively integrated to new knowledge before its application. Knowledge source is not purely academic but still has its value as the basis for decision-making (Corts 1998) as combined with practical knowledge, which drives the learning achieved. It appears also that supporting both academic and practice learning enhances confidence and competence. Mentors comment:
EBL has enhanced practice and given students more confidence to be more challenging and not accept traditional patterns of care ... they are more confident to apply their knowledge to practice skills. I wouldn't say that EBL students are more competent than traditionally taught students, but I would argue that EBL students have a better knowledge base and are therefore more intellectually equipped. This is important when making clinical judgements and aids effective decision-making Y1[Q]M5.

Coming out earlier in practice will not help if they haven't got the knowledge... and they have to have that knowledge to hang on the skills to, because then we can bring them up and make them more confident and eventually more competent [W]M3.

Which reinforces the mentors' perception that an EBL approach to learning may not be suitable, early in the programme, to students with little or no knowledge of midwifery on which to reflect and build new knowledge.

The main ingredient to successful learning appears to be that of students taking ownership of their learning which enhances better recall and long term retention as evidenced by Farnsworth (1994) and coincides with and is illustrated by examples of data from this current research.

This method of learning suits my learning style, although I appreciate that it may not suit everyone. I am an independent learner and do not expect to be spoon-fed information and skills – I accept this is a joint responsibility with my mentors/tutors. EBL has provided me with the flexibility to explore midwifery issues and deepen my midwifery knowledge in an individualised manner Y2[Q]S4.

EBL has motivated me to take responsibility for my own learning and feel that this is extremely important in midwifery Y2[Q]S10.

This is a good way of learning and it really makes you focus on what you are doing and you remember better ... because you do all the groundwork yourself you are able to relate it to practice and it sort of falls into place when you are in practice [W]S5.

And I can say they (students) are not questioning you but they are questioning practice and we encourage that ... its really trying to develop practical knowledge and bringing it down to grass root practice [W]T3.
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I think the emphasis has changed ... and there is more emphasis on the actual practice base ... where they (students) need to go and to arrive at the other end with a good knowledge base in midwifery and good practical abilities [W]M1.

In conclusion this section explored how an EBL and teaching approach may have an impact on practice. Reflection seems to be the main process through which this ownership of learning is evidenced and this appears to be the driving issue that generally participants have identified through my study. Reflection appears to allow students the freedom to explore alternatives to the 'right' answer in practice, much in keeping with a view of generating multiple meanings. It appears that in ‘giving’ ownership to students through this style of learning, there is a shift in emphasis from purely effective teaching and learning, as a product of this process, into the realms of empowerment. Such perceived empowerment in teaching and learning, could be the cornerstone to the change process in both self and professional development, aided by acquired abilities of self-awareness and being inquisitive (Altun 2003) as illustrated previously.

5.5 Findings on confidence and competence through the EBL process

On examining the data from this study, and as indicated in the previous section, it was not always clear that participants perceived that the EBL process promoted confidence and competence in learning and application of skills in practice. Data sets appear to be contradictory, in terms of the perception of various participants, about the effects on confidence in learning and the most appropriate approach to assessment of competence in practice. This section explores the next construct pertaining to effectiveness of EBL in terms of confidence and competence and identified as S4 mean in the quantitative analysis and colour coded green in analysis of thematic content. Again sub-themes emerged from this construct and were as follows:

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<th>Confidence and Competence</th>
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<th>Link to small group learning</th>
<th>Interactive &amp; communication</th>
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<td>Improved knowledge</td>
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Anna M. Brown  Chap. Five- Results and Underpinning Theories of an EBL Process

(mentors & tutors)

Product  Improved skills

Practical reasoning
Critical reflection
Competence

Outcome  Of effective teaching & learning in practice

Assessment process through reflections and portfolios

There appear to be no differences between diploma and degree students for this construct. S4 mean correlated with all four other constructs for effectiveness over the three years except as indicated in the previous section in the second year. The development of confidence and competence did not correlate with the impact of EBL on practice learning (S3 mean) in the second year but correlated in year 1 and 3. This has already been discussed in Chapter 4.

ANOVA for quantitative data displays a highly significant difference between the groups for perceived effectiveness of confidence and competence through an EBL process, where p = 0.000. Unpaired two-tailed t-Tests identified where these difference lay over the three years of data. In year 1 (2002) students perceived themselves to be more confident than mentors perceived them to be where p = 0.016 approaching statistical significance. In year 2, tutors perceived students to be more confident and competent than they perceived themselves to be, where p = 0.022 approaching statistical significance. Finally in the third year students had again perceived themselves to be more confident and competent than the tutors thought they were (p = 0.000) of highly statistical significance. Tutors also differed from the mentors in this perception in the final year of the programme, which indicated that mentors perceived students to be more confident and competent than the tutors did, where p = 0.029 approaching statistical significance.

An initial sub-theme, which emerged from the data analysis of this construct of effectiveness, appears to be the impact of group learning on the development of confidence and competence. Participants perceive that small group and collaborative learning both in theory and practice may have been instrumental in the development of confidence and competence. Students illustrate this issue and say:

During the feedback session I felt really pleased and confident with the information that I had shared with the group and I felt that they found it interesting. Some of the issues that I had raised led on to discussion and it was really good Y2[R]S1.
As usual the discussion during the feedback session was every bit as interesting and informative as was actually contributed by each group member and I was particularly struck at how much knowledge we all seemed to have acquired, together with an assertive confidence that I hope can be carried forward to practice Y2[R]S3.

EBL has increased my confidence in the classroom setting through presentations made to the group. Now in practice I am confident when caring for clients within the boundaries of my knowledge and skills Y1[Q]S21.

I think it (EBL) has improved my confidence within the group because we all know each other and it is now quite comfortable. But if I've learnt anything I wouldn't be shy about saying that to somebody in practice. ... so I feel I can discuss and question [W]S1.

It (EBL) gives you more confidence in your own understanding of things, I think, because our discussions are in a relatively safe environment and you can say whatever you really think. And it always turns into a really good discussion doesn't it between all of us and that's really positive because then you can air things that you might not air at work for fear of looking silly. You know then that what you think, is valid rather than silly [W]S2.

A real benefit to my confidence is the fact that I see my colleagues and see that they're going through the same things that I have ... we've been able to cover our own worries and fears ... [W]S4.

...It is all part of reflection which gives me the confidence and therefore the competence and in a sneaky way (laughs) I set the mentors to reflect with me. I sort of discuss things with them and ask if they thought about things in a different way and then we talk about situations [W]S6.

I think reflection has been a major part in my learning and I may not write every thing down when I qualify but I will certainly carry on with reflecting on my practice... I couldn't learn in any other way now. [W] S7.

Data from the study suggests that those individuals who perceived themselves to be confident through increased knowledge and understanding were able to manifest their actions as translations of competence as discussed below:
In practice if I were to encounter a woman suffering with nausea and constipation. I could refer back to this trigger for information on remedies. I would also feel confident to offer suggestions on diet and nutrition Y1[R]S2.

For the first time I did know something and I did have something to contribute ... personally, competent care does not stop at providing safe care ... it goes beyond that. I hope that as an autonomous practitioner I have actively put into practice the fundamentals I have learnt this week ... Y1[R]S3.

I hope I will be able to go into practice with an open mind and ensure that the advice I give will be suitable to that individual. If I can do that then for me the learning from this trigger will have been a success Y1[R]S4.

This new knowledge will allow me to develop in practice so that I will be better able to understand and advice my clients Y1[R]S7.

I can see how I have improved and changed and this gives me confidence that I am developing as a competent practitioner Y2[Q]S4.

We can only learn it ourselves we can’t be told that you have to learn it yourself and I think the first year students need to be given the responsibility as soon as possible to teach themselves. And EBL has done that eventually. [W]S4.

I am ready to qualify to pass on this knowledge to others [W]S1.

These data support the literature by Lumby (1998) but it was extremely difficult to determine all the attributes of competence, which not only assesses an ability to perform a skill effectively. How does one measure emotions and values, for example, as part and parcel of attributes determining competence? As Carlisle (2000) suggested increased confidence does not necessarily increase competence. However, in this study, students, who were perceived to demonstrate competence, also appeared to possess skills of effective communication, resorting to life experiences and displaying empathy and intuition which comes with experience (Cappon 1994,2001), as demonstrated previously and further illustrated here.

I think communication for any health care professional must be about empathy ... as a midwife, so intimately involved in such life changing events as pregnancy and childbirth, finding ways to 'connect' with a woman, showing them they can trust you to
support them and be on their 'side', is not only a vital part of the job but may be literally life saving Y1[R]S1.

I have high hopes of the kind of midwifery I would like to practise. For example supporting and promoting normal pregnancy and birth, through informed choice, empowering women and demonstrating my confidence in the birth process. I have formed these ideas over the years through my own birth experiences and the contacts and conversations I have had with couples from my antenatal classes. I know in my heart and bones I want to practise normal midwifery Y1[R]S2.

From the knowledge gleaned in this trigger (Module 1 trigger 3) I am more in tune with the role of the midwife. I understand in greater depth the importance of respect and individualism for all clients that entrust us with many aspects of their personal life. I wish that in my future practice I will show essential qualities for this unique job … the knowledge from this trigger has shown me how a midwife should provide humanistic care for her clients in practice Y1[R]S6.

This EBL has caused me to question whether or not I am confident in my ability to become a good midwife. I have experienced emotional high and lows and before I began to think and reflect (about my professional role) the lows were the dominant thoughts … Am I still questioning my competence to become a good midwife? Yes, but I think if I did not do this I would not be me and I may become complacent not competent! Y1[R]S3.

Therefore seeming to be more confident in developing reasoning skills and reflecting critically on practice situations appears to be key ingredients in developing both confidence and competence. How these skills are perceived to be linked is illustrated below. Tutors comment:

Some students can take responsibility for their own learning and are growing in competence. The poorer students sometimes grow in confidence without the level of competence they now need. The majority have a superficial understanding of research Y2[Q]T5.

I think it (EBL) does make them more independent practitioners and makes them think for themselves [W]T1.

Students are encouraged to think critically about aspects of their learning, they are learning how to learn, to apply the theory to the practice and to examine their
experiences in practice as linked to the learnt theory. However, they have to be motivated to learn in this way [W] T5.

Mentors in practice also perceive this impact of EBL on confidence and competence and say:

EBL has enhanced practice and given students more confidence. Students are more challenging and so do not accept traditional patterns of care. They are able to apply knowledge to practice skills Y1[Q] M8.

I cannot say that EBL students are more competent than traditionally taught students, but I would argue that EBL students have a better knowledge base and therefore more intellectually equipped. This is important when making judgements and aids effective decision making Y1[Q] M11.

The success of EBL in practice depends on the student's ability to apply learning in practice and EBL is beneficial only if the student is confident enough to question practice. [W] M3.

Further work needs to be carried out on these issues although some participants perceived that there did exist a link between the two and attributed this link to the levels of practice experience and the academic knowledge acquired. Four students and a tutor comment:

EBL has been a good learning tool as it provides us with ‘real life’ scenarios and encourages us to think how we can cope when faced with situations in practice, therefore developing our confidence when in practice. By researching a variety of different areas we are also developing our competencies Y1[Q] S4.

EBL has enabled me to develop my confidence and competence by helping to identify strengths and weaknesses in my knowledge base. I have been able to build on my strengths and concentrate harder on improving my weak areas Y3[Q] S9.

An EBL approach allows you to study in as broad and deep an approach as you wish ... ultimately it achieves the learning outcomes, which aim at making you a competent midwife. [W] S1.

EBL has probably enhanced my self-assurance and obviously given me knowledge to cope with more complex issues Y3[Q] S10.
I am more confident in my practice and I think in that way you are seen to be more competent... It's been good the way I have learnt ... the way it's been ... It has made my knowledge so much wider. That is the thing about EBL you are not learning just one aspect of something. You are not looking at it from just one angle or another ... you are looking at it as a whole and in a lateral way. It makes you look in the grey areas as well not just the black and white. [W]S6.

There is a link or ladder if you like between confidence, competence and autonomy. You have to have the confidence to start off with to encourage you to become competent and then following competence become an autonomous practitioner and it is this confidence that gets them through practice ... [W]T4.

Others disagree and attribute levels of confidence and competence to experiences in practice. Students says:

I think my mentor in practice has more impact on my confidence and competence than EBL Y1[Q]S17.

I do not feel that EBL has especially increased my confidence and competence, but that being on the course in general, learning new skills and experiencing new situations, has done that Y2[Q]S9.

I think my confidence in caring for patients has come more from being on the ward than on doing EBL Y3[Q]S16.

My confidence and competence has definitely increased through out the course but then again through my experiences in practice through mentor support. I know that EBL and the reflective process comes into that because my mentors have been very good at asking about how I feel after each experience and given me learning opportunities from every experience and that's to do with EBL [W]S4.

And a mentor agrees that support and feedback in practice develops confidence and competence and says,

I think they only gain their confidence by practice. I appreciate that if you have the knowledge of something, that knowledge gives you the confidence [W]M2.
Others perceived that personal attributes of individuals had an impact on confidence and competence and were not as a result or consequence of an EBL process. A mentor suggests:

Confidence and competence varies from student to student and depends on personalities, life experiences and stage of training Y3[Q]M3.

Tutors also expressed varying views:

The level of students within the programme has a significant impact upon their ability to use skills competently and confidently. EBL can indeed foster independence and creativity but equally can create dependence, isolation and lack of confidence Y3[Q]T4.

(Developing confidence and competence) depends on their support, workload and students’ own initiative and assertiveness as and how they use EBL in practice Y3[Q]T12.

I think we could do a lot more to make sure that they have the confidence to make them feel that they have achieved the competence by having more practice experiences and making the curriculum more practice focused … [W]T1.

Students who are confident in learning or have the ability to learn become competent. Therefore EBL has been helpful in giving them the confidence in the knowledge and understanding and it has been acknowledged in their practice by their mentors and how it has helped them and it has helped the practitioners as well in their learning styles. It has changed the culture of learning within practice… there is a lot more integration between practice and the academic side and the students are supported by locality tutors and the networking is a lot better. This helps to improve the link between theory and practice and I think this develops the confidence in students and consequently the competence in practice. [W]T2.

And a practice facilitator observes:

I think initially, those that lack confidence, I think found it difficult because it is very much a personal led approach to learning, very personal directed and if they're not very highly motivated, I think they struggle … I think in finding the information themselves and if they are highly motivated, I think it will make them more competent at the end of the day, because it fuels their motivation … and they act upon it and its
their information rather than being fed the information. I'm sure it makes a difference [W]PF2.

One student suggested that lack of mentor support had an effect on her learning experience and says:

On the whole the mentors have been very supportive of the learning in practice, apart from the one I mentioned earlier. She was not interested in anything I was doing, trying to learn. She was an absolute ... nightmare. I nearly left the course because she just knocked my confidence. [W]S6.

One student suggests that although EBL has an impact on her professional development it was the reflective and critical process within an EBL strategy that eventually developed her confidence and consequently competence in skills. These underpinning concepts are explored further in chapters 7, 8 and 9 but are illustrated and summed up by this example which has been included with its colour coding and sub-themes coding as Appendix 6.

I would say that it (EBL) did especially develop my being a professional. I do feel that I can practice independently. It has made me think about what it means to be a midwife and how I need to be autonomous in practice, being able to say what I think is right and standing up for what I think. At this stage that I am now I am quite happy to go off and do my own thing and if I really get stuck on something to ask. I now have the confidence to do that. And it is all part of that reflective process and going away and finding things and if I think of something I will go and talk to my mentors about it as well. It is all part of reflection which gives me the confidence and therefore the competence ... there are gaps in my knowledge (laughs), but seriously I am able to carry out midwifery skills competently with supervision and my own initiative. I think it is a question of having a personal responsibility as well to learn. You need to identify where your weakness are... I would hope to keep improving my competence as I get more experience. I think I had the confidence before, having been in other jobs, but the competence comes with practice [W]S6.

Assessment of competence was a sub-theme, which emerged in the data analysis especially from the interviews with two practice facilitators. They perceived assessment of competence to be a crucial issue in assessing practice skills and suggested that assessment through portfolios was insufficient in identifying those students who did not perform competently in practice. These findings agree with the
known literature (Pitts, Coles & Thomas 2001, Norman et al 2002). Relating theory to practice was important and mentors recommended the introduction of many more practice assessments together with the use of portfolios as a more reliable method of assessing competence and supports the known literature (Harris, Dolan & Fairbairn 2001). Students and tutors agree and say:

I don't think that you can assess a student from a clinical perspective through portfolios but I think they're effective from a theoretical perspective and also from practice in a sense but you need to assess their hands on skills in practice ... we need to look at that from a professional perspective. I think practitioners need to be involved earlier on (in the programme) and it is a two way thing for educationalists to be involved in practice and practitioners to come in and be part of the university system [W]T3.

Portfolios as an assessment tool are evidence of their knowledge. This written knowledge and their reflections are important in determining their level of critical analysis ... in determining their competence in clinical skills through the written confirmation of mentors. We can't see that they are competent but we can only assume subjectively that they are competent, if you like, through their understanding and their critical reflections in their portfolios [W]T1.

We should have more practice assessments ... I don't think you can judge people's competence by what they write alone. I could write a perfect essay and lie how well I am able to do things in practice. You can make yourself sound fantastic. But if we were assessed on various things throughout the course in practice I think that that would have been a better judgement of competence. Some students would say that practice assessments are stressful but then so are portfolios so what's the difference ... [W]S6.

I think I wouldn't write anything that I haven't really experienced because then you need to reflect on it and I think portfolios really show what you are learning and you (the tutors) can just how much we know from them. I think if we pass the portfolios then we are meeting the requirements of being competent [W]S7.

Another student however disagreed and felt that in demonstrating evidence of achieving competencies and learning outcomes in the portfolios should be sufficient in assessing both knowledge and practice skills.
I am a self-motivated and disciplined learner, so find EBL and the portfolios suit my learning style. I prefer on-going assessment to examinations, as I feel this provides the freedom to develop in the direction I need to explore rather than 'need to know' for exam purposes. This programme has enabled me to do just that and I feel my midwifery knowledge is broader and deeper as a result Y2[Q]S4.

However, one tutor felt that this method of assessments had detrimental outcomes:

The students seem to be more worried about passing or failing than about learning Y3[Q]T8.

And another tutor suggests that this method of assessment may not be suitable to every student. She says:

Portfolios used with reflective writing does disadvantage some students who may have problems writing academically but who are good in practice Y3[Q]T6.

These controversial approaches in assessment are well documented in the literature (James 2000, Phillips et al. 2000, 1996, Nendaz & Tekian 1999, Tait & Godfrey 1999, Fearon 1998, Caplow et al 1997) suggesting a triangulation of diverse approaches is recommended, although the literature around reliability of assessments through the use of portfolios remains inconclusive (Ball, Daly & Carnwell 2000).

Data from this study support the research in terms of inter-reliability of assessments of portfolios from a content perspective. Data from tutors participating in this research suggested that they experienced difficulty in judging the expected evidence to be used as formative/summative assessment tool when marking portfolios. Consequently new grading criteria where created in the second and third year of the programme to aid marking of portfolios (see app 17 for new grading criteria and ones used at the beginning of the new curriculum). Such changes are in keeping with an action research approach in promoting changes (McKernan 1991, Elliot 1991, Marrow 1998, Smith et al. 2000) as a result of the evaluation process of this curriculum. However, Allen, Rubenfeld & Scheffer (2004) in a recent article seem to have defined a more reliable assessment by tutors in scoring essays and portfolio work which demonstrates attainment of competence in clinical critical thinking and needs to be examined for integration into the existing marking criteria, as part of future developments in the curriculum. These issues are discussed further in
chapters nine and ten and this section concludes the analysis of the construct of effectiveness in terms of confidence and competence.

5.6 Findings on Outcomes of an EBL process

The quantitative data analysis as discussed in chapter 4, identified that this construct of perceived outcomes of an EBL process, labelled S5 mean, correlated with the other four means of interactive processes, perceived personal and professional development, impact of EBL on learning and confidence and competence. The exception appears to be in year 2 (2003) of the curriculum where the construct of interactive processes did not correlate with this construct of perceived effective outcomes of an EBL approach. This was highlighted in section 5.2. It is possible that in the second year interactive process were not perceived to have a bearing on the outcomes of an EBL process at this stage. However in year 3 (2004) these constructs are again strongly correlated (see tables 4.6, 4.74 and 4.75). Analysis of Variance tests did not identify any differences between group participants or across years but t-Tests on quantitative data identified differences between students and tutors in the final year of the curriculum in their perception of perceived outcomes of an EBL process, where p= 0.009 approaching statistical significance. This suggests that tutors did not think that EBL was as effective on positive outcomes as perceived by the students (see table 4.9).

Qualitative data sets in the study produced conflicting evidence in terms of perceived outcomes of an EBL process, which was colour coded yellow for this construct and divided into sub-themes as in previous constructs. These were as follows:

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<th>Perceived outcomes of an EBL process</th>
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<td><strong>Style of learning</strong></td>
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<td>Personal attributes</td>
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<td>Motivation &amp; self-direction</td>
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<td>Reflection</td>
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<td><strong>Group learning</strong></td>
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<td>Facilitation</td>
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<td>Mentors / tutors</td>
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<td><strong>Content</strong></td>
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<td><strong>Outcomes</strong></td>
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<td>Differences</td>
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<td>EBL</td>
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<td><strong>Professional</strong></td>
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<td>Confidence/competence</td>
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<tr>
<td>Satisfaction/dissatisfaction with teaching and learning</td>
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<td>Life long learning</td>
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Generally participants perceived that this approach appears to be effective for those students who are motivated, self directed and willing to explore issues in a lateral rather than linear fashion. Many of these factors have been illustrated in section 5.1 in the discussion on the general impression of an EBL process but further quotes are included in this section. Those students who enjoyed such learning styles were mostly satisfied with this approach and perceived that small group learning may have had a favourable impact on the overall outcomes of enquiry based learning. Students say:

I was excited to discover this approach to learning was being used, as I have found in the past that I enjoy self-directed study and small interactive group work ... I especially enjoyed working with my partner as she was enthusiastic and motivated and it was a real partnership ... Y1[R]S2.

EBL helps develop self-directed learning leading to enhanced decision making and autonomy. It identifies strengths and weaknesses in the knowledge base. It is useful in considering a range of issues in a more interesting way Y3[Q]S9.

I like all the people in my group and I think our mix of backgrounds means everyone has something new and valuable to offer others Y1[R]S4.

I am pleased that everyone 'has pulled their weight' and it was a revelation to be in an academic environment where people actually want to learn and contribute, rather than do the minimum they can get away with Y1[R]S5.

I enjoyed the sharing and discussion during the feedback sessions Y1[R]S6.

I enjoyed working in a small group ... it was useful having someone to check with and to reassure me Y1[R]S7.

Others were dissatisfied with EBL as a teaching and learning strategy and felt that their learning style was more suited to a didactic approach. They appeared to be less satisfied with the EBL reflective process and experienced tension in making the transition from a traditional to an enquiry process of learning, which concurs with findings by Biley (1999) and McCourt & Thomas (2001). Some examples from students illustrate these feelings.
I feel reflection is very helpful in practice but reflection through the EBL process is very difficult. I would have very much appreciated some traditional lectures in addition to EBL Y1[Q]S6.

I think that to make learning interesting it is important to combine learning/teaching strategies with traditional methods Y1[Q]S1.

I have enjoyed EBL, although being older I was more used to traditional methods of teaching. Personally, I would have preferred to be 'taught' and as I am well motivated and organised, would still have achieved the learning outcomes. However, I can see the value in EBL, it does encourage us as students to find out information for ourselves, to apply it to practice and to present it to each other Y1[Q]S3.

There are times when I would have liked to have been 'spoon-fed' information that I could just read and learn Y2[Q]S6.

A mixture of EBL and traditional methods might have addressed more individual learning strategies Y3[Q]S4.

I think more sessions with practitioners are more useful than learning from my friends Y3[Q]S15.

Facilitation of learning is also a sub-theme that emerged in the analysis of this construct and positive outcomes of an EBL approach appear to be dependant on tutor and mentor support and the resources that facilitate learning. This is in keeping with recent literature as previously identified, on the role of mentoring in clinical education (Pope et al 2003) and Finnerty et al 2005). Two students say:

It (EBL) is a useful and effective tool. However, the unavailability of learning resources makes EBL more difficult and limits the enquiry and literature searches Y2[R]S1.

I found that its (EBL) disadvantage are ... has been for me the lack of feedback ... I would prefer more of a balance between directed learning and self-directed learning ... we need to know that we start here and end up there [W]S3.

A mentor adds:
Different teaching methods suit different students. Good support from tutors and mentors makes much difference to the learning Y2[Q]M2.

And tutors agree:

I think it (an EBL teaching approach) could be seen that we’re not spoon feeding them but the students could always come back with information which we may never have thought of. So it's certainly a two way system ... so once you become experienced at EBL as a facilitator you know how much information to give and how much not to ... to hold back... It (EBL) is with us to stay but we have just got to make it right for us, the teachers but predominantly for the students and most importantly for the public at the end of the day. I'm not sure that we prepare the tutors well enough.[W]T3.

The effectiveness of EBL as a learning tool depends on the facilitation and guidance provided Y3[Q]T11.

Chapter 7 explores in greater depth these issues pertaining to learning styles and concepts underpinning learning through an EBL strategy.

Personal and professional development was a perceived outcome of an EBL approach and is a sub-theme that has been explored in many of the other constructs of the concept of effectiveness. In addition to this reflection seems to play a part in perceived personal and professional development. A student says:

I enjoy the reflections after the discussions because I can then select those areas that are important to my learning Y1[Q]S17.

And some participants explore issues of personal and professional development in terms of competence and confidence as a perceived outcome of EBL. Some quotes illustrate:

The EBL process is an effective use of time in gaining an enormous amount of information and developing interpersonal-skills Y1[R]S3.

EBL has motivated me to take responsibility for my own learning and feel that this is extremely important in midwifery Y2[R]S6.
To me EBL is an ideal learning tool and this has provided me with the flexibility to explore midwifery issues and deepen my knowledge in an individualised manner Y2[R]S4.

After the feedback sessions I feel that I have gained a very large amount of information ... enquiry based learning is extremely effective and highlights the importance of basing practice on evidence based research in order to provide up to date and effective care. With knowledge to justify your actions you can feel really confident in what you do Y2[Q]S1.

On reflection, and despite all my questions and difficulties, I feel a tremendous amount of learning has taken place, and that I have embarked on a steep learning curve. I feel now that I have a much better feel for the whole process. I have certainly spent time looking at the way I learn, in order to co-ordinate with others in the group, and I have gained confidence... Y1[R]S6.

I have high hopes for the kind of midwifery that I would like to practise ... I know in my heart and bones that I want to practise normal midwifery Y1[R]S2.

We have all observed the difference in our approach to the work this term. The impetus on research-based evidence has made us more aware of the resources and quality of our information. Not only are we reading more for each session but we are also becoming more critical in our appraisal of the evidence ... I feel more equipped to question, but also use those elements which I judge to be sound to inform my practice Y2[R]S5.

... I particularly noted how we are all discussing like 'real' professionals now. I cannot wait until I can practise autonomously when I can be responsible for my own practice Y2[R]S6.

I am a self-motivated and disciplined learner, so find EBL suits my learning style. I prefer on going assessments to examinations as I feel this provides the freedom to develop in the direction I need to explore rather than 'a need to know' for exam purpose. This programme has enabled me to do just that and I feel my midwifery knowledge is broader and deeper as a result Y2[Q]S4.

Although the modules have specific focus there is room within the ethos of EBL for student-led and individualised learning. It is possible to focus on personal learning goals to achieve the knowledge ... to move forward in practice, this increases confidence and competence Y2[Q]S4.
I have achieved a lifetime goal to become a midwife. I have increased in confidence and am certainly that this is what I want to do and that I can and will do it well Y3[Q]S4.

It (EBL) has helped me to develop the life skills I brought with me at the beginning. I feel I have grown into a confident midwife Y3[Q]S16.

I have made great progress towards becoming a competent midwife although a lot of the learning has been self directed Y3[Q]S17.

It is the self motivating issues of wanting to learn that have the major influence through EBL. It makes you far more autonomous because it makes you so self motivated and the self-direction aspect of it helps you to make your own decisions and helps you to develop your thinking [W]S6.

A mentor however disagrees:

EBL helps some students to develop their ability to go on learning and to share their new knowledge with mentors and peers but I do not believe it improves their ability to practice Y3[Q]M2.

Surprisingly, data suggests that students and tutors perceived mentors to be ignorant of this new EBL approach in learning although mentors attended update sessions on the curriculum and were aware of changes in its facilitation process in practice. A tutor says:

I don't think the mentors really know what EBL is but maybe if they had done a mentorship programme from a reflective perspective ... but I don't think they have the know how ... they would have heard of problem based learning but I don't think they know what enquiry based learning is in terms of function and process [W]T3.

And students agrees:

I don't think the mentors have been aware that we are using EBL. I think they have just carried on mentoring as they would have normally I presume [W]S3.

... but I don't know if they (mentors) know that EBL has come into it (learning) [W]S4.
I don’t think the mentor knew we were using EBL. I think they view anything new from
the university a bit indifferently. Generally speaking a lot of the mentors I’ve worked
with have been trained in the old ways. They generally feel that we are not being
trained to be midwives at the university but we are trained to be midwives out here (in
practice). They do have a point and up to a point I agree But I think the two
complement each other. You need evidence based practice. I don’t think mentors
have a clue of what EBL is all about. They don’t want to know either way and get on

However, mentors generally enjoyed facilitating learning in practice and supporting
students but some felt that any changes in teaching approaches were ineffective if
students did not learn the ‘hands on’ skills in the practice environment. Some
participants even suggested that there were no perceived differences between
traditional taught students and those taught through an EBL approach which
coincides with some of the known literature by Steele, Medder & Turner (2000) and
Collivier (2000). These findings have already been illustrated in a previous section.

Others disagreed and perceived long-term effects of improved learning skills of life
long practice and an enjoyable approach to teaching and learning in keeping with
outcomes of identified studies (Albanese & Mitchell 1993, Vernon 1995, Drummond-

EBL is enjoyable and does facilitate learning Y2[Q]S1

The first year of this course has really opened my mind and made me think about

EBL is good at encouraging lifelong learning and good information retrieval skills”
Y2[Q]T5.

I think I’ve learnt a lot through EBL than through lectures or any other ways of

This section concludes the analysis of the fifth construct of effectiveness pertaining to
perceived outcomes of an EBL process.
5.7 Conclusion

Although the evidence from this study was sometimes contradictory it concurred with much of the literature identified in the review carried out in Chapter 2. In some instances it strengthened the evidence already in existence. In others it developed a further understanding of the issues of effectiveness of an EBL process. In addition data have demonstrated further contributions to the body of knowledge around an EBL process and made the analysis process extremely interesting and multi-perspective. These included a contribution in understanding more fully the negative aspects of the effects of dominant group members in small group learning. Various participants have identified how such members could negatively effect learning. More importantly however, the groups also identified a remedy through peer review and support in seeking a solution. Data also strongly suggested that those students with more life experiences were better placed to develop their personal attributes and professional competencies. In addition, interactive processes through EBL enhance the development of a knowledge base and its application in clinical practice, as evidenced through students’ performance of competence and their ability to confidently share their knowledge with colleagues, peers and clients. However, as previously discussed, and as evidenced through the data, these abilities may be already grounded in the more experienced students but are developed further through an EBL strategy.

What this study adds to the literature is that reflection is not always undertaken effectively and that reflection does not always promote change or indeed learning unless ownership of learning takes place. Data add that mentors also have an important role to play as facilitators in clinical learning and concurs with the literature (Finnerty et al. 2005). Mentors even go as far as to suggest that facilitation of clinical practice is more important than facilitation of academic learning. This evidence supports a recent publication Post Registration Development (DH 2004), which recommends the support of practitioners to develop and teach in practice. As previously suggested, empowerment in teaching and learning, could underpin the change process in both self and professional development.

Data in this study suggest that practical reasoning and reflecting critically on situations appear to be key ingredients in developing both confidence and competence. More developments into the reliability of assessment of critical thinking is now necessary As suggested it is unclear how confidence and competence relate. Further work needs to be carried out on these issues although some participants
perceived that there did exist a link between the two and attributed this link to the levels of practice experience and the academic knowledge acquired. In addition, the known literature does not appear to explore issues of learners' attitudes in perceiving an EBL approach to be ineffective. Further work is required in exploring why a group of participants felt that effective learning only took place because they already had the skills and necessary attitude, that EBL was not responsible for their development in terms of confidence and competence. Concepts underpinning the above issues are now explored in part two of the thesis.
6.0 Introduction

In the previous chapters of this thesis empirical data were used to examine the effectiveness of EBL as a process and to evaluate how outcomes of an enquiry based teaching approach has had an impact on student learning and how this learning has been applied to practice. The next chapters explore the philosophies and concepts underpinning an EBL process, which address issues of social learning and psychological empowerment through interactive group learning. In addition critical theories of reasoning and reflection appear to be the main concepts which theoretically support an EBL process.

The implication from the literature that EBL may be empowering to students, tutors and mentors alike, through its enquiry and challenging nature, is explored in depth in the next few chapters. Midwifery education generally aims to prepare students for real life practice to fulfil the needs of childbearing women whilst ensuring that expected competencies as laid down by professional bodies are achieved. These proficiencies fall within a remit of Codes of Conduct and Professional Behaviour (NMC 2004) and politically generated government initiatives driven by economy and the need to ensure public safety in the provision of maternity services. The objectives of adopting enquiry based learning within midwifery education are examined in terms of the concepts that underpin the EBL process itself. This educational strategy may be perceived to act as a sorting device to identify those students, mentors and tutors who utilise and translate an EBL process into practice and those who don’t. Through this examination the theories which fuel or resonate with this strategy will be explored in the following three chapters and are as follows:

1) Interactive and group learning underpinned by adult learning theories
2) Critical reasoning underpinned by critical social theories
3) Reflection and action underpinned by the literature on reflective practice.

However, the aim of the discussion in this chapter is to explore the concept of EBL as a teaching and learning strategy within a midwifery curriculum. Through examining the development of midwifery education over the years, a picture of what defines the present midwifery curriculum, and the "reality" of its nature can be traced through competing political and social forces which resulted in the changes that occurred.
This examination of the history of midwifery education and practice was carried out at the start of the research and resulted in a publication (Brown 2003). The conclusions reached were that the many competing needs of society, education and the economy through recommendations by the Department of Health, other health care and consumer agencies, and governing professional bodies shaped the course and outcomes which resulted in the present midwifery education and practice. Human practices and society change with time, motivated by a will to be empowered which in turn generate knowledge to suit needs within context and the shifting patterns of power.

However, the discussion in this chapter examines the result of these changes and how EBL is utilised to achieve the midwifery curriculum expectations both in education and practice. The many theories that underline an EBL process are examined in the next few chapters in an attempt to determine what makes EBL the concept that it claims to be. Some general questions have been framed to guide the direction of the enquiry and are answered from the perspectives of participants contributing to this research and therefore unique to this institution and cannot be generalised to other settings. These are:

- Has EBL been successful in changing midwifery education from a medically dominant model of education to one of critical and reflective enquiry more in keeping with a midwifery philosophy?
- Has such an EBL approach to midwifery education ensured that autonomous and life long learning practitioners are a product of this education?
- Has EBL been able to produce practitioners able to fulfil the needs of childbearing women whilst attempting to address government expectations and initiatives to improve education and practices more in keeping with contemporary maternity services?

In my examination of empirical data in part one, conclusions reached are that generally EBL is an effective teaching and learning strategy in a midwifery curriculum. The outcomes indicate that dynamic interactive activities within an EBL process are an important aspect in relating the enquiry process to the construction of knowledge. Such collaborative knowledge construction develops activities and practices of a life long learning nature. The importance and relevance of developing midwifery knowledge in this manner suggests that different knowledge is constructed
through the interactive process as instigated by the EBL activities. This process of knowledge construction raises questions about the concept of EBL itself as an empowering strategy. Such questions examine the source of this knowledge and how it is legitimised as midwifery knowledge, and how such midwifery knowledge is used, by whom and with what effect in terms of power relations within a midwifery context and its impact on practice and its culture.

Such questions are examined from a theoretical perspective that explores how midwifery practices and culture have reached this present point in their development, as pertaining to the relationship between education, knowledge and power in midwifery. I have examined the concept of EBL, as supported by the available empirical data from part one of the thesis, to suggest and conclude that such a relationship between, learning, knowledge and power must consider the self or individual in the process. Foucault (1980 :98 ) however states that “the individual is an effect of power” and therefore a result of this integrated relationship. Evidence from my data indicates that EBL constructs the individual to be empowered or more autonomous as a practitioner. Bevir (1999 :66) suggests that “regimes of knowledge define who does and who does not have the intellectual authority to decide issues ...” Therefore in this sense midwifery knowledge and power imply one another. However Foucault (1980) argues that individuals can never be autonomous agents because they are inevitably socially constructed within an educational system that creates their autonomy and influences their behaviour within prescribed boundaries of practice. EBL is perceived to create these spaces for freedom, which could lead to autonomous practice in midwifery. It is not only a strategy to improve autonomy in practice but it could be argued that it paradoxically defines and moulds the student to fit into expected midwifery norms, competencies and practices within its culture.

It could be argued that a didactic approach in midwifery education would equally have provided the knowledge to develop autonomous practitioners but an EBL approach encourages activities of “doing to understand” which instils lifelong learning practices. Such practices arise from the EBL process of enquiry, exploration, collaborative discussion, reflection, analysis, decision-making and action. As implied earlier, data indicate that such activities ultimately lead to empowerment of individuals or empowerment of the group through shared midwifery knowledge. One questions whether this means that practical knowledge becomes more important than theoretical knowledge and if such knowledge is legitimated when leading to competence. Other questions about defining and judging competence are also an
issue, and the role that an EBL concept plays in determining this competence. It appears that there is a relationship between autonomy and competence, and that individual power through autonomy only exists when it is put into competent action. From the first part of this thesis, I have concluded that an EBL process is the starting point for questioning, understanding, analysing, reflecting and acting. Such a strategy came about through a need to empower midwives through education.

To summarise, this chapter explores how the relationship between learning, knowledge and power through an EBL concept came to fruition. This development is primarily traced through the historic development and social struggles of midwifery education and practices. Chapter 7 presents the changes in one midwifery curriculum through the nature of an EBL concept as moving midwifery education through behavioural, cognitive and constructivist learning styles to reshape midwifery education and practices from a medical model approach to one in keeping with a midwifery philosophy. The discussion on constructivist adult learning theories explores how an EBL process uses theoretical concepts of social interaction and collaborative critical analysis to construct midwifery knowledge. Chapters 8 and 9 examine these interactive and collaborative concepts further through a theoretical perspective and exploration of critical reasoning and reflection essential in an EBL process as implied in part one. The discussion uses evidence from part one of the thesis to determine how reflection could lead to action, empowerment in learning and to change practices. The final chapters are an examination of how part one and part two of the thesis have answered the questions outlined, concluding with an evaluation of my research, and recommendations for education, practice and future research.

6.1 The origins of an EBL concept

In the literature review around an EBL approach much of the evidence explored the process in delivering such a teaching and learning strategy. In chapter two I discussed briefly the perceived origins of an EBL process. This section explores the concept further. Socratic learning is perceived to be the underpinning concept to an EBL approach in teaching and learning. This is because an EBL approach involves activities which engage the students in a dialogue with tutors to encourage students to work out for themselves the issues under discussion and form and express their own thoughts. The challenge of discussion pushes a student’s mental agility to higher efforts of reasoning, a belief held by Socrates. If reasoning is developed in this manner on a regular or routine basis then heightened mental intensity becomes a
lifelong habit, giving rise to the notion of lifelong learning. Socrates is believed to have taught by asking questions and such a concept is fundamental to an EBL approach. Discussion is the basis for knowledge and cognitive skills exploration and development.

Triggers given to students in the form of questions, scenarios from practice and other audio or visual scenes, structure the learning to stimulate the student to seek answers with their own thinking and insight. “Telling” students the knowledge as in lecturing provides some of the basis for learning but if students engage in enquiry through triggers, that results in students seeking more pertinent and relevant knowledge, then learning has more meaning. An important issue in an EBL concept is the rapport that is necessary between learners and tutor facilitators. Students must feel comfortable in broaching and discussing their ideas in a group without feeling inhibited or anxious about “making mistakes”. Exchange of ideas and information is at the heart of the EBL process. From personal observation and field notes taken of participants during group activities, students become interested active participants. The evidence suggests that during this process tutors and students learn from each other. Tutors facilitate the discussion and monitor the validity of issues explored through constant feedback. In this way problems are identified in the learning process and gaps in knowledge and misunderstandings are addressed through a question/answer seeking approach to stimulate thinking and focus on areas to draw out ideas.

One consistent concern that was voiced by tutor participants in the research, suggests that learning is not linear but broad. A quote from a tutor illustrates this perspective:

EBL is a good method for teaching and learning in a broader fashion, but some linear direction is also required to ensure that no aspects of the theories are missed out [W]T1.

Tutors identify that ideas and issues need to be absorbed and assimilated to achieve the learning outcomes of the curriculum.

Sometimes they go off on a tangent and start to explore other ideas which may be relevant to the material at a later date in the curriculum. But that’s ok because they
are jumping ahead but it is relevant to them at the time and may be explored at greater depth when we need to [W]T5.

Students tend to feed on each other's experiences and knowledge, which is perceived by some students to be both negative and positive. Some agree they enjoy learning from each other as this gives additional insights which are shared and reflected upon but others see this as stressful.

I have found myself supporting an awful lot of other students. I feel very stressed that other people rely on me to give them the information because they know I will do a good job of it and then they come to me to help them with their assignment and I end up taking time out of my own time to help them [W]S6.

Socratic learning emphasises this concept of stimulating students to relate their learning in context using individual prior knowledge and life experiences to draw on. Logical understanding of concepts and principles develops reasoning skills through application in practice. In this way an EBL concept makes allowances for students' individual learning styles. They become part of what they are learning and teach each other in the process. Co-operative understanding fosters responsibility for learning, through which individuals assess and revise their ideas and beliefs. Socratic teaching it seems implies that the process of understanding and learning is far more important than the solution or answer to the trigger or questions posed. During the process cognitive and communication skills are developed to allow students to arrive at a conclusion through their own design. The process allows questions to be clarified, assumptions probed and reasons given during discussion needed to be evidence based (field notes). In a sense students are asked to defend their reasoning which questions their own basis for beliefs and is both a psychological and spiritual development of their thinking and constructs new ideas and knowledge.

Bruner (1996) suggests that learning is an activity in which the student constructs new ideas and concepts based upon current and prior knowledge. An EBL concept therefore builds on a theoretical constructivist framework which encourages students to arrive at a solution through group activities, learning in a spiral manner which allows students to build up on what they have already learnt. However Bruner (1968) in an earlier work states that for learning to be achieved a number of aspects have to be considered. These are as follows and are evidenced by the data from interviewees in this research:
1) Students have to display a predisposition to learning and be self motivated.
2) The body of knowledge to be achieved must be structured in such a way as to allow the student to easily grasp and build on principles (lectures at first).
3) The manner in which learning material is provided and made available.
4) Feedback from facilitators.

More recent work by Bruner (1986, 1990, 1996) suggests that social and cultural aspects have an important role to play in the learning process. His theory is based on earlier work by Piaget which recognises the importance of cognition and the development of cognitive skills during the learning process and the process of self-improvement. The process clarifies ideas from a number of students taking into account those who approach issues from an imaginative and different perspective to traditional learning methods. Thinking is verbalised through an internal dialogue of reflection and expressed as an external dialogue through discussion and communication. It allows for making the connection between one's own thoughts with the knowledge learnt, and giving it meaning through the process by which it is learnt. A saying in midwifery circles states:

Students give birth to the ideas, the teacher as a good midwife assists the labour.

The next section explores how this labour of constructing midwifery knowledge is developed.

6.2 Development of midwifery education and practice

Knowledge is not universal and is constantly shifting, as is its "reality" which changes within the context of midwifery cultural production. It has been concluded from the data in part one of the thesis that midwifery expert knowledge is not merely delivered, digested and memorised, but is created through dialogue and interaction between participants. It is not a definitive but a creation of possibilities and interpreted through language, spoken or written.

Different knowledge demands different teaching approaches. That different knowledge was relevant to midwifery practice and education throughout its historic and social development is not disputed but by who, when, how and what midwifery knowledge is determined relevant at a particular time and context, is the focus of the discussion. This is explored through a perspective of the learning, knowledge and
power debate. Referring to Foucault's (1972) philosophies and his thoughts around construction of truth, power and knowledge are useful in the discussion, in relation to midwifery practices, culture and education. He proclaims that “truths” about human practices and society change with time and are motivated by a will to gain power. Therefore, Foucault (1980) believed that the shifting patterns of power are related to societal needs and the perception of the empowered “self”, through systemised knowledge.

It may be too complex to discover which form of practice, within midwifery culture and its education, is more empowering and for whom, but an examination of historical events through a Foucauldian perspective has explored some of this complexity and sets the background to this evaluation study. His many works on the relationship between power, truth and knowledge are referred to, to examine their different expressions. Foucault (1980) is also appropriate in aiding this examination because of his thoughts on power in relation to health. He suggests that medical models and their associated knowledge are used to give meaning to the sort of changes that bring about desired practices to promote health, security and productivity.

The conclusions from this exploration, which was published in 2003 (Brown), are therefore, that in shaping new ideologies, an examination of events, forces an understanding of situations and practices and new discursive practices are developed, such as enquiry based learning in midwifery. Foucault argued for examination of events which when first examined appear to be discontinuities in ideologies but in effect if viewed through his theories are seen to demonstrate new continuities. He identifies this examination of continuities as a genealogical examination which unveils relationships between systems of truth and concepts of power, which are inevitable politically underpinned in most respects.

Evaluation of new curricula in midwifery education, has been the subject of many research projects over the last few years including Fraser et al (1998) and Pope et al (1996). Fraser et al's (1998) study concludes that although student midwives were generally well prepared to care for women experiencing normal childbirth there were some issues that required addressing. Consequently, the United Kingdom Central Council (UKCC 1999) set up an enquiry to determine the way forward for pre-registration midwifery education that would ensure that practitioners would be fit for practice in a bid to protect the public through adequate professional standards. In
1999 the Commission for Nursing and Midwifery Education published a report "Fitness for Practice" in response to this enquiry making thirty-three recommendations for improvement. As a consequence the Nursing & Midwifery Council (NMC), which replaced the UKCC in 2001, was responsible for developing social care policies and education policies across the United Kingdom. In line with all the above recommendations (through various sources), the need for a new meaningful curriculum in midwifery was identified and was developed for diploma and degree student midwives and commenced at this institution in September 2001. An EBL approach in this new midwifery curriculum is seen to create personal development and consciousness to provide the space for challenging and transforming practice.

One of the main ingredients in this new midwifery curriculum and fundamental to it, is reflection. In Foucault's (1980) latter writings he advocated self-reflection as a means to change and progression. He carried out an ascending analysis of power and how each event arrived at its conclusion and then moved forward. He argues that power is not homogeneous but networked and that self-reflection permits rediscovery of social relations. The notion of ethics, which is integral to moral behaviour and principles, relevant to every professional, is woven into the fibre of principles underpinning this new midwifery curriculum. Such self examination reveals the person as a whole, drawing on imposed moral codes of professional and personal beliefs, based on normative systems of regulation and education. Knowledge tends to drive activity and with activity most ethical beings will reflect. Hacking (1986) believes that it is this consciousness that drives morality and self-knowledge. Thus practitioners would construct their own ethical positions and it could be argued, that within these new discursive practices would create their own autonomy and constructively create a body of midwifery knowledge.

Marshal (1990:15) suggests that:

Foucault identifies this knowledge, developed by the exercise of power and used in turn to legitimate further exercises of power, as power-knowledge.

It appears that knowledge generated within the culture and practices of midwifery and maintained within them as "regimes of truth", is a source of empowerment. This relationship between power and knowledge is addressed through an EBL concept in that the balance between the facilitation and generation of knowledge by tutors and
students is collaborative and power relationships are shifting between participants in the educational process. This is evidenced through empirical data in the first part of the thesis.

6.3 Empowerment and emancipation in midwifery education and practices

Learner needs should be related to empowerment and emancipation in practice. Only when students recognise these needs and move on to fulfil them are these objectives achieved. The activities within an EBL process recognises the need for flexibility in learning and encourages a self directed approach to empower students to construct knowledge, which is not founded on compartmentalised subject disciplines but on a holistic approach to caring for childbearing women. A quote from a student illustrate the influences of an EBL process:

It is the self-motivating issue of wanting to learn which has a major influence through the EBL. And I think it makes you far more autonomous because it makes you so self motivated and through the self-directed process it helps you to make your own decisions and helps you to develop your thinking. [W]S6.

An EBL concept seems to accommodate the different interpretation of knowledge by participants to arrive at collaboratively constructed conclusions. A social inclusive theory of learning is at the heart of this concept, which includes a critically reflexive element of decisions made, and actions taken when translated into practice. Paechter (2001: xi) suggests however that:

a key aspect of 'owned knowledge' is that students should have access to the power that it represents, but that power/knowledge relationships within and outside an education institution makes this difficult to achieve. In other words students are encouraged to construct their own knowledge, to own and use this knowledge to achieve competence and autonomy. In reality "true" autonomy is difficult to achieve when attempting to change approaches to maternity care as translated through autonomous practice.

Access to knowledge has developed dramatically in the last few years. Globalisation of knowledge through accelerated communication changes the nature of midwifery knowledge and how students and practitioners use this knowledge. The difficulty is not in accessing diverse sources of knowledge, but lies in the interpretation and
application of this knowledge to a culture steeped in traditionally accepted practices. The changing face of midwifery knowledge is transforming but activities within education and practice need to accommodate this rapid influx of information. A midwifery culture must accept that:

power and knowledge directly imply one another; that there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations (Foucault 1972: 27)

Foucault suggests that there is no knowledge without power and that midwifery knowledge as it is facilitated, monitored and constructed by tutors and students within an institution changes the nature of the power relationship between teachers and learners. An EBL process provides the social arena in which multiple power relationships are played out. The following are quotes from a number of students, of their perception of power relations in the group and are particularly meaningful.

There were the stronger members of the team and they decided what they preferred to do. Eventually it all evened out and the group dynamics sorted themselves out ... it all panned out in the end because we would say we did not want to do this or the other. There were problems with people not pulling their weight or giving quality to the work. There were some who worked hard and others would turn up with a piece of A4. To be honest it didn't happen that often and the one person who always was a problem because we felt we were missing out on information, eventually left the course and that was dealt with. I'm not sure how we would have dealt with it as a team but maybe eventually we would have had to involve tutors. [WJS5.

Another student says,

I think the actual group work has changed the group dynamics in the group. I think at first when we were sharing out the work the stronger members of the group would say what they wanted to do and what they didn't and it used to happen quite a lot but then we should have said something earlier. But now I say if I don't want to do something again because I've done it before then I will say. But they still end up with the better areas of the subject and I don't know how they've managed it. I think there is always someone who takes control of the group members. It is quite annoying when some people ... you know that they only did the work the night before and you had done all that research the day before and done a lot of work. I think we dealt with it not individually but as a group and maybe in the beginning we should have set
some ground rules about the quality of the work that we needed to produce and who was doing what. I think if things hadn’t got better we would have gone to a tutor about it and we couldn’t have dealt with it ourselves and let it carry on as normal. [W]S7.

The interactive process resulting in both negative and positive outcomes between students, teachers and mentors is illustrated here:

On the whole the mentors have been very supportive of the learning in practice, apart from the one I mentioned earlier. She was not interested in anything I was doing, trying to learn. She was an absolute … nightmare. I nearly left the course because she just knocked my confidence. [W]S6.

Tutors also perceived some issues with the aspect of group interaction and group learning and identify the role of facilitation and student-tutor relationship and is reflected in the literature on the importance of developing tutor facilitation and expertise in an EBL process (Nicholl & Higgins 2004). One tutor says:

I think sometimes some students feel threatened if they have to share thoughts and experiences. I think when you have group members who are older, more streetwise and confident they tend to dominate the discussion but then the facilitator is there to ensure that feedback is given to everyone and that all the students are included … The important thing is that tutors are expert in their field, use their experience and their judgement… I think it is important that the facilitator combines their (students) learning styles with the teaching approach. [W]T2.

Another tutor perceives that the EBL approach has effected the tutor-student teaching-learning relationship and says:

I think it (an EBL teaching approach) could be seen that we’re not spoon feeding them but the students could always come back with information which we may never have thought of. So it’s certainly a two way system … so once you become experienced at EBL as a facilitator you know how much information to give and how much not to … to hold back… It (EBL) is with us to stay but we have just got to make it right for us, the teachers but predominantly for the students and most importantly for the public at the end of the day. I’m not sure that we prepare the tutors well enough. [W]T3.
These power relations have been evident not only in an educational setting within midwifery but within midwifery culture itself. Micro-power struggles have been in existence between prevailing dominant powers i.e. the struggle between dominant medical and midwifery knowledge and practices, struggles within the hierarchical structure of nursing and midwifery and between midwives and the users of maternity services. Begley (2002) suggests that the reason for the hierarchical nature of the midwifery profession may be because it is mostly a female-dominated profession, exercising control over other women and functioning within a male-based medical power structure. For this reason the author perceives such power struggles to continue because midwives may fear change more than they desire it due to the impact of medicalisation of childbirth, the continuing hierarchical model inherited from the nursing profession or the existence of an industrial/economical model of maternity care.

6.4 The changing face of midwifery

No society is without power and Foucault states that power is not from a single source but is networked.

Power is something that is acquired seized or shared, something that one holds on to or allows to slip away; power is exercised from innumerable points ... (Foucault 1978:94)

He suggests that power is not held but exercised and it appears that this is evidenced in male dominated practices as exercised by obstetricians within a midwifery culture. Foucault suggests that resistance to such a hold on (midwifery) knowledge and practices would inevitably become enacted as is suggested through the constant attempts by midwives to take control of midwifery practices and provide child bearing women with choices to meet their needs and expectations. Such resistance starts within small groups through a mutual collaborative effort and understanding of the need for change. The theories underlying an EBL concept may be instrumental in generating practices that could be seen to resist dominant medical models of education within midwifery. Students utilising and adopting practices of enquiry, discussion, analysis, reflection and action translate such activities into changing meaningless task oriented skills and practices. Foucault (1980:99) sees this as “an ascending analysis of power” which has a ripple effect in structuring resistance which is powerful in itself.
The mechanism for change is set up through an EBL approach within midwifery by creating the mechanism to achieve competence. Between construction of knowledge and achieving the power of autonomy and competence exists stages of understanding and reasoning. Such reasoning and decision-making skills are developed through the EBL process as evidenced by the empirical data in part one of this thesis.

I think EBL has made me more confident to be able to say ‘I know about this and therefore I am able to go out and do it’. It works in both ways really. You learn the theory, examine it and then you apply it or you go out in practice and you learn the skills and you examine them and then you, well you look for the evidence that supports the skill. Again the reflective process has been a major part in my learning. I go through the process methodically and think about the things that I need to do next. When the opportunity’s arisen I would say ‘I have thought about that and now I can try it this way’. And then again through reflection I can relate my theory to the practice. [W]S5.

Knowledge construction is not therefore the empowering agent but competence in reasoning and decision making skills, which is empowering, as the above quote illustrates. To achieve this, students make use of their personal prior knowledge and life experiences and integrate this to new knowledge. A student comments:

... the experiences I’ve had and the jobs I’ve been doing before I came here, were very much dealing with groups and communicating with people, I think those skills for me were quite well developed anyway. I think age or maturity has an enormous effect and I think it is because you have more experience of life. I think that life experience have an enormous impact on these (midwifery) skills. [W]S5.

Their individual contribution to the interactive structuring of midwifery knowledge must therefore count as legitimate knowledge, allowing flexibility of lateral and deep learning and giving ownership of control, responsibility and autonomy in their learning.

I would say that it (EBL) did contribute especially in my being a professional. I do feel now that I can practice independently. It has made me think about what it means to be a midwife and how I need to be autonomous in practice, being able to say what I think is right and standing up for what I think. At the stage I am now I feel quite happy to go off and do my own thing and if I really get stuck on something to ask. I now
have the confidence to do that. And I think EBL has developed that confidence. And it is all part of that reflective process through EBL. [W]S3.

Through an EBL approach tutors and mentors facilitate this collaborative climate of learning without gate-keeping the “truth” of prescribed midwifery knowledge to be learnt. Dornan et al (2005) recently reiterate that new educational methods may help learners to build a professional identify through social interaction with practitioners. A mentor perceives that:

The success of EBL in practice depends on the student's ability to apply learning in practice and EBL is beneficial only if the student is confident enough to question practice. [W]M3.

Flexibility in learning styles is empowering to individuals too although empowerment of individuals mutually supportive in a group enhances this feeling of empowerment and a student suggests:

We can only learn it ourselves we can't be told that you have to learn it yourself and I think the first year students need to be given the responsibility as soon as possible to teach themselves. And EBL has done that eventually. [W]S4.

Self directed and motivated students have implied that a feeling of empowered which comes from a construction of knowledge and its use, is pleasurable and therefore perpetuating the desire to know and understand. These skills become lifelong learning habits:

I think reflection has been a major part in my learning and I may not write every thing down when I qualify but I will certainly carry on with reflecting on my practice... I couldn't learn in any other way now. [W] S7.

Participants generating empirical data towards this thesis have implied that learning through an EBL process is enjoyable but more importantly the concepts and philosophies that underpin an EBL approach are perceived to lead to a mastery of skills which are carried out confidently and competently in practice situations. This is seen by these participants to lead to more autonomous and empowering activities linked to emotive feelings of achieving a job well done. One student midwife talks about the feeling of satisfaction after carry out the suturing of a perineum, which she felt she had done well.
I enjoy making it whole again it gives me great satisfaction. (Field notes).

Structuring midwifery knowledge through a strategy that combines practice and theory within an EBL approach was perceived as both negative and positive. A student found pleasure in her anticipation of passing this knowledge on:

I am ready to qualify to pass on this knowledge to others. [W]S1.

However, another student felt that the construction and the development of her knowledge were achieved at the cost of her personal life. She says:

I mean it was difficult and stressful at first because the EBL and the curriculum overall took all of my life and I was this dark figure sat at the computer and occasionally I had to reacquaint myself with my children and husband ... because I was too busy getting my EBL work and assignment finished. But I have learnt to prioritise things that are important. [W]S5.

but goes on to explain how immersion in her work and development of self-identity empowered her to perceive herself as moving away from a submissive role as female and housewife at home. She felt she had emerged at the end of the programme, to be more assertive and perceive herself to be more fulfilled, having carved out a career as a midwife.

An EBL concept pushes the social aspects of communication and interaction, negotiation and discussion, group agreement and decisions on actions and then carrying out these decisions as forcing these skills to be developed. A student explains:

I think EBL has been a better way to learn about practice and you have more opportunity to discuss things because in lectures although they say to ask questions there is no chance to really discuss things and in a lecture room the atmosphere is not really good to hear what everyone is saying whereas in EBL you are in a group and you're really listening to each other as well and it gives you a chance to discuss things. You discuss it more and we are interacting more. Because we discussed each subject area and where and how to find information and that was really useful. And the feedback was really good as well because I'm really quite quiet and I thought of speaking in front of a group of people I was sort of a bit worried about it. That was
really good the feedback because it helped in practice too to talk to people. I feel more confident. I thought being young would make it difficult but I'm alright with the women. It doesn't mean that I have any less knowledge because I have had the same training as everyone else. [W]S7.

EBL provided the space to develop the reasoning necessary through the process of reflection, which is empowering, in the pursuit of knowledge construction. However, reflection needs to be carried out by students and facilitated effectively by tutors and mentors. The literature suggests that skills, which are central to the development of the reflective practitioner, must be clearly developed and assessed within a curriculum. A student, however, perceived that if these skills are appropriately developed, they could have positive implications on the practice and the practitioner. She says:

It (EBL) has made me more questioning of what I do and I reflect more. I think it makes you more reflective and therefore you change the way in which you see things. Yes I think it has made me more analytic of my practice and what the theory is saying. I think this way of learning will change people ... overall it will change someone's way of looking at things. [W]S5.

In exploring my own experiences on having an insider and outsider role during this research I have recognised how my research became my life and blurred the boundaries between work and home. Being known at the institution in which the research took place and referred to as the person “who knows all about EBL” is empowering but there are issues of feeling liberated by such empowerment or indeed feeling trapped by my commitments to further the research. Prior knowledge and experience in this field of work may have been instrumental in reinforcing these beliefs. My own biases in wanting to ensure that this EBL approach was successful, could have had a bearing on my interpretation of data. However, the interpretation of participants and perception of an EBL strategy has been viewed from their multi-perspectives. I have just been their voice and presented their quotes with a commentary on what I understood them to mean. In this respect the reader has as much scope as the researcher in placing his or her own interpreting of data presented.

Knowledge and interpretation of data is initially based on my own practical experience and then developed through the research that generated the data in developing this field of knowledge. An EBL philosophy mirrors this process in that
individuals' prior experiences are integrated to new knowledge and then constructed collectively through the input of participants. Making knowledge centred and based on one's own experiences is therefore more valid and relevant to one's own work. This also develops the skills necessary in midwifery practice but does not omit the spiritual elements that are part of "being a midwife" and "being with women" in keeping birth a normal social event (Page 2000).

Constructing midwifery knowledge, using a concept that supports the elements of empowerment as discussed, is perceived by participants to be possible but the reality is that knowledge construction is bound by the culture of midwifery which has its own regime of truth and

produced only by virtue of multiple forms of constraints. (Foucault 1980 : 131)

This presents a dichotomy within the philosophy of EBL in that on the one hand, education prescribes expected learning outcomes and on the other, advocates learner centred approaches which foster concepts of empowerment and autonomous practice. A learner centred approach is quoted to "mean that people are able to learn what is relevant for them in ways that are appropriate" (Edwards 2001: 37). This is within a context of economic requirements of lifelong learning and aided by the globalisation of knowledge. Therefore knowledge construction is not politically neutral but results from "struggles within the exercise of power that shape human existence and social development" (Edwards 2001: 38). This concept is referring to Foucault's perspective of the analysis of power, which is made manifest in social settings. This has been illustrated by examples from the data. Knowledge is therefore both an outcome and part of the construction of interactive power games that are played within the classroom and the practice setting.

An EBL concept advocates a philosophy which places the individual at the heart of their learning needs, but such a philosophy must also take into account the character of that learner. The evidence suggests that self-motivation and a will to learn are essential to achieve autonomy and lifelong learning outcomes. The EBL process develops these elements of learning but "learning is always a political act, a contested notion and practice, the control and outcome of which is an aspect of the wider power struggles" (Edwards 1991 : 40). It is a power struggle to change those individuals to fit in with the expected norms of "being a midwife". It is about transforming a person:
I think this way of learning (EBL) will change people ... it will change someone's way of looking at things. [W]S5.

However, change is confined within the boundaries of the learning experience and the meaning given to that learning. In that respect an EBL concept gives meaning to learning in that it is self directed, meaningful and relevant to practice issues. On the other hand change is situated within particular regimes of power such as Professional Behaviour and Codes of Practice, which define the areas of change possible. Defined competencies and outcomes to produce a 'competent' midwife restrict personal and social development in a didactic or a traditionally taught curriculum in midwifery. An EBL concept is perceived to change the approach to learning in that it encourages exploration of self and one's beliefs and attitudes and socially engages in a developmental process. But can personal and professional empowerment co-exist? Midwives are educated to fit into an expected culture of midwifery practice but encouraged to practice autonomously within certain exercises of power. Midwives are bound to practice within certain codes of practice and behaviour but changing the culture of teaching and learning in education and practice will develop autonomy and independent thinking within traditional approaches to maternity care.

Marshall (1989) suggests that as knowledge develops so do the controlling agents of professional behaviour emerge along side to maintain an economic and social status. Practitioners in any sphere of life are encouraged to maintain their practice and become lifelong learners to ensure against social and economic exclusion. Those who do not conform are disadvantaged in terms of promotion and knowledge and a greater chasm exists between those who know and are empowered and those who don't. Participants from the research suggest that an EBL concept might encourage everyone to have equal access to learning, which becomes a lifetime practice. One participant mentor suggests that an EBL approach encourages habits of learning which makes students lifelong learners. Therefore, it could be argued, that learners become consumers of defined products, that which is available to them in a "flexible" context of EBL. At the same time defined approaches to learning, to sustain the status quo within a midwifery culture, ensures ways of learning within the very values that give midwifery society its meaning. Midwifery education is therefore offered with an aim and not specifically for individual growth and development. That it is perceived to have this effect is a by-product of its process structures.
6.5 Social expectations and researching midwifery

In recent years an attempt has been made to make the birth process "private" and more personalised through the recommendations of Changing Childbirth document (DH 1993). The revival of home births and the use of doulas, one-to-one midwifery and offering choice and autonomy to women are the artefacts by which this is made possible. This however, has implications for the economy and society in terms of provision of maternity services. The cost of offering home births is high in terms of individualised care but cost effective in terms of bed occupancy and use of hospital equipment and the increased risk of intervention in the birth process. Midwifery education has to be geared to fit in to the general agenda and predicted outcomes of maternity services by training more midwives to address shortfall in the number of practitioners able to fulfil these services. Therefore does an EBL concept have a place in midwifery education? All the elements of individualised maternity care raise expectations of a thinking, proficient and autonomous midwife which has not been created through a traditionally delivered curriculum. An EBL process is seen to fulfil these expected concepts of the creative learner, who is competent in skills, able to apply theoretically knowledge to practice and has developed more emotive or spiritual elements of communication, empathy and "being with women".

Empirical data in this thesis support this view. Arguably this is a subjective view of a researcher immersed in one socio-cultural location. The interaction of student and participants in the research share common socio-cultural norms and language within a midwifery context make it difficult to be objective. This research is the result of a collaborative effort by researcher and researched in constructing the "reality" of an EBL concept. However this "reality" is confined to boundaries as determined by the design of the research and ethical restrictions within midwifery research. By the method of categorising reflections into manageable themes I may have marginalised those areas of text and therefore in a sense acted negatively by exercising the power of exclusion. On the other hand it is essential to apply systemic methods to make sense of the data. The research itself has become a social activity through the interactive and collaborative process of the various methods from which data are generated. A space has been created in which multiple realities can be examined and conclusions reached. And therefore in this sense a more objective approach was adopted. A reality is presented by the participants who critically analysed, reconstructed and reflected on an EBL concept and what it meant to them as individuals and as practitioners.
Existing approaches to learning have so far relied on behaviourist assumptions dependant on transmission of knowledge to create a competent practitioner. Such learning relies on decontextualised knowledge. An EBL concept creates an approach to learning as a social practice within a relevant context. Knowledge is not transmitted but constructed through social interaction within the learning environment either at the institution as small group learning or in the practice setting to relate cognitive and contextual learning. Facilitation not teaching is what changes the learning process through which knowledge is constructed and then applied as an activity in practice. The role of tutors changes in an EBL process through which zones for development are created for students. The theoretical underpinning for this concept is through a Vygotskian approach.

Guile and Young (2001: 65) suggest that, "skills and knowledge are enhanced if learning is embedded in a social and functional context". The culture of midwifery is related to the understanding of skills and knowledge when interaction and reflection take place during the learning process. As a result new knowledge is generated through practice learning. A socially inclusive concept is created through an EBL process and the professional tutor groups within which such activities take place. The student begins the process of understanding and through experience and "becoming knowledgeable" is shaped as a proficient midwife. It is a means of introducing external ideas to the areas of practice constructing the past and possibilities of the future, therefore expanding and developing the knowledge. It appears to connect current levels of knowledge with emerging ideas, which result in changed practice. It is a form of reflective learning as it produces practitioners capable of transforming themselves and others to become lifelong learners through the process. A student explains:

...the reflective process has been a major part in my learning. I go through the process methodically and think about the things that I need to do next. When the opportunity's arisen I would say 'I have thought about that and now I can try it this way'. And then again through reflection I can relate my theory to the practice. [WJS5.

The ideal vision of an EBL concept is one in which values and prescriptive outcomes or competencies are achieved through collaborative learning where everyone is honest, share their innermost thoughts and beliefs. Such a shared experience should lead to a shared reflective practice and autonomous as empowered practitioners. The reality is that participants in an EBL process are not as equally forthcoming from
a personal aspect and may find difficulties in vocalising or sharing knowledge and experience. The power struggle between students is a theme that constantly emerged from interviews with participants and provided substantial data to illustrate this issue. The historic evidence of learning suggests that learning practices have changed from the didactic deliverance of knowledge to an approach in which self-directed knowledge construction within groups is the new climate. However Pratt (1988) suggests that self-directed learning doesn’t always come about and depends very much on the context and resources, facilitation and the type of students on a programme. Lave & Wenger (1991) support this view in saying that activities and tools affect how people learn and what holds meaning and how students construct this meaning depends on their background, motives and beliefs.

Collective construction of knowledge is encouraged through the reflective process in EBL through discussion, understanding, and rational thought and expressed through language or reflective writing. It cannot be assumed however that personal reflection alone is able to help the individual identify any dysfunction in their own personal beliefs and working practices. The collectively created values and beliefs within the group should create practices that are relevant to midwifery, which must also consider the intuitive and emotional rationality which are made conscious, shaped and given meaning by the group. The difficulty is that the more complex issues of empathy and spirituality in midwifery are rarely articulated within such discussions. A negative aspect of sharing beliefs and values is that in a sense one is giving up the feeling of inner privacy and thought and opening one’s vulnerability to the group. Students may feel that they are reducing their own empowerment within the group if others have knowledge of their weaknesses. In a sense, therefore, professional tutor groups (PTGs), in which such discussion may take place, have been viewed by some students as being in the “confessional box”, and perceived to be about “mistakes in practice” and about “telling on others”. (Researcher field notes of PTGs). Foucault perceives this as a form of ‘governmentality’ in which “the consciousness of the subject develops only under the influence of a social context” (Bevir 1999: 72). This perception may prevent students from learning through small groups and hinders the discussion process.

The object of the PTGs in this study was mainly to provide pastoral care to a small group of students but in some instances students perceived this function to be negative and PTGs were viewed as a policing exercise. A student and a tutor share this view and say;
There were several cliques in the group, which prevented total integration, and some group members were much more dominant than others. I felt this led to only superficial support and inhibited bonding and sharing Y3[Q]S3.

The wide range of needs within a group means few students actually receive the level of support, which they require Y3[Q]T4.

On the other hand some participants felt that PTGs were an opportunity in which individuals examine themselves and their beliefs critically and considered how in their pursuit of autonomy, decision-making and judgement, they would construct new ways of thinking and create improved beliefs and values.

They (PTGs) help to provide support between students ... issues can be raised collectively where there can be joint discussion with some facilitation from a tutor, [and look] forward to coming back (from practice) into the safe academic environment to discuss our discoveries with friends, to admit to our mistakes and to talk through our problems Y3[Q]S15.

Foucault sees such pastoral efforts as “the shepherd tending the individual conscience by techniques such as self-examination and confession” (Bevir 1999:72).

6.6 Conclusion
In this chapter I have identified how changes in midwifery education and practices have resulted in the present midwifery curriculum at this university. I have explored questions framed at the start and have come to the following conclusions. From the above illustrations it appears that knowledge construction is not value free but underlined by the individuals’ perspectives which are influenced by the multi-complex issues of age, status and background. Therefore this analysis questions the reality of an EBL concept as a truly empowering agent from a teaching and learning perspective and concludes that however, individuals perceive EBL to be self-empowering. An EBL strategy within the curriculum is seen to be confined by expected norms, prescribed learning outcomes and accepted traditional practices. Within such practices individuals seek confidence and competence in practice and perceive that the means by which such elements are developed lent themselves to concepts of autonomy and feels of empowerment in learning and practice. However, their understanding of midwifery knowledge and practice is challenged through critical reasoning and reflection.
In my work as a researcher/practitioner/tutor I have observed the dichotomy that emerges between organisations, the trusts providing the practice experience for students and the educational institution and its need to prepare competent practitioners using an EBL approach to fulfil these expectations. The agenda of organisations at times seems to be in opposition to the needs of individual students and practitioners, midwifery as a culture and the needs of childbearing families as users of maternity services. An EBL concept has attempted to address all these expectations but in reality cannot completely accommodate choice, freedom, autonomy, empowerment and emancipation. The EBL process may be the tool by which to develop the skills to accomplish such expectations but the reality of applying these skills in practice are contradicted by resistance to change. One mentor expressed these concerns:

I think it (EBL) has helped (in practice) because they (students) are able to say things like, ‘I was reading about this’ … which has more meaning for them and therefore has more meaning in the way they are able to describe it to clients… I think that the students I have worked with are able to articulate to colleagues and mentors what they are doing. I know that sometimes colleagues (qualified practitioners) do not take kindly to students saying, ‘Oh I found out this or I found out that’. They (mentors) are more likely to say, ‘Oh well, this is the way I’ve always done it and this is how I’m going to do it’. I think midwives have always been challenged by any student who questions them … I think it can be difficult (to make changes) … I don’t feel threatened by people who question what I do … because I think there are always new things or different ways of doing things [W] M1.

This perceived resistance may be a result of the need to maintain norms of a midwife culture and practices as a product of accountability according to Codes of Practice, and outcomes based measurements of competency as standardised by the NMC (2004). It would be a pity to destroy the vision of an ideal curriculum but the answer must be in developing new activities, such as an EBL process, through which participants become empowered learners. Paecher (2001:174) suggests that:

What counts as legitimate knowledge is … that which is acquired … through independent discovery.

The key issue is therefore, not the content of the knowledge but the context in which it is taught and how it relates to particular contexts in which it is applied. Finally
owned knowledge appears to become embraced within midwifery knowledge available to those within the culture and therefore becomes tacit knowledge within that culture. Therefore, legitimized knowledge of the system and midwifery itself.

Midwifery education must have an element of control on what is learnt and how it is learnt to have meaning and relevance. Facilitative learning is but one strategy although there is a need to allow students to direct and evaluate their own learning. Once their reflections are given up for scrutiny by tutors and mentors, students may feel dis-empowered but in doing so their knowledge is legitimized and valid. They can therefore retain this self-empowerment by developing through reflection and then applying it in practice in collaboration with others and using this understanding and knowledge to further practice. It is both "owned" knowledge and midwifery knowledge shared in context.
CHAPTER SEVEN
LEARNING THEORIES OF AN EBL CONCEPT

7.0 Introduction
The many competing influences and issues in creating a curriculum have been discussed in the previous chapter. This chapter examines interactive and group learning theories and approaches that underpin an EBL process. This process has been explored in part one of this thesis and is now articulated through the literature and known theories, illustrated by examples and quotes from participants in this study, as exploring the concept of EBL within this midwifery curriculum, in this second part of the thesis. As discussed previously, learning approaches in nursing and midwifery curricula have in the past closely followed a medical model of learning. The aim of the new curriculum is to change learning processes to those more in keeping with a midwifery philosophy of holistic and humanistic learning and caring. This chapter explores some of the learning approaches that underpin an EBL concept.

7.1 Fitness for Purpose Curriculum Framework
The philosophy of an enquiry based learning (EBL) and teaching approach aims to enable student learning through a curriculum that promotes the quality and standards of learning required in professional education such as nursing and midwifery. In other words it requires the curriculum to have its philosophy rooted in an outcome based education and as recommended by the “Fitness for Practice” Peach report (UKCC 1999), focuses on competency based outcomes. Such a curriculum is not based on new knowledge content but new forms of knowledge construction. It seeks to create and sustain a relationship between different types of knowledge, between academic and skills knowledge, knowledge from one’s own experiences and expert knowledge, and self determining knowledge and midwifery cultural knowledge. Young (1998) sees an outcome-based approach as essentially referring to any kind of educational outcome and not just units of competence. In particular, the author sees the grouping of outcomes being related to specific qualifications and an expression of the purposes of learners within the curriculum, as a connective approach to outcomes. It could be argued that this connectivity within a curriculum to bridge behaviourist, cognitive and constructivist models, and any form of outcome approach, which varies from a traditional segregation of teaching and learning to one of integration, is seen to be more radical in its approach. In a sense, the educational philosophy of this midwifery curriculum is one that changes the focus from the content to the student, didactic to
interactive. It does not deliver de-contextualised knowledge but develops student centred knowledge integral to practice experiences. The weakness of outcome approaches to a curriculum is that they only refer to outcomes and can never be the basis for a complete curriculum. For this reason this thesis has examined the process and outcome of an EBL approach. Learning processes and the value of professional facilitation should be an integral part of the curriculum. Another important component is the student's active learning, which shapes the purpose of the curriculum and is evidenced through the students' academic and practical skills achievements.

The new midwifery curriculum being evaluated through this thesis, attempts to draw theory and practice together through an enquiry based concept, by introducing clinical practice alongside the biological and behavioural sciences, relevant to midwifery context. Evidence of this integration may be demonstrated through the student portfolios, which are a medium through which practice experience is integrated to theoretical knowledge within an appropriate context. However, the literature around formative and summative assessment through portfolios has been discussed in an earlier chapter.

As previously identified, this curriculum moves away from a content directed model, and is developed through a contextual learning model as advocated by Dewey (1916,1938), who used a problem solving approach. The educational conditions for effective learning are the context of the learning, underpinned by the information given as related to theory, and the teaching and learning strategies used in linking the theory to the context of practice. The academic, professional and clinical, statutory requirements are integrated within this curriculum framework. The learning environment, both in simulated skills laboratories and in hospitals through direct contact with clients, appears to enable effective learning and teaches students the principles of learning how to learn. Through this philosophy, it is anticipated that the student develops knowledge and competence and becomes a practitioner “fit to practice”.

Fish and Coles (1998) advocate a model through which students learn to practice by engaging with and reflecting on the skills they practice, gain insight through an enquiry process and developing their knowledge base for practice. To underpin this professional performance Eraut's knowledge map (1994), which describes six types of knowledge acquisition, has been incorporated into the framework of the new midwifery curriculum being investigated in this thesis. These types of knowledge fit in well with
an enquiry based approach to the construction of knowledge and students utilise all these types during the EBL process. Eraut's model specifies the following types:

*Situational knowledge* is applied which involves questioning the situation in practice and making judgements about the information required and the appropriate application of this information to the practice skills required. Thus interpretation of the situation is carried out and learning a course of action for the situation comes within the remit of situational knowledge.

*Conceptual knowledge* is integral to theory and underpins situational knowledge. Theories are drawn from the disciplines of biological, behavioural and clinical sciences and ethical and legal frameworks. Personal social theories are relevant to conceptual knowledge enabling students to explore their own beliefs and reflect on this within peer groups such that these are examined with respect to evidence based practice and personal performance. Such reflection will encourage improved performance through which alternative action and skills may be applied.

*Practice knowledge* is factual knowledge about the practice environment, health, practice and change management policies, which determine practice action to be taken through the use of professional judgement. Students develop such judgement through problem solving techniques within the remit of health and safety agendas for both client and professional.

*Knowledge of People* is knowledge developed in making professional judgements and considering psychological, social and cultural influences. Students examine their own sphere of personal knowledge, their clients and that of their colleagues, which impact on behaviour and perception such that knowledge impacts on practice and the development of professional behaviour.

*Process Knowledge* is how to do and get things done in terms of making assessments, passing judgement, making decisions and evaluating practice. Information retrieval is part of process knowledge and therefore students develop interpersonal and communication skills through this sphere. In other words the student learns how to learn.

*Control knowledge* is the control of a student's own development of knowledge. Self-directed learning is developed through self-awareness, self-development and self
evaluation which comes about through the critical and reflective process on one's own behaviour and performance. Students learn to use feedback to examine their own judgement around decision-making and clinical supervision is a tool that makes a contribution to the development of control knowledge in the student. Students develop the skills to place control knowledge within statutory legal and ethical frameworks.

(Institution's Curriculum Document 2000)

7.2 Andragogy

It appears then that this new midwifery curriculum draws on an educational philosophy, which Knowles (1980) describes as andragogy, and which is defined as the art and science of helping adults to learn and develop. Students' prior knowledge is valued and developed, such that teaching is facilitative not directive. Such a curricular model ensures that knowledge is related to practice, theory is integral to practice skills, and evaluation and feedback of the learning experiences becomes the cycle to ensure lifelong learning. Implicit in this model is the underpinning reflective and critical reasoning process, which students utilise in translating experience into knowledge, through an EBL strategy, enhancing effective learning through making links between the learning experiences and the reflective process (Boud et al 1985).

Data in part one of the thesis suggest that through this model students progress from dependant to independent learners and increasingly become more self-aware and therefore empowered in the style and direction of their learning, to eventually arrive at being competent practitioners. A sample of interview data from a student participant in my study illustrates this point. She reflects on her learning and says:

I am more confident in my practice and I think in that way you are seen to be more competent... It's been good the way I have learnt ... the way it's been ... It has made my knowledge so much wider. That is the thing about EBL you are not learning just one aspect of something. You are not looking at it from just one angle or another ... you are looking at it as a whole and in a lateral way. It makes you look in the grey areas as well not just the black and white. [WJS6.

It seems that such democratic principles of education, as underpinned by Dewey's philosophy (1938) and the concept of self directed learning to empower and transform the learner, are embedded in educational principles first examined by Friere (1978), in exploring adult learning. Knowles (1984) and Rogers (1989) believe that relevant skills and knowledge are developed in context to the learning in shaping professional
practice whilst students maintain their own identity. As discussed earlier in this chapter it seems that this curriculum is more critical and reflective in its learning approaches through an EBL process.

An outcome-based curriculum in which learning moves the student towards specific outcomes will inevitably control activity. Achievement of competencies is seen to steer its learning activity. This changes the focus of learning and thus a need is perceived in changing the role of the tutor to become more facilitative. A tutor suggests:

> Much more work needs to be done in the organisation and facilitation for colleagues in their understanding and skills of implementing EBL. Y1[Q]T3.

However, when facilitated appropriately, attitudes, feelings and skills are explored in interactive learning, which are an important feature of this curriculum delivered in context to midwifery practices. Traditional and transformative outcomes were integrated in the development of this curriculum. However, transformative outcomes remain the goal in shaping the future professional and developing the whole self-actualising person. In this sense the focus of evaluating such a curriculum changes from comparing academic ability through exams and tests, to a holistic approach of evaluation, which is adopted, and complex criteria for desired outcomes of behaviours, skills, attitudes and academic abilities become the basis for evaluation. This curriculum therefore is driven by competency based outcomes which allows for flexibility of learning approaches and variety and depth of content. As seen from the data in part one, an enquiry based teaching and learning strategy has been effective in achieving these aims. A student summaries and says:

> An EBL approach allows you to study in as broad and deep an approach as you wish ... ultimately it achieves the learning outcomes, which aim at making you a competent midwife. [W]S1.

It appears that this student was measuring her competence against the yardsticks set out by the NMC proficiencies (NMC 2004) which have been integrated into the learning outcomes of the curriculum (see appendix 1) in preparing practitioners deemed to be ‘fit for practice’.
7.3 Curriculum Models
Curricula in the past, in the broader context of nursing and midwifery education, have evolved from basic models of education in curriculum planning. Some of the earliest as suggested by Tyler (1949), are seen to have four dimensions, those of objectives, content or subject matter, method or process and evaluation. The focus of past curricula was on content of subject, as the knowledge transmitted to be acquired by students. Students learnt the content of subjects by rote, which was then assessed through tests and assignments, and students received credit for the course or training (Closson 2000). The curriculum centred on the content to be learnt with the purpose of producing academically competent students. Dewey’s pedagogy advocated a move from such principles and methods and encouraged teachers to guide learning in an interactive manner (Dewey 1916). Democratic and empowering methods in education both for students and tutors were seen to be the way forward. However, for many years, even adult learning has been organised around the content of the curriculum and teaching and learning strategies have been dictated by this content.

7.4 Behaviourist Models of Learning
As already discussed, nursing and midwifery education has followed a medical model for many years till the recent changes and recommendations by government initiatives (DH 1999). From my own experience, learning has been fragmented into topics with no reference to its application in practice. Practice skills were taught in isolation to the theory, such that content-based education was the curriculum model applied to health care training in the past. The outcome was that knowledge was not retained and skills were learnt through repetition of practice. Practitioners did not question the reasons for certain practices and practical skills were routinely carried out without examining whether they were founded or based on researched evidence. The idea of lifelong learning was never part of the teaching and learning agenda and consequently did not figure in curriculum planning and delivery.

In particular such curricula focused on behaviourist models, which originate with the work of Watson (Cohen 1987) and which are not concerned with human consciousness but with behaviour. Watson’s model, which was based on stimulus response behaviour as conducted by Pavlov, was further developed by Skinner (1987) who theorises that people respond to their environment as a product of past experiences (operant conditioning) and thus operate on the environment to produce alternative consequences (Cohen 1987). Reinforced positive behaviour ensures skills are well learnt and practised. This model is therefore particularly suited to skills
learning but omits to consider attitudes, beliefs and preferences of the student or client, which means that no responsibility is taken for skills performed and their consequences. This is contrary to the philosophy of midwifery practices but it could be argued that a behaviourist model is one of a number of integrated models, which underpins enquiry based learning.

Skinner believed that behaviourist models could shape human behaviour to desired responses and therefore desired outcomes (Skinner 1987). This was an effective tool in past curricula to ensure that nurses and midwives were trained to model and learn the expected skills as implied by the condition of the client. The idea of connectionism as developed by Thorndike for adult learning (Thorndike 1928), ensured that in skills learning connections are more easily established if a person can link a stimulus to a response (a Gestalt principle) (Wertheimer's Gestalt principle examines cognitive processes within a behaviourist model-1959). Behaviourist models conflict with a student centred model of learning, which allows for the spirituality of midwifery in empowering students and encourages transformative education. A behaviourist model does not encourage critical reflections of practice, nor negotiation or interaction in teaching and learning.

After examining behaviourist models, it could be inferred that learning is not just “doing”, it is changing what is done through understanding and cognitive thought. This leads to a discussion about cognitive models of learning and alternative or qualitative methods for evaluating the effectiveness of enquiry based learning utilising cognitive learning theories as discussed in the first part of this thesis.

7.5 Cognitive Learning Theories

Cognitive learning arises when behaviour cannot be replicated because a necessary condition is missing. The learner cannot function because of this lack and a need occurs, which gives rise to a awareness of that need. Physical functions give way to “feelings” and a need to change the response to the condition. Thinking is then the understanding that is necessary to something that makes other behaviour possible. Problem solving is possible by changing the condition until a response occurs. Evaluations of cognitive learning involve analysing complex interactions between the environment, the learner and the behaviour to which it gives rise (Skinner 1989). What is unobservable is based on theories, which are based on the work of educationalists like Dewey (1916), and educational psychologists such as Bruner (1986, Piaget (1977) and Vygotsky (1978) and give rise to constructivism. Through this model, students
construct knowledge within a social context. This interactive process in developing all types of knowledge is a principle of social interactive learning, which is one of Vygotsky's philosophies, associated with social constructivist theory. He emphasises the influences of cultural and social contexts in learning and supports a discovery model of learning. This type of model places the teacher in an active role while the students' mental abilities develop naturally through various paths of discovery. The midwifery culture within which students develop their knowledge plays a role in this learning and affects how students perceive the effectiveness of their learning.

According to Vygotsky (1978), learning principles are influenced by a number of themes, which are explored in his complex theory. The over arching issues are the importance of culture and the role of language, either spoken or written, which underpins the construction of knowledge. Vygotsky states these principles allow students to examine prior knowledge and integrate new knowledge. This philosophy, in other terms, allows for scaffolding of knowledge, which is underpinned by Vygotsky's theory, the zone of proximal development (ZPD). Such adaptive and cumulative knowledge is the emphasis of all cognitive theories and one that is frequently referenced is to Piaget's stage theory of cognitive development (Piaget 1977). Assimilation and accommodation of new information involves changing current concepts to evolve new ones. The differences between Vygotsky and Piaget are in the focus of cognitive development: Piaget believes that knowledge construction is through action on the world and creating an understanding, whilst Vygotsky claims that understanding and construction of knowledge is social in origin (Cole & Wertsch 1995). Cole & Wertsch (1995) claim, however, that the fundamental difference between these two thinkers is the emphasis on the importance of culture and its role through mediating effects such as language, on the development of knowledge. Language as a tool in discussion and as written reflective texts is integral to the EBL process within this new midwifery curriculum.

Vygotsky (1987) states that problem solving can be carried out in three ways: a) those that the student can carry out individually, b) those that have no solution even with assistance and c) those that can be solved within co-operative learning. Vygotsky suggests that learning cannot be taught and that learning and development is an interactive and social activity. Through an EBL process, tutors facilitate this learning whilst the students construct their own understanding, to arrive at an optimal state of learning within a "zone of proximal development", which takes place within meaningful contexts such as practice placements.
To make sense of and create solutions to the social and educational problems of his time, Vygotsky made an attempt to create a theory both of intellectual development and education. It may be seen to be a social constructivist theory in the development of individual humans and improving human situations through education (Wells 1995). His theories developed in his exploration of human development not as limited by genetic inheritance but as shaped by previous activities within a culture.

7.51 Lower and Higher Mental Ability
According to Wells (1995), Vygotsky was interested in applying social theory to individual psychology and states that action is mediated and cannot be separated from the context in which it is carried out. However, he also distinguishes between higher and lower mental abilities. Lower mental ability refers to genetically inherited functions whilst higher mental abilities are developed through interaction within a social and cultural context. Once these concepts become culturally and socially negotiated they become internalised. We learn through interaction with others and learn from others. However relative independence is achieved by learning the techniques of rational socialisation. All higher mental functions originate through actual interactions with human individuals. An EBL process, which promotes interactive group learning, fulfils this aim and has been illustrated in the analysis in chapter 5.

Language is the most important mediator of our thoughts, feelings and behaviour. Written reflections of students together with data from the various participants through interviews to express their thoughts, feelings and behaviours, has been crucial in evidencing this importance. Nicholl (1998) states that “Language ... enables the emergence of self awareness and the voluntary control of our actions”, and culture plays a part in orientating how an individual structures his or her own behavioural environment. Individuals distinguish between self and others through reflection on their own behaviour as perceived by others and therefore they are able to adjust themselves to be socially acceptable. A participant student illustrates this point and says that:

You learn the responsibility of not letting the team down and sharing information and you learn that kind of team spirit through the EBL process [W]S6.

In addition reflection helps to make sense of the social and cultural environment, in which the learning is taking place. Reflection, as part of the EBL process, is seen to
integrate students into the cultural practices of midwifery towards developing the professional, and is illustrated by a quote from a student who says:

I would say that EBL has had an enormous impact in my being a professional. I do feel now that I can practise independently. It has made me think about what it means to be a midwife and how I need to be autonomous in practice, being able to say what I think is right and standing up for what I think. And I think EBL has developed that confidence. It is all part of reflection, which gives me the confidence, and therefore the competence and I get the mentors to reflect with me. I sort of discuss things with them and ask them if they thought about things in a different way and then we talk about situations [W]S5.

However for learning to be successful, the findings suggest that students were motivated to act in this manner from a personal need, interest, desire or attitude. Data analysis of the self-motivational aspect of learning has been discussed in chapter 5 and an example is given here.

It is the self-motivating aspects of wanting to learn which has a major influence through the EBL. And I think it makes you far more autonomous because it makes you so self motivated and self-direction helps you to make your own decisions and helps you to develop your thinking Y2[R]S3.

Most students in this study started from a point in time and were on a continuum of development to some goal in the future, in this case qualifying as midwives. One student says:

I have waited a long time to become a midwife. In my heart and bones I know that this is what I want to do. Y1[R]S2.

In a sense responsibility for the learning is then integral to achievement and is judged through self-appraisal, peer, mentor and tutor assessment to meet approved standards of norms within the profession. Verbal or written communication is valuable in expressing this judgement.

7.52 Zones of Proximal Development

EBL appears to tie in learning theories and psychological theories and it seems that it is integrated and underpinned by Vygotsky's theories. The idea of a zone of proximal development (ZPD), introduced by Vygotsky (1987) is the range of potential each person has for learning, with the learning being shaped by the social and cultural
environment in which it takes place. Psychological tools enable individuals to bridge the gap between lower and higher mental abilities. These tools amongst others are forms of thought expression, which includes writing or written reflections. Reflections may express an individual’s understanding of their inability to carry out a task or skill and lies within the scope of a zone of proximal development through which interactive learning will allow individuals higher mental ability of abstract reasoning. One student says:

I think it is a question of having a personal responsibility to learning. You need to identify where your weaknesses are and you do that by reflecting ... and I will go and talk to my mentors about it as well [W]S5.

Vygotsky argues that development of cognitive skills occurs through three stages, as described previously, in which cognitive function exists in itself, for others and for itself (Vygotsky 1978). He believed that it is through expression either verbal or written that individuals construct reality. With words, experiences are defined, shaped and analysed to expand a consciousness or self-awareness to plan change and act. There are limitations to this concept as we can only express and experience those things that we have words or knowledge of, within our social and cultural context. However Wertsch (1991) argues there is a possibility that words can decontextualise concepts which may result in abstract forms of reasoning associated with reflective thinking. As a result, individuals alter themselves through words and language. Situations become objects of reflection in which individuals develop their own internal references and restructure knowledge. This allows individuals to think about situations in a different light and new concepts emerge. In an analysis of Vygotskian work, Rozycki & Goldfarb (2000) maintain that he concluded that words are a central part in the development of thought and are the essence of historical growth of human consciousness. According to Vygotsky, thought is restructured, as it is transformed into speech or writing. I perceive that an EBL process, through discussion and reflection during learning, is underpinned by these principles.

Several parallels of Vygotsky’s view on language can be made with a view held by Wittgenstein. However, Wittgenstein differs in one aspect, as he states that language limits our world boundaries. He is frequently associated with analytic philosophy (Pears 1971) but his later writings may view him as an activity theorist (Wittgenstein 1953). As opposed to Vygotsky, who rejected the notion that language expressed thought, Wittgenstein believed that language shapes our thoughts within a context that
is underpinned and limited by assumptions and presuppositions. Language and words are hence made meaningful with use in context. Whilst Wittgenstein concentrates on the use of language and thought as an activity, Vygotsky creates a cognitive zone within which this activity takes place. An EBL process has been perceived to provide such a space by students, mentors and tutors alike and supports the concept of a cognitive zone in which interactive learning also takes place. It appears that both Vygotsky's and Wittgenstein's basic principles come together in an EBL process. Qualitative data from three participants illustrates how social learning and psychological components come together as described by the theory.

It (EBL) gives you more confidence in your own understanding ... in a relatively safe environment [W]S2.

I think EBL work gives students the chance to think about practice and seek effective alternatives that might not be possible through other ways of learning. It gives the chance to discuss understand and reflect on practice issues Y2[Q]T9.

Where they have learnt for themselves and understood the theoretical basis of what they do, once they understand that, they are able to articulate what they are doing in practice [W]M1.

Development means learning to participate in human activity using the cultural and social resources available to the learners. The process of learning is not only limited to the socialisation within a culture, but is also a development of the self. Student midwives become enmeshed within the midwifery culture and may lose sight of their self-development. It appears that an enquiry based learning strategy lends itself to the greater possibility of self-development as described by a student participant.

I think EBL has made me more determine to succeed. It has made me more self-motivated and enabled me to think about my role and develop that professional role as a midwife Y2[R]S3.

However it appears that the quality of the development process depends largely on the quality of the available resources, be it context, content and facilitation of learning to mention a few. As the data indicate:
It (EBL) is a useful and effective tool. However, the unavailability of learning resources makes EBL more difficult and limits the enquiry and literature searches Y2[R]S5.

I found that its (EBL) disadvantage are ... has been for me the lack of feedback ... I would prefer more of a balance between directed learning and self-directed learning ... we need to know that we start here and end up there [W]S3.

A mentor and tutor add:

Different teaching methods suit different students. Good support from tutors and mentors makes much difference to the learning Y2[Q]M2.

The effectiveness of EBL as a learning tool depends on the facilitation and guidance provided Y3[Q]T11.

Developing individuals within the culture of midwifery, to fit into the accepted practices of midwifery, may not always have been in the best interest of the profession. Historically midwives allowed a medical model, with paternalistic influences, to sweep midwifery education for several decades. However, power relations within the midwifery culture may have had a bearing, in terms of the dominant medical model overtaking a humanistic approach to midwifery. As such political issues may have had an impact on how historically and culturally the profession has developed. Alongside this political agenda, critical theories may have a part to play in moving midwifery education forward, in considering the social and cultural implication for the profession. Midwives could through reflection and critical analysis of their practices identify where dominant medical theories have negatively effected the development of practice. Through self-awareness and raised consciousness, practitioners could emerge as autonomous and accountable individuals, ready to move practice forward for their own benefit and that of their clients.

7.53 Spontaneous and Scientific Concepts of Learning

Another aspect of Vygotskian theory is the relationship between scientific and spontaneous concepts in teaching and learning (Wells 1995). Wells’s discussion centres around how scientific concepts evolve out of everyday and spontaneous concepts but differ in that they are generalisable, systemically organised and under conscious awareness and voluntary control. The first two relate to the experienced “reality” whilst the latter two are due to a mental function of development during the acquisition of these scientific concepts. Scientific concepts are acquired, as a result of
instructions in a deliberate and systemic manner and in Vygotsky's view is decontextualised thinking, which in essence in higher mental functions. Similarly more recently Perry (2004: 72) identifies differences between scientific and practical or 'common-sense' concepts in the caring professions of nursing and midwifery and suggests that:

Practical knowledge has preceded the development of nursing theory and science ... this creates a gap between theory and research on the one hand and common sense practice on the other,

creating a tension between the actual and the ideal when articulated through nursing and midwifery education.

Vygotsky explored the relationship between speech and thinking and instruction and development but omits to emphasise the role of cultural and historic origins underpinning this relationship. He hinted and acknowledged at their importance in latter writings and developed a more complete explanation of how scientific concepts may take on socio-historical levels of development. Therefore, Vygotsky is useful in part in examining an EBL process in terms of learning through zones of proximal development and the concepts of higher and lower mental ability, which develop abstract reasoning through the reflective process.

Wardekker (1998) argues that scientific concepts are the product of reflections in practice, which provide alternative choices to the future development of skills or practices and could be moral and ethical in some respects. He interprets Vygotskian ideas as having implications for the aims of education and what is learnt and why and exploring the perspective of conscious awareness not just for individuals, but, for group awareness of situations. Concepts are decontextualised and analysed for their interrelationship but may move away from their reference to reality. As such, concepts are not examined for their meaning from an objective perspective but within the social activities in which they are developed. There is connection between the concept and the activity but through group interaction and when reflecting on the concepts individuals will arrive at multiple understanding of the same concept and therefore knowledge becomes multi-perspective. As a result reflection becomes internalised dialogue. Negotiation is then reached through dialogue within the group to explore the direction and arrive at agreement on development of that concept or practice. Mentors illustrate these issues and say:
They're (students) actually going back and using the theories and using reflections which are a really personal thing and relating this to what they are actually doing and why a situation did not go the way it should have done [W]M2.

I do know that even from my own experience that if you explore things for yourself then you learn it much better. To find things out and the work that you put into it gives it meaning for you ... [W]M1.

A tool through which higher mental functions evolve is language and its expression either as writing or through speech. Language acts as means of co-ordinate action to an objective view held by the individual and also as a means of reflecting on the action, the participants involved and the relationship between them. Wells argues that language also acts as medium through which knowledge and practice constructed in the past is transmitted for future use (Wells 1995). Reflections therefore may mediate activities connecting individuals with their view of reality and other individuals underpinned by historic and social contexts through the process of group work and social interaction. Some participants examine these issues and say:

I think it (EBL) helps with your reflection process if it is relevant. If what you're doing in EBL is the same as what you're doing in practice then you can really learn about reflecting. I really think reflection is invaluable ... we could bring in our own trigger then (from practice) and really tear it to shreds and ... if you have a deficit of knowledge ... we could look at it and link it in to practice [W]S4.

They do the learning for themselves in a way that they reflect and understand what it is in midwifery it relates to. They are actually exploring and developing their midwifery knowledge and skills and their cognitive ability ... there are other ways of enquiry learning through self directed work ... which they (students) take ownership of and work at either individually or in small groups [W]T1.

It (EBL) has dramatically changed the way in which students learn. Making the students think about what they've seen and what they've done and the relevance of that...[W]T2.

They (students) relate the learning to the relevance in practice ... and discuss why we're doing things and (I) make sure that they actually understand why they are doing the things they are... and using reflections which are a really personal thing and relating this to what they are actually doing ... [W]M2.
In this way, knowledge from the past is developed for the future and is not just a reproduction of previous activities, but creating and adding to the cultural resources of knowledge and skills. Transforming the society and culture of midwifery becomes an integral part of this learning process. Wells (1995) states that spontaneous and scientific concepts in the development of higher mental functions arise from different origins. Spontaneous concepts are learnt from interaction and activity with others whilst scientific concepts are constructed through formalised, reflective and explicit practices through systematic instruction. It seems that conceptual resources vary from one culture to another as a result of different conditions and historic impact and the extent through which cultures develop knowledge depends on the complexity of the activities and on the context within which individuals engage. If individuals develop their mental functions through such a process of decontextualised thinking, then this surely must result in the development of scientific concepts. When such thinking is then articulated through reflections in writing, it gives a permanent representation to the meanings and outcomes that are concluded. One student remarks that writing and

Reflecting on clinical issues has allowed me to resolve discrepancies between classroom teaching and clinical reality, and has empowered me to increase my comprehension through discussion with colleagues, exploration of the literature and perhaps more importantly self analysis … increased understanding and the ability to relate theory to practice Y2[R]S1.

It seems that students can identify the theory as separate from practice reality. But self-analysis through reflective writing appears to bring understanding to the situation and relates this to the theory.

7.54 Reflective Writing

Vygotsky (1978) explored reflective writing through the learner's perspective as a conscious and deliberate activity from which meanings are derived. A distinction can be made in which writing is both a process and a product; the process of communicating thinking through writing and the written text that is the product of this process. However reflective writing as a tool could be used to further thinking and reconstruct and disseminating new knowledge, which is the process associated with development of scientific concepts.

A further element of writing as reflection is the hidden outcomes of transforming the culture (of midwifery) and the use of reflections in writing as increasing the body of
constructed knowledge base (of midwifery). Concepts may be also socially constructed in the transformation of reflective writing over time and constructed as such through their articulation in writing. Individuals are the product of their own activities and through reflection change their perception and cognition of activities as a means of understanding and constructing new knowledge. In this way spontaneous concepts through experience becomes scientific concepts through the process of analysis, reflection and articulation through discussion and writing. One student explains that through reflective writing this is achieved and says:

When the time came to discuss in the group most people had clearly used research based evidence to support assertions and arguments... and I have been able to relate theory to the clinical situation Y1(Q)S8.

The level of reflection can be a distinction between what Bruner (1986) calls "narrative" and "paradigmatic" thought. The first is a discourse of description of events, actions and intentions and an explanation of one’s behaviour and that of others through which spontaneous concepts are constructed. The latter involves systemic analysis of events and actions, which are deconstructed through discussion and reflection and articulated and reconstructed as scientific knowledge. A student explains this and in her words says:

You learn the theory, examine it and then you apply it or you go out in practice and you learn the skills and you examine them and then you, well you look for the evidence that supports the skills ...and then you write reflectively about it and the reflective process has been a major part in my learning. [W]S5.

In this sense Vygotsky made the distinction of intramental functions as discussed by Piaget and the intermental functions which comes through reflective interactions with others and giving rise to the zone of possible development “the zone of proximal development” (ZPD) (Cole & Wertsch 1995). Following from Vygotsky's work, it seems that such an approach in enquiry based learning through the use of “triggers” facilitates learning that aims at student led activities which ensure students move beyond their present knowledge. One student demonstrates this intermental function by saying:

I had a wide input from others' understanding of important issues that had not occurred to me ... and I was immediately able to relate this particular area of new information to clinical reality Y2(R)S2.
A dialogue strategy as described by Wells (1995) ensures facilitation of learning in which individual learners interact with peers and tutors through discussion around a "trigger". Conclusions are reached individually and collectively but have the added benefit of ensuring that through the process of enquiry alternative action had been explored which would be appropriately applied in future situations by individual learners. Thus learning in facilitated groups moves beyond a level that individuals would not have reached on their own. Another purpose of this reflection is for a display to peers and tutors, which is used to assess the learning of students. Such reflections are used as evidence in a portfolio for assessment purposes. How appropriate such assessment are, to the outcomes of fitness of practice has been discussed in a previous chapter. The ideology behind this form of assessment is to encourage students to make the connections between theory and practice and hence bridge the theory and practice gap. A tutor suggests:

Portfolios as an assessment tool are evidence of their knowledge. This written knowledge and their reflections are important in determining their level of critical analysis ... in determining their competence in clinical skills through the written confirmation of mentors. We can't see that they are competent but we can only assume subjectively that they are competent, if you like, through their understanding and their critical reflections in their portfolios [W]T1.

To conclude, Vygotsky's theory seems to imply therefore, that, together with the use of professional tutor groups and enquiry based teaching and learning strategies, self, social and cultural development is evident through the integration of action in practice skills. These are embedded in a culture of midwifery to construct scientific knowledge articulated through reflective processes. Existing knowledge is then analysed to make sense of new experiences.

Vygotskian principles are more concerned with cultural transmission as articulated through language rather than the generation of new cultures. The focus is also on the group dynamics and social development within a culture in which students exist but may ignore the wider implications of a tool through reflective writing in shaping the history, culture and politics of midwifery and exploring the ideology of enquiry based learning. Thus knowledge is created and recreated through specific activities and takes place between people in their shared activities. The use of knowledge from the past (example triggers) links it to the present and transforms it through the group activities. Figure 5 in chapter 2 identifies how these concepts support the students'
learning experience throughout the three-year programme. In this way enquiry arrives at solutions which can be applied in practice to the good of the client. It appears that through this curriculum an integration of both spontaneous and scientific concepts are possible in ensuring individual development and lifelong learning as an outcome of the EBL process within this midwifery curriculum. This perceived outcome is recognised by a student who say:

EBL has given me the skills to carry out literature searches and to critique research in order to provide women with the best up to date evidence based care. When qualified I will continue to look at new research and literature to continue furthering my knowledge and provide women with up to date evidence based care Y2[R]S3.

As Wells (1999) implied, Vygotsky indicated that learners should be able to use previous experiences as the basis for concepts within which the learning of scientific concepts can connect. Therefore EBL ties in both learning theories and psychological theories of self-development as has been illustrated by the data.

Involving mentors and service users in constructing a curriculum addresses some of the issues of relevant teaching and learning strategies. Involving trusts and participation from practitioners ensures that learning is not an individual achievement that is carried out as instructions from an expert to a novice (Benner 1984). Formalising the construction of knowledge to ensure an effective outcome may have advantages in ensuring that systematic attention is given to the development of reflective practitioners. Systemic understanding of the knowledge base of midwifery together with the skills involved in arriving at and co-constructing appropriate outcomes utilising the tools of reflective writing and group discussion. Here Tyler’s model is useful in constructing skills based learning and shaping behaviour, but fails in allowing freedom for the development of other types of knowledge. The manner in which the curriculum is structured, both in terms of content and the teaching and learning process, has implications for how the reflective process is stimulated, structured and maintained. It is only when learning is focussed on knowledge in action and context that is meaningful, that lends itself to reflection. Relating this learning to a culture of midwifery ensures that it is not forgotten. Such a principle of learning by experience was first advocated by Dewey (1938) as were the principles of learning through problem solving. Therefore applying curriculum content to scientific concepts is integral to the learning process.
Vygotsky (1978) distinguishes between forms of reflection, intellectual and personal. Students on this programme experience an integration of the intellectual and personal reflections within their portfolios. The intellectual centres round the stimulus or "trigger" or problem whilst personal reflection sees the individual examining one's own actions in dealing with a situation in relation to that situation and to others. The self is seen as the source of the action and therefore the centre of the activity. A student explains:

I found myself reflecting on my own experiences ... I constantly evaluate and reflect on what I do, so the reflective process does not seem a struggle to me, as I have been using it as a learning tool for a number of years. I was able to share my prior experience with other students [W]S5.

Personal development is examined and one's place within that context is explored. The person identifies his or herself in relationship to that knowledge that they have deconstructed and in so doing, a personal identity is developed through which the individual may question one's own action and that of others with whom they interact. Such reflection could be an instigator to change and through which students may resist cultural and historic practices. First year students begin to recognise these possibilities early on in their programme and say:

Reflecting on my own performance and that of the group was not something I had ever done before, but I found this stimulating; it really made me think about myself and the interaction of others Y1[R]S4.

The immediate clinical implication for me is that I need to recognise that now I am seen as a professional regardless of my lack of experience. Our society invests any uniform or profession with status. ... I have been used to giving advice as a mother or friend, but now I am aware that I must consider my answers with more care Y1[R]S6.

Enquiry based learning is seen to instigate such behaviour if facilitated appropriately. Mentors and tutors may view this change in behaviour, in the profession, as presenting ethical and moral choices. Students may struggle to move against "fitting in" to a culture that they must exist within, governed by "codes of practice" and guided by rules and regulations. On the other hand, reflection and discussion encourages ethical and moral examination of their own beliefs and attitudes, underpinned by their new deconstructed knowledge to become autonomous practitioners and take responsibility for their own practice. Participants explore how EBL has helped to develop autonomy in practice and learning and say:
I think the presentations and discussions give us all a reason to think about certain issues and I've noted that we're all discussing like 'real' professionals ... Discussion level has changed considerably throughout the course and this has reflected in my growth of knowledge and the level at which I work. (It) has really made me think about things differently. I can begin to practice autonomously where I will be responsible for my own practice Y2[R]S5.

EBL is only successful if the student is motivated to do the work and then applies it to practice Y2[Q]M3.

However, by participating in such an arena, change is inevitable as individuals interpret issues differently. Intentional change can be more explicit and needs cooperation. Enquiry based learning and teaching is seen to encourage such moral, ethical and political development within a curriculum whether it is intentional or not. As one tutor remarks:

The philosophy of a professional discipline has a significant impact on the development of an individual student Y3[Q]T5.

It appears that when one reflects, one moves through a process and product of language, to arrive at a common understanding of an issue or situation, and interpreting that understanding through the knowledge that one already possesses. This knowledge when deconstructed and reconstructed to be applied to the new situation, is then examined and evaluated, from one's own and other people's perspective. Thus a fuller understanding of the situation is reached and new theories of possibilities are explored to add to the existing body of knowledge in an increasing cycle of development. During interaction and critical reflection meaning is structured through a Vygotskian interpretation of inter-mental (internalisation of meaning) and intra-mental (contribution to the existing body of knowledge) responses. Vygotsky believed that in production of knowledge for others one transforms and develops one's own perceptions and knowledge, also called transformative knowledge (Vygotsky 1978, Mezirow J 1991).

Wells (1995) argues that as Vygotsky implied practice can only move forward if the individual students can be an integral part of their culture (of midwifery) existing within the (midwifery) dialogue and therefore are able to function because of this membership. One student expresses this, in the following statement:
From this whole trigger (the EBL process, the discussion and the reflection on professional issues) I feel more tuned in to the midwife’s role, and I understand in greater depth the importance of respect and individualism for all clients that entrust us with many aspects of their personal lives. In my future practice I would wish to develop more essential qualities for this unique job … This trigger has shown me how a midwife should provide humanistic care for her clients in practice Y1[R]S5.

Wells (1995) suggests that the social context of learning is “maintained and developed by the particular individuals who contribute to its activity systems at any particular point in time”. Intellectual and personal transformation is possible through the use of skills and knowledge and the exploration, through reflection, of their potential future participation, discarding that which has become useless and redundant. Thus learning is not a separate activity but integral to participation in practice and through joint discussion and reflection in group-interaction and constructing a “zone of proximal development” as theorised by Vygotsky. Historic and cultural evidence can be examined during these process and aid individuals to come to some agreement and conclusions around discussions on practice. Professional tutor group and enquiry based learning groups is the ideal forum for such discussion and language is its tool. Language is the medium through which experience becomes knowledge. Although verbalisation is one of the functions of language, it is also developed to internalised inner speech during thinking and problem solving, a process, which cannot be directly observed unless documented as reflexive text. Vygotsky believed that, in responding to the interaction and expressing their understanding of concepts in group-discussion, individual students are then able to apply this reconstructed knowledge through self-reflection and writing.

In this respect the curriculum should be a tool, used as a means not an end to the ultimate goals of midwifery education and should be both process and outcome oriented. Specific knowledge and skills developed through the prescribed content of the curriculum are a means to significant personal and social activities. The hidden elements of the curriculum are therefore not prescribed as learning outcomes but take place in spite of them. Knowledge is transformed into knowing and through the knowing the student is empowered and thus rejecting the use of knowledge as an enmassed commodity, as supported by both Freire (1970) and Habermas (Carr & Kemmis 1986). However, empowerment may be viewed negatively if knowledge is used to make changes, which are not necessarily for improvement. As Freire (1970)
argues knowledge is not to be stored and bestowed on others but constructed as it arises through shared activities. Donald (1991) views knowledge from different perspectives. *Instrumental* knowledge which one needs for survival, *procedural* knowledge that arises from shared activities with others, and *substantive* knowledge, which is expressed through language not only in describing situations and actions but, in reflecting on these actions and planning future activities. It is implied therefore, that these reflections may be said to lead to *theoretical* knowledge of possibilities and *practical* knowledge of reality.

Discussion and reflection presents another element, that of the individuals themselves and the background from which each arrives. The diversity of students is more evident within the learning groups due to the results of widening the entry requirements to be registered on an educational programme. Mature students are perceived to demonstrate different learning attributes as compared to the younger students, as implied both through the quantitative and qualitative analysis of data and illustrated with some examples from participant quotes.

I think it is down to personality and maturity. I think the more mature student has a better ability to communicate. They have life experience and are able to communicate with the clients. They have got much more of an understanding [W]M1.

I think those students with some life experiences are able to integrate their own experiences with their professional experiences, work and clinical practice. Life experiences have a bearing on their abilities, their interaction, their communication skills and their own values [W]T1.

Although these illustrations may seem superficial if taken at face value, they are interpretations of the participants who perceived and explored these issues and arrived at similar conclusions. One older student says:

I think age has a huge impact on the way one learns and becomes competent ... maturity hugely impacts how you behave ... as you get a bit older you have a lot more life experience and therefore the people you meet you can interact with a lot easier ... [W]S6.

And a younger student agrees that age and maturity both have an impact,
I think age and life experience make a big difference. I don't think I'm ready for sad
situations for example a still birth or situations like that because of my age ... and
without enough life experiences you won't necessarily have the right skills to deal with

The recommendations to change entry requirements to take in a wide range of
students is due to government initiatives and expectations of trust confederations to
address a national shortage of nurses and midwives. Economic pressure on
institutions to increase numbers of students is also evident through the politics that
exist within such organisations. Transforming practice and academic achievement
through this curriculum cannot be seen as individually created but comes about from
the integral efforts of students, through critical reconstruction of their knowledge via the
reflections, and facilitative and co-operative dialogue that exists between them and
tutors supporting academic achievement and mentors supporting practice
development. As Dewey (1938) suggests individual ordinary experiences can be
useful in involving students in directing their activities to explore and create future
experiences.

7.6 Constructivist Models
An exploration that moves on from cognitive models in the understanding of
knowledge construction, is an examination of a constructivist model of a curriculum.
The central idea to constructivist models in education is that learning is constructed
and uses previous knowledge as the foundations for the creation of new knowledge,
which means, that learners use their previous experiences (as evidenced by the data)
to construct new understanding. Knowledge is then modified through learning
activities, which accommodate the new experiences. Students are central to the
learning whilst tutors and practitioners facilitate academic and practical learning. For
such understanding to be achieved social interaction is paramount to the learning
process. Through reflections by students on the new experiences, a different or
improved understanding of concepts is reached. A tutor comments on the
effectiveness of group discussions and says:

They help to provide support between students ... issues can be raised collectively
about theory and practice where students can jointly solve problems with some
Conscious reflection leads to understanding and confidence in practice is gained through such understanding. Once a learner is confident in skills, motivation to learn is improved leading to more operational awareness resulting in critical reason for and of the skills performed. Von Glasersfeld (2000) argues that this fosters independent thinking and conceptual learning. When such learning is articulated in group-activities new ideas and concepts evolve to construct new understanding and knowledge through a conscious reflective and self perpetuating process. However, expressing such concepts is subjective, as these can be interpreted by others, in terms of concepts, that they already know or understand. Consequently Glastersfeld (2001: 238, 195) suggests that “shared meaning” is misleading and states that what individuals “have learnt to mean always remains their own construction” “but all it requires of knowledge is that it be viable, in that it fit into the world of the knower’s experience, the only ‘reality’ accessible to human reason”. Therefore a multi-perspective of concepts is created.

Foucault (1972) argues that one cannot step outside discourse and get an objective view of society as one “truth” but an understanding can be achieved through multiple views and realities. This idea was also developed by Derrida (1978) who used deconstruction as a technique for discovering the multiple interpretations of texts. He suggests that texts could create ambiguity and therefore a final truth or reality as interpreted through texts may be impossible. If such a principle is applied in examining reflections from students then a move towards a constructivist reality may be necessary in interpreting the nature of an EBL strategy within this new midwifery curriculum. It must also mean that a curriculum is a discourse that has its place in time or history and relevant to the ends it aims to achieve in terms of teaching and learning.

A constructivist approach to learning emphasises the collaborative development of understanding and knowledge and Bencze (2002) suggests that this concept may be viewed from a Gestalt perspective of “A whole is more than the sum of its parts”. As individuals think and reason through a process of discussion and reflection, while individuals think independently they are socially constructing knowledge through a shared language and culture activities within midwifery practice and learning. A tutor and mentor suggest that this is the effect of an EBL approach to learning, which is translated in practice as:
And I can say they (students) are not questioning you but they are questioning practice and we encourage that ... it's really trying to develop practical knowledge and bringing it down to grass root practice [W]T3.

I think the emphasis has changed ... and there is more emphasis on the actual practice base ... where they (students) need to go and to arrive at the other end with a good knowledge base in midwifery and good practical abilities [W]M1.

An EBL process explores individual emotions, beliefs and attitudes through a sharing of life experiences and examining alternative perspectives. A tutor's facilitative role in this process is not to change beliefs and attitudes but to provide spaces for reconsideration of concepts through discussion. Tutors suggest that:

The principles of EBL require careful student and tutor preparation; effective facilitation from tutors and encouraging students to actively participate in information shared by others Y3[Q]T5.

Mentors also perceived that although students may learn in a broader and integrated way through the EBL process:

They might know all the research but that's where your (mentor's) knowledge comes in and it is the experience you can teach them. Let's face it anybody can deliver a baby but actually is recognising what can go wrong and knowing what to do is where your knowledge and experience comes in [W]M3.

To conclude, therefore, through evidence from the data in part 1 and my field notes observing students during the EBL process, it seems that language and learning are linked through the EBL process in using language as a learning tool:

1) to express individual understanding and meaning
2) to analyse own understanding through an internal process of critical reasoning and reflection
3) to share ideas and discuss common ground and diversity
4) as an articulation of own understanding as measured against shared ideas, beliefs and experiences
5) to share conclusions, common terms and common understanding
6) to transform ideas to other and act upon them through autonomous reasoning
7) to evaluate, reflect upon and internalise own developing practice resulting from activities and
8) to articulate the content, context and the experience of these findings to others
(Adapted from Bencze 2002).

It appears that in understanding and generating knowledge about the nature of EBL within this midwifery curriculum, the participants reflecting on their experiences brought about by this teaching and learning strategy constructs an understanding of its meaning and effect. Through their activities in and around the curriculum, students learn in their search for and constructing their own meaning, focusing on concepts and not on isolated and unrelated facts. Through the triggers, an enquiry is set into motion, through which the learning is student centred, and by which tutors facilitate analysis, and interpretation of, and reflection on knowledge gained. It seems that a philosophy of constructivism encourages self and peer assessment of the learning process, which is seen to be generated through reflections within a portfolio of evidence.

A constructivist model in this curriculum ensures that learning develops through an enquiry stage, which moves on to conceptual mapping and finally application of the newly constructed concepts. This cycle is completed when the knowledge acquired is critically and reflectively analysed individually and within small groups. Knowledge is created in an on going spiral of knowledge construction. This may lead to two types of constructivism: a cognitive and a social aspect of constructivism, with a focus on student centred learning. Jowarski (1996) explores the link between constructivism and socio-cultural theory and suggests that an individual's and collaborative construction of knowing is influenced by norms of social and cultural practices within the professions. This implies that learning takes on a modelling approach, which subordinates the learner to established practices. However until these concepts are internalised the learner is not compatible with and confident in these practices and is unable to identify misconceptions or ineffective practice. Empowerment for students is in the process of becoming competent and able to change practice through critical reasoning and reflection. These concepts embrace fundamental principles by Bruner (1986), Gagne (1974), Piaget (1977) and Vygotsky (1978) who initiated moves from purely cognitive approaches to teaching and learning towards constructivist principles in the shaping of a consensus of knowledge and multiple approaches of "knowing". However, it appears that Dewey (1938) first expressed its core ideas.
Constructivism applies both to the nature of learning and its theories, and the nature of knowledge. Dewey first advocated the ideas that knowledge is not something that can be sought outside or bestowed upon individuals, but is constructed by humans as they learn, which are the principles for Piaget's theory of cognitive development (Piaget 1977). It is not an understanding of the reality of things but a personal and social construction of multiple meanings, in other words active learning. However, Dewey believed that besides the hands on experience required for learning, a reflective activity is also required. He explored principles of leaning as a social activity involving discussion, interaction and application of knowledge within context, which is echoed in Vygotsky's sociocultural constructivist theory (1978). Appleton (2002: 642) suggests that five fundamental principles underpin a constructivist paradigm. These are summarised as:

1) reality and its elements
2) causality
3) unique contexts resulting in absence of generalisation
4) the relationship between the researcher and the phenomenon under study and
5) the impact and values on the inquiry process.

Dewey first developed a philosophy of teaching, which uses pragmatic principles of moving from a given situation of ambiguity and disharmony to one of better understanding of new and more complex meanings. In fact Morss & Linzey (1991) argue that Dewey builds his educational model on a collection of key concepts mainly education through experience, using problem-solving strategies during which skills are learnt. Reflection is the outcome of this strategy and as such is fundamental to Dewey's concept of the growth of knowledge and continuity of experience. Morss & Linzey (1991) believe that Dewey sees education as part of an adaptive process to a changing environment, which benefits the learner and the community to which the learner belongs. It appears that such is the nature of an EBL principle within the new midwifery curriculum at this institution. Midwifery students learn from and within the culture of midwifery for self-development, self-actualisation and for the benefits of their clients: childbearing women and their families.

7.7 Conclusion
The memory of past experiences is instrumental in shaping this new understanding through an enquiry process. Motivation into action to develop new knowledge must essentially underpin this process to structure new realities, within the context of the
situation. It appears that Dewey moved away from quantitative methods of investigation to support his philosophies but made no distinction between objective and subjective reality in his discussions (The Radical Academy 1998-2001). He believed in both the spiritual and physical acquisition of knowledge in action, which not only examines the conditions of learning but its consequence to society (Dewey 1916). He recognised the role of education in developing democratic individuals through understanding and action (Dewey 1938).

A “Fit for Purpose” curriculum, in midwifery, recognises these principles in developing autonomous practitioners and promoting choice and control for service users accessing maternity services (DH 1993). This is reinforced more recently through the recommendations made by the Department of Health through the National Service Framework for children, young people and maternity services which is intended to lead to a cultural shift to deliver services around the needs of families (DH 2004).

For Dewey reality is ever changing, growing and developing, moving away from absolute truths to social realities that are shaped by practical issues which value positive beliefs and attitudes. As such, the philosophies that underpin this curriculum may be seen to use some of these fundamental principles as put forward by Dewey. However, I conclude that behaviourist, cognitivist and constructivist models have been instrumental in shaping this curriculum and arriving at its present form. This curriculum does not claim to be an ideal form of midwifery education but strives towards an ideology, which improves teaching and learning for both learners and tutors. It can never fulfil every ideal of a perfect curriculum as it both changes and develops through its progression. Its outcomes have been explored in the first part of this thesis and the underpinning concepts are here examined in the second part. The many theories examined have been explored to demonstrate how they come together through an EBL process and the concepts which drive it (see figure 4 in chapter 2 for illustration of links). However, as Dewey states:

One of the weightiest problems with which the philosophy of education has to cope with is the method of keeping a proper balance between the formal and the informal, the incidental and the intentional, modes of education. (Dewey 1916: 9).

Freire (1973) would argue that through an examination or “conscientization” around the nature of EBL both students and tutors would develop an awareness of the possibilities of the new curriculum and be able to change and develop (midwifery)
concepts and practices. These changes must be possible through a process of critical reasoning and reflection. Freire (1985), like Dewey, enforces transformative principles as central to students’ learning and teaching practices but the reality and consequences of such a curriculum need to be explored further from a critical social theory perspective as examined in the next chapter.
CHAPTER EIGHT
CRITICAL REASONING AND SOCIAL THEORY

8.0 Introduction
This chapter explores the use of critical thinking and reasoning within an EBL process such that change and development of concepts and practice may take place, and examines how critical social theory may underpin this new midwifery curriculum. It seems that critical theory may be useful if applied to develop midwifery education in the delivery of its content and its practices. This chapter considers the social and cultural implications for midwifery education underpinned by an EBL concept. Examples of quotes from participant data illustrate the discussion but are not perceived to prove or disprove theories or make generalisations about other curricula. They merely demonstrate an argument to give an additional critical and reasoning perspective to the research question.

Habermas (1973), in his writings explores the distinction between critical social theory and critical theory and suggests that critical theory explores and interprets social life as an outcome of the process of critique and is created by groups or individuals. His theory could be applied to explore and address problems or to justify changes made. Critique is the outcome of interpretative social science and may transform awareness and consciousness without necessarily changing practice. Critical social theory goes beyond critique to critical praxis, which is an enlightenment of participants to change their behaviour through a reflective process, and discussion, which results in autonomy of individuals. Some of these issues have already been discussed in previous chapters. However, the focus in this chapter is on critical and critical social theories, which are an integral part of the EBL concept through a process of critique and reasoning. It is a process of interrelation between prescribing practice on the basis of theory and informing judgement in practice through a process of critical reasoning. It appears that an enquiry based process draws on such concepts to promote changes in midwifery practices through this educational philosophy. The relationship between the process and the concept through a critical approach is examined.

Critical social theory informs and develops critical theories through a process of consciousness or recognition in which theories are applied and initiated through the process of reasoning and reflection. Solutions are developed and appropriate action taken, through raised awareness and understanding, within the context of the human,
social and political arena. The understanding arises from the dynamic interaction of individuals through the process of communication amongst peers, communication between teachers and students and raised awareness as indicated through written reflections as part of the learning process on the curriculum being examined. For Habermas (1981) this move to empowerment through communication and democratic action is a result of communicative reasoning.

Critical theories are useful in examining conduct and conditions of a curriculum in which student-led study constructs its own language of communication and constitutes activities of learning. Through educational research there is negotiation of programme conditions, content and teaching practices through which the curriculum is expressed. The evidence for confirmation of effective strategies such as EBL or necessary changes required in future curricula has been generated through the relevant texts, from reflections, interviews and questionnaires as evaluation research.

It seems that a process of reasoning leading to understanding is through a group’s involvement in action and reflecting on it. Students’ learning appears to occur through the spiral development of knowledge and their own understanding of issues raised in discussion, followed by a process of reasoning and reflection as informed through experience. The evidence of this process has been generated through data in the first part of the thesis. The various participants have contributed to the multiple understanding of what an EBL process achieves and from which conclusions have been drawn about this particular group experiencing the phenomenon of enquiry based learning within one midwifery curriculum.

From this process of understanding arises organisation of action for change guided by critical reasoning, reflection and discussion through a common and democratic understanding within the group. Such is the epistemology of critical social science, which sees knowledge as developing through a process constructing and reconstructing theory and practice and therefore constructivist in nature. Thus critical social theory is about the production of knowledge and how it relates to practice through the process of critical reasoning and reflection.

8.1 Critical Social Theory in Midwifery Education

The use of critical social theory is not explicitly and overtly brought in within this new curriculum but inadvertently must have a bearing on the learning process. Political, cultural and educational practices and standards are examined and linked within the
content and context of the curriculum to promote outcome changes in education and practice as an innovation through this new curriculum using an enquiry based teaching and learning strategy as one of its approaches. It seems that critical social theory may be useful in examining the curriculum from a critical reasoning and reflective perspective to transform midwifery education in an interactive environment. Critical social philosophy considers the self, the other and the interaction between self and others within a context of society and culture of (midwifery) practice and education. Students, practitioners and tutors are integrated within the content and process of this new curriculum as examined through a critical educational perspective. Through critical social examination of such a curriculum, data imply (in chapter 5) that a critical approach to practice and learning results in transforming the perceptions of learners, developing new understanding through reasoning and reflection. This process is explored, from tutors', mentors' and learners' perspectives in light of the new social conditions of the curriculum as development and supported by an enquiry based approach.

Gore (1993) argues that teaching delivery comes pre-packaged with social visions and expectations of behaviours and motives within the teaching structure. The new curriculum may seem to offer liberation from restrictions of teaching to transformative and democratic styles but as Gore states may be rooted in political and theoretical traditions. A transformative perspective through an EBL strategy in this new curriculum may be seen to be restricted by Nursing and Midwifery Council (NMC) polices or institutional traditions, in terms of prescriptive proficiencies, and the degree of flexibility there is within the curriculum to achieve this transformative status. As discussed previously, social, political and economic issues are an integral part of the discussion around the reform, discipline and education of and within the new midwifery curriculum.

Through this evaluative work the process of knowledge production focuses on levels of discursive formation and practices where "reality" is constructed and its relationship to the empowerment of student, mentors and tutor are analysed. In her work, Gore (1993) uses Foucault's work on the "will to truth" as a distinction between the "will to truth" and the difference between reality and falsity in arriving at a conclusion for more radical pedagogues. The same principles could be applied in examining this curriculum. As such, the "will to truth" is seen as not to be exercised by individuals but the institution, delivered through a body of professionals who do not question their own thinking and practices, resulting in a static state of acceptance
of both educational strategies and midwifery practices. On the other hand, Layder (1994, 2001) suggests that Foucault is against theories which place individuals in a society which preordains their role. It appears that Foucault attempts an analysis of social practice, which looks at multiple realities from a 'middle ground' perspective and its relationship to empowerment, suggesting a fragmented and dispersed nature of empowerment. However, Myrick (2004:23, 28) speaks out against “the emergent corporate university culture” whose main goal is to become a “knowledge factory” and suggests that the notion of globalization and hegemonic influences “usurp the very essence of the teaching-learning process”. She recommends that educators in health care professions should maintain that teaching and learning is a moral activity and should encourage students and practitioners to “reflect critically, resist complacency” and express discomfort with the status quo. Although Foucault (1972) suggests that teaching practices are rarely allowed to be “non-hierarchical, powerful, loose and voluntary” but constrained within educational institutions, data from this study, suggests that participants perceived that an EBL philosophy to teaching and learning, offered opportunities to develop autonomy for students, mentors and tutors and changed midwifery practices as a result. Participants perceived that EBL was instrumental in addressing this need and instigated critical and reflective reasoning of midwifery practices and say:

EBL develops enquiring reflective practitioners who challenge practice and take it forward and it becomes a life time habit as they become lifelong learners. It requires motivation ... and being more critical and therefore they are integrating evidence with the reality of practice and their own exploration of the knowledge [W]T2.

A student adds:

I would say that it (EBL) did especially develop my being a professional. I do feel that I can practice independently. It has made me think about what it means to be a midwife and how I need to be autonomous in practice, being able to say what I think is right and standing up for what I think. At this stage that I am now I am quite happy to go off and do my own thing and if I really get stuck on something to ask. I now have the confidence to do that. And it is all part of that reflective process and going away and finding things and if I think of something I will go and talk to my mentors about it as well. It is all part of reflection which gives me the confidence and therefore the competence ... there are gaps in my knowledge (laughs), but seriously I am able to carry out midwifery skills competently with supervision and my own initiative. I think it is a question of having a personal responsibility as well to learn. You need to
identify where your weakness are... I would hope to keep improving my competence as I get more experience. I think I had the confidence before, having been in other jobs, but the competence comes with practice [W]S6.

A mentor agrees with this view and says:

And we go through the learning objectives and relate this to practice. And I will set targets and then follow these up and discuss why we’re doing things and make sure they actually understand why they are doing the things they are … and I think they’re actually going back and using the theories and using reflections which are really personal things and relating this to what they are actually doing and why a situation did not go the way that it should have done [W] M1.

The social and educational perspective of this curriculum is explored through a critical social theory, which examines EBL as an explicit instructional practice within midwifery educational context. Critical theories are therefore useful in addressing this perceived aspect of effectiveness towards the research question. In figure 4 chapter 2, this critical and reasoning process is an integral part of the curriculum addressed through educational activities and the underpinning assessment process. This analysis is represented by data from participants in the first part of the thesis and not purely assessed through the wider context of theories of education. As Gore (1993) argues women (midwives) have been denied multiple interpretation of their experiences to realise and develop their knowledge especially in this case, in the struggle between the medical model and midwifery led philosophies. The multiple interpretations generated through the data in this thesis seem to suggest that an EBL strategy within this curriculum is generally seen to empower the body of midwives, as students, tutors and practitioners, bound within the expectations and restrictions imposed by its culture and educational framework. Participants appear to have learnt these critiquing skills through an EBL process and demonstrate these skills in practice. One student suggests that:

I am more inquisitive now and I want more answers (laughs) to everything. I want to know everything and I don’t want anything left out. Yes that’s probably right it (EBL) has made me more questioning. I think this relates to how I have developed professionally also. It impacts on your work then by asking you try and behave more professionally [W]S1.

Layder (1994,2001: 220) suggests that Habermas’s theory provides an important link between the analysis of communication through interaction and language and the
more objective theories in relation to structure and systems, allowing for "a creative account of human agency whilst embracing an objective frame of reference". In a sense, students voice subjective opinions about their experience within which the structure of learning is bound. On the other hand, Giddens (1987 in Layder 2001:131) calls this the 'interpretative' experience which takes the individual's subjectivity as the focus of analysis suggesting that the meanings of their activities are the most important things of their lived experiences.

The purpose of these chapters, therefore is to represent the multiple perspectives of different participants and explore the theories that 'resonate' within this EBL process (Mason 1999). Students developed reasoning and reflective skills and become more critical of information they gleaned. As the data suggest the interpretations of the participants' experience of an EBL process were multiple and varied:

I could not find research or factual information on one particular area. I had to rely on others' thoughts on this issue. This made me uncomfortable, as I am aware that one should always back up statements with proof if at all possible ... I became increasingly aware that much of the information was subjective ... I am a big fan of the learning technique but I am beginning to find it repetitive and onerous and that causes stagnation. EBL should be interspersed with other learning techniques to keep us fresh and interested Y1[R]S5.

Much more work needs to be done in the organisation and facilitation for colleagues in their understanding and skills implementing EBL Y1[Q]T3 and The effectiveness of this approach depends on the manner in which it is facilitated Y3[Q]T4.

EBL is beneficial only if the student is confident enough to question practice or applied enough to research the issues Y2[Q]M2.

Sometimes the participants disagreed about the EBL process.

Some EBL sessions have little or no structure and it is difficult to determine the contribution of some students Y3[Q]T12.

However, data suggest that an EBL approach may have implications for the culture of learning.
EBL has been helpful in giving them (students) confidence in the knowledge and understanding and most students say they have gained a lot from this type of learning and it has been acknowledged in their practice by their mentors and how it has helped them and it has helped the practitioners as well in their learning styles. It has changed the culture of learning within practice [W]T2.

In addition, Gore (1993) argues that classroom practices should support nurturing, experiential learning and not a patriarchal didactic method, and experience, voice and power are all embraced. It could be argued however, that the principles and philosophies behind this new curriculum, such as environmental changes in facilitating teaching by placing students in circles for group discussion and personal tutorials may initially have been as intimidating as traditional teaching styles. Students felt obliged to make eye contact and voice opinions (observational field notes) and such practices may not be perceived as being liberating and empowering. In examining students' reflections on such practices some insight, from this perspective may be gained. On interviewing tutors, their perspective of exercising power through such practices may be reviewed.

One student certainly disagreed with such practices and her experience of EBL in the first few weeks was as follows. She said:

... when it came to speaking to the whole group, I just can't ... the words just won't come out, or if they do they're incoherent ramblings. I'm usually a very rational person, and I know that this is totally ridiculous, but I can't control it, something completely irrational takes over... my feelings of terror increased ... I know this will change over time ... Y1[R]S4.

Alternatively other students found such interactive practices encouraging:

In future I will not carry out a discussion from my seat when we are seated behind desks ... it was fine when there were no desks as it felt like they obstructed views and created barriers Y1[R]S3.

8.2 Perspectives of Critical Social Theory and Education

In developing an EBL strategy, the instigator for change was the political agenda as set by Government in issuing recommendations through papers such as Making a Difference (UKCC 1999), Fitness for Practice (DH 1999) and Fraser et al (1998). Throughout the research I wondered if the politics of change were ignored in taking
this direction of developing a more radical new teaching and learning strategy. The implications are that tutors were placed in positions where new teaching strategies and their traditional teaching practices became competing demands, further complicated by the institute’s expectation of continuing professional development and current political uncertainty in terms of educational reforms. One participant tutor voices concerns about changes in the curriculum that had not been properly facilitated and which could have implications of cost and resourcing in terms of tutors’ time out in practice or mentors’ time at an educational institute. She says:

It (EBL) is with us to stay but we have just got to make it right for us, the teachers but predominantly for the students and more importantly for the public at the end of the day. I’m not sure that we prepare the tutors well enough ... We really need to look at that (delivery of the curriculum) from a professional perspective. I think practitioners (mentors) need to be involved earlier on (in the programme) and it is a two way thing for educationalists to be involved in practice, and practitioners to come in and be part of the university system [WJT3].

And mentors agree that facilitation of learning needs to be developed before implementing these changes in the curriculum. One mentor says:

I do think that practical skills are learnt in the practical situations because there is a limit to how much you can learn either by out of a text book, the computer, in the classroom or with a tutor but in the end your practical skills come with practice ... but I do think that that students need more support and guidance whilst they learn through an EBL approach [WJM4].

Placing a burden of change on tutors and mentors alike, within the mechanisms through which change can be instigated and examined, can be explored through a Freirian perspective. The evidence suggests that on examining individual teaching practices in context, these were not always found to be transformative or empowering for tutors or mentors as experienced through this EBL teaching strategy. A Freirian (1985) perspective suggests that changing teaching practices within the context of their delivery may be found to be transformative and empowering for participants. However, if the curriculum is examined through an understanding as advocated by Giroux’s, educational theories, underpinning this curriculum, may be viewed from a critical and social perspective but ignore the implications of teaching practices (Giroux 1983). A participants explains:
I don’t think an EBL approach is detrimental to the learning but I do think how the approach has been implemented is detrimental [W]M3.

Giroux looks at the direction (directive rather than instructional), of lived experience and empowerment of education, rather than at the strategies of how this is carried out (1983). In a sense, to improve education within nursing and midwifery, government initiatives, through recommendations as in the *Making a Difference* (DH 1999) and *Fitness for Practice* (UKCC 1999) documentation, transforming one form of educational vision for another may be what is perceived by midwives. A move from traditional to more innovative teaching methods has been instigated but an examination of the consequences implies that participants viewed an EBL strategy as being both effective and in some cases as undermining learning and practice development as demonstrated earlier through the data. A participant says:

I have enjoyed EBL, although being older I was more used to traditional methods of teaching. Personally, I would have preferred to be ‘taught’ and as I am well motivated and organised, would still have achieved the learning outcomes. However, I can see the value in EBL, it does encourage us as students to find out information for ourselves, to apply it to practice and to present it to each other Y1[Q]S3.

And a mentors add:

Different teaching methods suit different students. Good support from tutors and mentors makes much difference to the learning Y2[Q]M2.

And a tutor agrees:

The effectiveness of EBL as a learning tool depends on the facilitation and guidance provided Y3[Q]T9.

However, its effectiveness as a philosophy in educational philosophy was recognised as students say:

To me EBL is an ideal learning tool and this has provided me with the flexibility to explore midwifery issues and deepen my knowledge in an individualised manner Y2[R]S3.
After the feedback sessions I feel that I have gained a very large amount of information ... enquiry based learning is extremely effective and highlights the importance of basing practice on evidence based research in order to provide up to date and effective care. With knowledge to justify your actions you can feel really confident in what you do Y2[Q]S1.

Qualitative methods have lent themselves to examination of this curriculum through content analysis from the students' reflections. It could be argued that these reflections were operating as source of understanding how EBL evolves student/tutor in terms of power-knowledge at the micro-level of classrooms. However a Foucauldian perspective, that power is knowledge and visa versa, uses negative implications of power as dominant and constraining, and truth and knowledge can cancel the effect of power (Foucault 1972). Power can be both repressive and constraining and productive and enabling.

Students, mentors and tutors exercise or practice power. There is however, an "hidden" power, which restricts and constraint the way in which midwives learn and practise. Prescriptive NMC outcome proficiencies limit the way in which content is learnt and skills are acquired as both students and tutors are held within traditional and cultural frameworks of practices. However, if viewed from Giddens' (1987) perspective of 'duality, prescriptive outcomes and codes of practice and conduct may in fact be supporting the actions and outcomes taken. Giddens (in Layder 2000: 133) argues that a structure such as the NMC may not be 'external' to actions or outcomes in midwifery practice but are 'internal' to the activities and outcomes which constitute the practice. Data analysed in the first part of the thesis supports this view and in addition suggests that reflective practices through an EBL process encouraged practical and autonomous understanding of knowledge. One student sums up:

To be proficient in midwifery care and all related issues is unrealistic. I have spoken to my mentor who said that she has never stopped learning throughout her career ... I suppose I have moved from feeling frightened about professional issues (like Codes of Conduct and Practice) ... to being grateful they exist. Realising the purpose of these factors is not to trip you up but to ensure safe conduct and practice. Every time I sit down to write a reflection I see there are more and more pieces to the jigsaw of maternity care ... I have come to realise that there is also a support network available ... I hope that as an autonomous practitioner I actively put into practice the lessons I have learnt this week ... Y1[R]S3.
And one mentor adds:

When you are learning you just feel that you need, you know, well everyone says one and one makes two, but you need to feel confident about what you're doing. And sometimes they (students) struggle with the idea that they've got the right answers to the same question [W]M2.

Foucault (1980: 133) suggests that power exists in action – body movement, language, actions and behaviour (midwifery practices and behaviour):

it is in discourse that power and knowledge are joined together (Foucault 1978 :100).

It could be argued that dominant educational discourse in midwifery culture and practices have changed over time and it appears that an EBL strategy within this curriculum is becoming the way forward to develop midwifery knowledge. However, what and whose knowledge is produced and assessed through this curriculum? Are students subject to assessments related to prescriptive practices as outcomes of learning? Gore (1993) argues for authority with rather than over as a means to acquire knowledge authoritatively to empower students with skills and their use in practice. Similarly, as illustrated by data from this study, the tutor/student relationship could be nurturing, encourages dependence-autonomy, attachment-separation combined with critical lucidity, reasoning and rationality, and promotes habits of lifelong learning if an EBL process is facilitated appropriately. Participants say:

I think it (EBL) makes students into lifelong learners … I think it makes them think for themselves rather than being told all the time … but I think you do have to be self-directed and you do have to be proactive to get the best out of EBL [W]T1.

I think it works well with the well-motivated students … but I think from an educational point of view it is a good way to learn because I do think that people need to be motivated and well supported you know … [W]M4.

On examining this data, it could be interpreted that an EBL teaching and learning strategy may be seen to be advocating a more radical and transformative stance within a traditional institutional system to try and change it and empower practice. Through the lived experiences, perspectives and emotions of participants, EBL appears to encourage critical thinking and reflection in different terms and manner,
through interaction between learners and teachers. Data suggest that this curriculum moves away from preconceived ideas of the acquisition of midwifery knowledge and allows students and tutors to be authorities of their own experiences articulated through their reflections and interaction within a caring and reciprocal relationship. One student says:

I feel that as a learning tool it (EBL) has been excellent for teaching us how to research on our own and how to present it to other people and how to share information with one another [W]S3.

And a tutor adds:

I think it could be seen that we're not spoon feeding them but the students could always come back with information which we may never have thought off. So it's certainly a two way system so I don't think ... Once you become experienced at EBL as a facilitator you know how much information to give and how much not to ... to hold back. I think they search quite widely and I think they certainly touch on all aspects of the NMC competencies but competencies are about ...very much about knowledge but also about practical ability [W]T3.

In reality, tutors cannot completely dispense with power and authority but by the act of facilitation negotiate discussion within an interactive environment to generate knowledge through shared experiences, ideas and feelings as a forum for empowerment. A tutor explains:

In a traditional approach you are giving the students the information and in a traditional sense you are not really helping them to put their own thinking forward not whilst delivering lecture style learning. Whilst with EBL you are facilitating their ability to seek information and you are filling the gaps really if they haven't provided the information [W]T2.

Gore (1993) states, that, power as domination is equalled by power as creating energy and may be oppressive or productive, an idea which may be influenced by Dewey's democratic principles of education as learning through activity (Dewey 1916). Therefore does empowering the students lessen the power of the facilitator in the teaching and learning process? Not so argues Gore as the teacher gives or confers power and is an agent of empowerment. This has been illustrated through the above quotes.
One of the teaching strategies in an EBL process is through professional tutor groups (PTGs). Data suggests that PTGs may be a forum for the production of knowledge whilst group dynamics are played out. However, the many conflicts, tensions and sometimes hostility within the group (for a number of reasons) may be perceived to deter learning.

There were several conflicts within the group, which prevented total integration, and some group members were more dominant than others. This was not intended deliberately but just personality characteristics but I felt this led to only superficial support and inhibited bonding and sharing.

... there were the stronger members of the group and they decided what they preferred to do ... There were problems with people not pulling their weight or giving quality to the work. There were some who worked hard and some who turned up with just a piece of A4.

And a tutor confirms:

Their (PTGs) effectiveness depends totally upon the manner in which they are facilitated and students feel listened to.

As the above data suggests, participants expressed differing views on the function of PTGs in the interest of learning. This exploration was only possible through data that students generated through their reflections and their own and my interpretation of events at the time. One would rightly conclude that this presents rather a subjective view. However, data suggest that through student-tutor interaction during professional tutor groups (PTG) and student-student interaction within the group dynamics, empowerment is bipolar and moves between the players within an EBL strategy. Control and ownership, may be seen to be shared and may be examined through students' reflective texts and interview texts of both tutors and practitioners.

In a reflection a first year student says:

I can see the advantage of having many people's input ... far more than a student on their own would be able to cover.

And during interviews a mentor and tutor add:
I think midwives have always been challenged by any student who questions them... but then over the years ... I became more open-minded myself and more questioning about all sorts of things ... I don't feel threatened, because I think, there are always new things or different ways of doing things [W]M4.

I think it can be seen that we are not spoon feeding them but the students always come back with information which we may never have thought of. So it's certainly a two way system ... [W]T3.

After analysing the data it appears to concur with Gore's (1993) view that this power-authority is with, rather than over students and draws on shared or personal experiences as the basis of knowledge production. Writing and reflection become part of this experience and integral to the course and assessment process. There is increased learning through co-operation in validating the student experience.

Freire (1987) looks at authority and freedom and states that freedom needs authority to become free. A critical approach conceives power as property embodied in concrete practices of empowering, conferring power, enabling the use of power and is transferred like property. However in relation to Freire's work when individuals perceive themselves most empowered they can empower others and a social cycle of freedom or empowerment is set up. The shift is of a concept of repression to production and on to movement. It seems that this is a move from ideology to reality in keeping with an EBL philosophy. Freire (1987) states that authority does not wither away from the tutor but has foundation in the freedom of others. A tutor may be always directive because of the required goals and aims of the curriculum but the teaching strategy can be empowering for both student and teacher. It is in such terms of tutor empowerment through EBL, and student transformative reconstruction of knowledge, which is then transferable to practice. It could be argued therefore, that student reflections are an interpretation of their "reality" as lived experiences and are transformed as action or skills in practice empowering them with authoritative knowledge.

Critical social theories are interesting in providing direction for tutors but it seems unclear whether tutors consciously resort to critical theory to encourage critical reasoning and reflection of practice situations. In keeping with Habermas's (1971) theories, technical, practical and emancipatory authority by tutors and mentors may be the driving force behind the transformative process in midwifery knowledge.
production to bring about change and understanding, and may be solely through the teacher’s own motivation and enthusiasm and not that of the students. However, it appears that motivated students equally share this drive to understand and produce knowledge. Although, it may seem that this curriculum is more radical in its approach to midwifery education, underlying concepts fit in or “resonate” with known theories as illustrated by data from this study. Reflections through the EBL process have been useful in interpreting the effects of empowerment, perception of confidence and competence. The social context in which midwifery culture is enacted is provided through the teaching and learning environments such as PTGs and a forum for small group learning, appear to generate social empowerment through the EBL process and the group dynamics generated within. Participants illustrate these views:

I feel that we work well together in our group ... the atmosphere was comfortable and respectful. The one group member who did draw back became more involved once I asked her a direct question. She visibly became part of the group from that point. ... it is clear that we value each other’s contributions. There is respect and trust in the group which is demonstrated in the depth of our sharing Y1[R]S2.

A lively discussion took place, which concluded that a number of different philosophies are represented within the group, and that each of us has a right to hold these beliefs ... We all inevitably bring our previous life experiences to any current situation, and need to retain sensitivity to both our own views and those of others Y1[R]S6.

In trying to change from didactic teaching to facilitation of learning, the teacher is still looked to for guidance. Although this may be one factor in the learning process, approval and ultimately passing assessments is what motivates students. However, the objectives of the teacher, are still to bring about self-understanding, change within individuals and empowerment of self and others. There are ethical issues to be considered in terms of dealing with choices and changing the ways in which learning for students is facilitated and teaching practices used. Ultimately “teaching is about facilitating understanding, promoting conceptual change and intellectual development” (Kember 1997). Questions are raised about offering student led learning through EBL and how truly empowering this may be to students and tutors alike. I ask if teaching and learning approaches are confined by an institute’s expectations of teaching practices. The case study approach within this evaluation has answered some of these questions. As suggested previously, production of knowledge is bound within prescriptive learning outcomes and the facilitator as
expert may still exercise domain over knowledge and may be the dominant factor in
the teaching process. Therefore is student interaction, triggers and PTGs, forms of
empowerment through which knowledge is produced? Implementing this new
teaching strategy is socially reconstructive but, defining specific content and
practices within the EBL teaching strategy may enact as directed and prescribed
learning and ensure possibilities of effective production of knowledge and confidence
and competence in practice. A discussion of these issues is developed further in the
next chapter.

8.3 Evaluating the Educational Process
Throughout her work Gore (1993) warns of the subjectivity of reflections both as
positive means of articulating ideas and concerns and as negative means to be used
as a form of confession or therapy. In addition students may write what they think or
alternatively what they think the teacher wants to read. Equally I am aware of these
possibilities, within this evaluative process, but a way forward is by involving all
participants in the teaching and learning practices and acknowledging the limitations
of the teaching strategy under scrutiny. Gore concludes her work by stating that:

the more aware we are of practices of self the greater the space for altering those
practices.

In encouraging tutors and mentors to critically assess their teaching practices
through reflection, and peer reviews of teaching and mentoring, teachers are
developing their practices as underpinned by the theories. Therefore, for the purpose
of this thesis, it is in understanding what concepts underpin an EBL process, the
greater will be the freedom to change these teaching and learning practices.
Consequently, through this evaluative research, generating data from both qualitative
and quantitative approaches may ensure an understanding of these changes,
transformed into activities resulting in effective learning and competence in practice.

Wardekker (1996) argues that a critical theory in examining education today indicates
that when structuring curricula within an ideological framework personal development
may be curtailed to ensure that practitioners conform to a hegemonic (midwifery)
culture. This ensures the production of practitioners to fit within an existing social
structure within midwifery practices. Critical theorists may perceive midwifery
education as a means of continuing midwifery practices within acceptable or pre-
designated competencies or proficiencies and not as Vygotsky had anticipated and
wished to inspire, the means of ensuring individual self-realisation. Through the aims of a critical theory it seems that education may be viewed as being “transformative” from curricular hegemonic discourse and not “transformative” of the individual learner. It may be difficult to examine a curriculum which is truly “empowering” for the individual. A curriculum, which supports enquiry based teaching and learning strategies may seek to present an ideal of empowerment but in reality may not be “authentic” in its delivery and therefore not truly transformative for both teacher and student. However, as indicated in previous chapters, data suggest that the perception of participants is generally one of self-realisation, transformative in terms of self and professional development and empowering to individuals. Participants have illustrated these views and say:

On reflection, and despite all my questions and difficulties, I feel a tremendous amount of learning has taken place, and that I have embarked on a steep learning curve. I feel now that I have a much better feel for the whole process. I have certainly spent time looking at the way I learn, in order to co-ordinate with others in the group, and I have gained confidence... Y1[R]S6.

Although the modules have specific focus there is room within the ethos of EBL for student-led and individualised learning. It is possible to focus on personal learning goals to achieve the knowledge ... to move forward in practice, this increases confidence and competence Y2[Q]S4.

And a mentor adds:

Students are able to develop their own knowledge through self directed learning but need guidance from their mentors and tutors Y1[Q]M3.

And tutors say:

Students are more enquiring in practice and more critical and therefore they are integrating evidence with the reality of practice and their own exploration of the knowledge [W]T2.

Yes they are responsible for their own learning and EBL helps them to develop that. It has made the students far more questioning and more articulate in general [W]T3.

Habermas's critical theory seems to resonate with the idea that individuals seek to realise empowerment through a progression of rationality of thinking, reasoning and
reflecting leading to action (Habermas 1971, 1981). Through interaction and expression of thoughts the individual reaches a state of empowerment. Habermas argues that there will never be a society that meets an ideal level of empowerment. However in attempting to reach a level of internalisation of concepts and awareness or self-actualisation, the individuals seeks to attain this through pre-designated competencies of a curriculum and therefore is no longer empowered. This led Habermas to develop his reasoning around "communicative competence" as a means of ensuring identity and competence for self-determination (Habermas 1981, Wardekker 1996). Habermas argues that in written and spoken communication, the individual seeks to de-conceptualise knowledge and recreate knowledge. This implies that all reflection and communication during the process of self-actualisation may be apolitical and therefore not power seeking. Habermas makes a fundamental distinction between learning to control and manipulate the environment, which is instrumental learning, and learning to understand others as in communicative learning.

Habermas' theory is also useful when examined alongside a Vygotskian theory when underpinning this curriculum. It links critical theory to psychological theory within constructivist learning theories. A synthesis of these theories would be a means of constructing a theory of self identity and development which does not presuppose an ideology within a culture of midwifery and is therefore freed from limitations of acceptable norms and pre-designated competencies of midwifery practices. It could be argued that human identity can be developed and individuals can only become self-aware through interactions with others. Individuals then become conscious of inconsistencies within the culture, to which they belong and are able to examine, negotiate and act to change that culture, not necessarily following a desirable ideology as a reason for critical theory. It appears that self development through critique, reasoning and reflection, as a result of interaction with others, may promote developing knowledge and learning applicable to practice.

Through a Vygotskian theory a midwifery curriculum is not just examined critically through a social or cultural perspective but through self-development. It is not how individuals internalise midwifery culture but how individuals give meaning to these structures when examined through interactions with others. Individuals change not in their behaviour either professionally or in the learning environment, but in the quality of their learning about their profession and about themselves as developing learners. Students may be motivated to continue learning, which although might not be
consistent, lends itself to flexibility of learning, which it seems may resonate with Vygotskian theories of self development and scaffolding of knowledge. However, political and historic perspectives in its examining of midwifery practices must influence the rationality for change by individuals. The struggle is in developing midwifery education and developing the individual student midwife and by which means does each achieve empowerment and autonomy. It appears that the data represent at least one aspect of individuality, autonomy and empowerment through the process of critical thinking, reasoning and reflection.

8.4 Critical thinking, reasoning and reflection

As perceived and discussed earlier, critical social theory examines assumed ideologies of midwifery practice and education, and an EBL process as explored through critical social theory, is seen to promote critical reasoning within its process. EBL encourages the examinations of assumed ideologies and expectations of midwifery practices and theory through critical thinking and reflection. These skills of thinking, reasoning and reflection, learnt in theory, are transferable skills, which Price (2004) suggests are expected to be developed in practice by learners to understand themselves and others and to solve problems. The reality is that they may not always do so but EBL may be the tool through which such development is possible.

Finally, I have attempted to define the differences between thinking reasoning and reflecting. Thinking is a mental process, which allows a person to shape the world around them and deal effectively with information according to their goals, plans, ends and desires (Farlex 2004). Smythe (2004) adds that thinking is a multifaceted experience. Simpson & Courtney (2002: 91, 93) interpret critical thinking as a process and not a method to be learnt. It involves an orientation of the mind and includes both cognitive and affective domains of reasoning. This process involves beings shaping concepts, engaging in problem solving, reasoning and decision making, through interpretation, analysis, inferences, explanations, evaluation and self-regulation. It may entail reflective thinking for learning and reflective thinking for critical enquiry (Teekman 2000).

Thinking places a higher priority on the impersonal and world around us rather than the personal factors involved. Critical thinking is the ability to deconstruct events and to reason the origins of situations (Brookfield 1987), and involves creatively exploring retrospective and prospective dimensions of events (Daly 1998). Smythe (2004) suggests that reflective practice, critical analysis and problem solving all promote
thinking. However, Facione & Facione (1996:345,29) suggest that a ‘critical spirit’ provides a style or set of attitudes that define one’s personal disposition to value and apply critical thinking in one’s daily work and should ideally become ‘a habit of mind, a part of one’s character’. Brookfield (1987) concludes that emotions are paramount to critical thinking. Whatever aspect it addresses, whether this is personal or impersonal, it is still seen to be a valuable learning tool in clarifying concepts. Rimiene (2002) argues that the aims of critical thinking are threefold: (1) meaningful learning, (2) to develop critical thinking skills and (3) to encourage and strengthen motivation for critical thinking. Profetto-McGarth (2003) concurs with this view that motivational skills are crucial to critical thinking. Participants contributing to my research have acknowledged these outcomes:

Students are encouraged to think critically about aspects of their learning, they are learning how to learn, to apply the theory to the practice and to examine their experiences in practice as linked to the learnt theory. However, they have to be motivated to learn in this way [W]T5.

It makes the learning more meaningful for them, and they learn the skills, the critical skills … and then it’s a skill that they lifelong then … and they can use in the future professionally [W]M4.

It broadened my way of looking at them (situations) and certainly I now think differently. It made me more self directed [W]S3.

Anderson & Soden (2001) suggest that Kuhn (1991) conceptualises critical thinking as a type of reasoned argument in examining the evidence as distinct from opinions, explore alternative opinions supported by the evidence and examine the pros and cons of current arguments. Daly (2001: 128) even proposes that critical thinking should be a pre-requisite to competence in nursing/midwifery skills and that argument skills should be ‘a central tenet of critical thinking’ assessed through activities that ‘assist in the formulation and analysis of coherent arguments’. Data from my study is not clear in terms of the assessment process and especially when addressing assessment of critical and reflective thinking. Sometimes, as seen in the analysis chapter students’ reflections indicated that some analysis and critical reasoning about practice and learning takes place. One student explains:

I think I wouldn’t write anything that I haven’t really experienced because then you need to reflect on it and I think portfolios really show what you are learning and you
(the tutors) can just how much we know from them. I think if we pass the portfolios then we are meeting the requirements of being competent [W]S7.

However, tutors suggest that the use of portfolios in this present midwifery programme may not necessarily assess the level of critical thinking, through an examination of students' reflections, in their integration of theory to practice and the reasoning that this involves to result in competent practice. And in addition tutors and mentors may not be assessing these skills in the same way. A standardised form of assessing critical reasoning and thinking needs to be developed.

Defining reasoning may be the first step. Anderson (1995 in Greenwood 2000) suggests that reasoning refers to the process by which people move from what they already know to further knowledge. One participant attempts to explain:

You relate the knowledge of what you've learnt to what you need to learn, and go home and read it and think about it. You can relate things from practice. You can relate things from real life situations to the theory. Because sometimes when you're looking up things it is not real life and then you go there (in practice) and it's there. So it works both ways [W]S5.

Greenwood (2000) indicates that there are two models through which a person achieves this purpose. The descriptive model through which a person actually reasons and makes decisions and the prescriptive model is one, which dictates how they should and ought to make decisions. It therefore focuses on the personal aspects of the skill. In fact, Thomson (1996:2) defines critical reasoning as:

centrally concerned with giving reasons for one's beliefs and actions, analysing and evaluating one's own and other people's reasoning, devising and constructing better reasoning.

Raz (1978 Ch 9: 128-143) extends this definition further and suggests that practical reasoning can be analysed in terms of action taken guided by external rules or norms or internal processes of decision making guided by personal norms from beliefs, values and attitudes. He suggests that to decide is to form intent and decisions are reached as a result of deliberation, which sometimes may be unconsciously formed. Therefore decisions may be taken sometime before the action leading to intuitive action. Raz concludes that decisions are reasons simply because although one may make an intuitive decision for a reason, a person might deliberate on alternative
decisions and therefore shows intent that one is “open to argument” and “are ready to change one’s mind” and “is already partial to abandon the decision”. Berger (1984) suggests that this multilogical thinking is called dialogical reasoning which can move from internal conflict to an ‘extended exchange of frames of reference between two or more people’. Boychuk Duchscher (1999 :579) suggest that the outcome of ‘dialectical thinking and dialogical reasoning is communicative action’ leading to a consensus of development through a more accurate interpretation of meaning. This interpretation appears to resonate with Habermas’s idea of “communicative competence” discussed earlier in this chapter.

Raz (1978) maintains that this leads to a conclusion that decisions are made for a reason. In midwifery practice rules and codes of practice guide this reason to arrive at decisions and action. Alternatively when personal beliefs are in conflict with such rules and codes than a person experiences conflict which requires deliberate reasoning to arrive at an autonomous decision and action so necessary in providing holistic midwifery care. More recently Atkinson et al (2004) conclude that practical reasoning is determining the best choice in a particular context. An example of this is a change in recent midwifery practices of fetal monitoring on admission to labour wards, of women experiencing normal pregnancy. Practical reasoning supported by research evidence has suggested that routine monitoring of such women is no longer appropriate.

8.5 Conclusion
To conclude, therefore, critical reasoning is one way in which health professionals apply the process of enquiry (Boychuk Duchscher 1999). Therefore it seems appropriate to identify that critical reasoning must take place in an EBL process moving it from simply a problem solving process (as in some PBL models discussed in the chapter 3) to one of holistic enquiry to encourage practitioners to change established theory and practice. Critical reasoning is therefore underpinned by critical social theory as it examines the conditions that influences midwifery education and practice, encourages the examination of its cultural norms and the relationship between individuals as professionals, students, tutors, mentors and clients and the social environment in which they work and practise. It appears that problem solving moves on to enquiry learning when an element of critical reasoning and reflection is added through internal (with oneself) and external dialogue (with others) in context. A critical social theory epistemology maintains that knowledge as truth of (midwifery) practises and education is socially constructed giving it meaning which has been
derived from the lived experiences of participants in this thesis. This has been expressed through language (verbal or written) which is a powerful influence in the interpretation of context (Boychuk Duchscher 1999).

In addition, Mezirow (1981:6,13) suggests that critical reasoning involves a 'perspective transformation' acquired through a 'critical consciousness'. Pithers & Soden (2000) conclude that reflection encourages critical thinking and Rogers (1989) implies that reflection is a key element in the reasoning process. Reflection is underpinned by critical analysis through a cycle of reductive, inductive (inferences from the specific to the general) and hypothetico-deductive (inferences from the general to the specific) testing applied rationality and reasoned creativity (Freshwater & Avis 2004). It is therefore a combination of the impersonal and the personal where evidence of the reality of events, and personal attributes such as beliefs, are linked. One of Dewey’s basic assumptions was that learning improves with effective reflective processes (Dewey 1933). Chapter nine explores this reflective process in greater depth.
CHAPTER NINE
THE CONCEPT OF REFLECTION IN AN EBL APPROACH

9.0 Introduction
This chapter examines the concept of reflection that arises from social interaction within the EBL process, leading to achievements of confidence and competence in learning and practice. In the discussion, the origins of the reflective process and the use of critical reflection as a means of acquiring expertise have been examined. The reflective process within EBL creates alternative or new ways of knowing. Schon's work has been useful in examining the use of reflection in and on action as a result of an enquiry based process. Empathetic and intuitive knowing is also examined and is an additional contribution to this discussion. Finally the use of reflection as a learning tool is explored.

In previous chapters I have touched on some of the theories, which underpin reflection. This mostly through the work of Vygotsky, in which reflection is seen as part of a cycle of social interaction. The enquiry based learning process uses such a cycle, in which, issues in the midwifery curriculum are discussed, ideas formed and shared and then reflected upon as identified through data and illustrated in previous chapters. It is concluded that through such reflections, knowledge is deconstructed and new concepts of knowledge are reconstructed. In this chapter these findings will be explored further through the works of Schon (1983,1991), Johns & Freshwater (1998) and Taylor (2000) and reflective process examined to support the discussion.

9.1 The Origins of the Reflective Process

firstly the process by which an experience is brought into consideration, while it is happening or subsequently; and secondly, the creation of meaning and conceptualisation from experience.

In addition to this when the reflection takes on a critical form, either as self reflection or as a result of interaction with others, there is a potential of creating a forum for transformative learning and new professional ideas result. Discussion about the reflective processes is not new, as Dewey (1938) first advocated reflection as part of pragmatic teaching and learning strategies, in his early works. What is attempted in
this chapter is an exploration of the role of reflection in reconstructing knowledge and its relevance as professional knowledge in determining competence in practice. Dewey (1938)'s democratic principles of learners being in control of their own learning and reflecting on new and previous knowledge to move learning forward, seems to be the corner stone of the reflective process. He advocated and influenced the way in which learning and the acquisition of knowledge is perceived. Learning for Dewey is about activity and the creating of knowledge through reflection and interaction.

In addition to this is the Freirian(1972) philosophy that reflection empowers and transforms the learner. The link between critical social theory and reflection, as a learning process, which underpins this curriculum, appears to be the foundations of a new and alternative way of learning. Giroux (1983:8) believes that reflection is self-conscious critique to create "a discourse of social transformation" and empowerment. It is a concept which underpins enquiry based learning through a process of critique to examine its social context and its ideologies creating and promoting change as a result.

Critical thinking is constructivist in nature, encourages empowerment and social change as discussed in a previous chapter. These principles if applied to a midwifery curriculum lead to an alternate approach to midwifery education. Thus, there is a move within such curricula to replace positivist approaches to social enquiry. Giroux (1983:35) states that,

the logic of predictability, verifiability, transferability, and operationalism is replaced by a dialectical mode of thinking that stresses the historical, relational, and normative dimensions of social enquiry and knowledge,

and ideologies become lived experiences. The author believed that (1983:48) in the past traditional curricula played a "fundamental role in maintaining the existing society". In the past emphasis was on cultural transmission (midwifery culture and traditions), socialising the role of the midwife and instilling values, which ensured stability, cohesion and agreed principles within the midwifery profession and its education. Predefined knowledge and modelling behaviour was the accepted norm. Liberal theorists have attempted to move away from such approaches and developed models which focus on "intentionally, consciousness and interpersonal relationships in the construction of meaning" (Giroux 1983: 51, Rist 1977). The study of social
structures is replaced by how people learn and construct meaning and knowledge. A further move beyond this approach is the more radical perspective, in which the focus is on conflict about agreed principles and how social structures, within a curriculum may restrict the construction of new meaning and knowledge. An EBL approach, it could be argued, is more radical, in that it encourages day to day experiences to confront traditional practices and transforms both the teaching and the learning.

9.2 Critical Reflection
A reflective critique of such traditions, both in theory and practice ensures an exploration of the ideologies in the production, interpretation and effectiveness of meaning and knowledge. The conflict between dominant midwifery discourse and lived experiences of education and practice is critically viewed in “their articulation with the broader relations of society” (Giroux 1983:67). In other words traditional practices in midwifery are examined in light of expounded theory and knowledge. The theories of challenges to normative practices examine the relationship between ideology, culture and hegemony in understanding the direction of action and change. Making this link through the critical consciousness of reflection, grounds the production of knowledge within “a normative framework linked to specific interests” (Giroux 1983:154) as knowledge and learning is examined in context.

Through critical reflection the gaps between the ideologies of this midwifery curriculum and the “truth” or the realities of its delivery and outcome, reveal the gap between the present and more radical possibilities in the future. Empirical data contributed by participants on this study, when subjected to a process of analysis, are consistent with critical and reflective philosophies, which may direct future developments in the curriculum. Giroux (1983: 184) believes that:

hermeneutic rationality is sensitive to the notion that through the use of language and thought, human beings constantly produce meanings as well as interpret the world in which they find themselves

to shape individual and inter-subjective meaning. Rationality in this sense falls under the umbrella of a reflective enquiry approach, which relies on decision making in a socio-cultural context and thus has implications of competence in practice. There is a risk that in constructing insights and analysing meaning, subjective interpretations by individuals might distort reality to generate ideologies, which restrain critical thinking.
and reflection. However, it seems that through enquiry and reflection, critique and reconstruct are an inherent process to question ideologies and structural constraints. Such an approach questions past ideologies and examines power struggles and oppressions, as discussed in a previous chapter.

Written reflection is also useful in self-development, as discussed and examined previously through a Vygotskian perspective, amongst others. It is thought that writing clarifies the subjective and objective knowledge of students that develops through a social participation in an interactive process. Student participants illustrate, through their reflective writing, this link between reflection, social interaction and developing confidence and say:

On reflection, and despite all my questions and difficulties, I feel a tremendous amount of learning has taken place, and that I have embarked on a steep learning curve. I have certainly spent time looking at the way I learn, in order to co-ordinate with others in the group, and I have gained confidence ...I realise that I must be self disciplined in the way I learn ... Y1[R]S6.

The information I have received from others will form the cornerstone to my knowledge when I go out in practice Y1[R]S5.

The dimensions of knowledge are shared and developed, whilst an interaction between the student and the objective world is seen to socially construct subjective knowledge, which appears to be in keeping with Dewey's examination of social education (Kohlberg 1973). However, reflections may be used as a description of personal and interpersonal experiences and emotions, and not as an interpretation of those experiences. Thus reflections, when used in this sense, become a cognitive enquiry approach to solve problems and develop the self and not as a reconstruction of knowledge and new concepts to develop competencies in practice. However, Stuart (2000) believes that this component of reflection dealing with emotions of self and others should not be neglected, as neglect of such emotions could build up stress and mask an awareness which may inhibit an ability to act and thus distort learning. A student explains:

I mean it was difficult and stressful at first because the EBL and the curriculum overall took all of my life and I was this dark figure sat at the computer and occasionally I had to reacquaint myself with my children and husband ... because I was too busy getting
my EBL work and assignment finished. But I have learnt to prioritise things that are important. [W]S5.

Through practical experience, social and professional development is enhanced, and through reflection on these experiences, students take on responsibility for their own learning, which encourages a life long learning habit; the mark of a true professional (Best & Edwards 2001).

Freire & Shor (1987: 149, 150) in a discussion about the use of language in written reflections, see this as a tool for:

concreteness with discussion by them (students) of their own experiences ... to diminish the distance between concepts and reality.

Freire (1987:132) believes that:

the issue of language is involved with the act of knowing, the fact of gradually illuminating the conceptual meaning of experience

and starting with the student's own perception i.e. “their own level of perceived reality” and proceeding to “more rigorous levels of knowing and expressing reality”.

9.3 Levels of Reflection, Power and Competence

The use of reasoning through reflection may lead to new understanding and knowledge development, resulting in feelings of power or empowerment. Such reasoning is expressed in written reflections and a relationship between language and power is developed. Giroux (1991) suggests that reasoning must take into account historical, political and social context and subjectivity expressed verbally through discussion or explored through reflective accounts from which meaning can be derived. However according to Derrida (1976) Foucault (1977) and Lacan (1968) meaning is the product of language constructed of and subject to differences and suggest that meanings can never be fixed. Thus self knowledge as a source of reflection is subject to the effects of ideologies which the student has experienced and therefore produces subjective knowledge which is multiple and layered. A student consciously reflects in a creative and autonomous manner, but Giroux (1991) suggests that the reflective self is subject to conflict and struggle within a forum of
interaction with others and their ideologies, to produce subjective knowledge that is both empowering and repressive. A student illustrates these issues and says:

we've got a real good group, we get on really well and we communicate easily with one another so there haven't been any real challenges that I have been able to link to practice but we covered communication in the uni and that's been helpful. But mostly every time I have an interaction with a client and if it doesn't go well I think what did I do wrong there. Normally you blame the client (laughter) but when you think a little deeper it is something you said, your attitude or your manner [W]S4.

Jarvis (1983, 1995:73, 98), examines reflective and non-reflective learning, that is socially reproduced and involves the process of reflection. He distinguishes between outcomes of reflection, which may or may not produce change and may not always be innovative but contemplative, in which thinking allows conclusions to be reached but “without reference to the wider social reality”. He explores the work of several theorists (Friede 1973, Gagne 1977, Knowles 1978-1989, Mezirow 1977 and Rogers 1969) and highlights similarities and differences in the reflective process as perceived by these authors. He concludes that experiential learning is central to most of their works and perceives “that the adult learns most effectively when the learning process is in response to a problem or a need” in which the reflective processes enable humans to evaluate experiences and make changes as necessary. He suggests that reflection is an integral part of teaching and learning, but reflection at various levels will have varying outcomes. However more recent literature suggests that it is not clear in curricula where and how reflective skills are taught. The authors indicate that modularization of curricula may have fragmented some key practice skills and could have negative implications in developing reflective practitioners (Cadman et al 2002).

Freirian (1970, 1998) suggests that deep thinking and banking concepts may not be productive of change unless reflection is part of the enquiry process and then the learner is motivated to make radical changes. However, with experiential learning, which is learning from experience, may lead to experimental learning as testing theories in practice, which are theories reconstructed through reflection on experience. Here expert knowledge, through mentor input, is useful in aiding the learner to reflect on their practice experience to improve expertise and competence. Jarvis (1983: 35), however, suggests that competence is not only based on theoretical knowledge and practice skills acquired but involves:
attitudes that result in: a knowledge and commitment to professionalism, a willingness to play the role in a professional manner.

In other words, it is perceived that the confidence as acquired through expertise, is closely linked to competence and empowerment of that learner/professional. The data from this study concurs with this view and students say:

This EBL has caused me to question whether or not I am confident in my ability to become a good midwife. I have experienced emotional high and lows and before I began to think and reflect (about my professional role) the lows were the dominant thoughts ... Am I still questioning my competence to become a good midwife? Yes, but I think if I did not do this I would not be me and I may become complacent not competent! Y1[R]S3.

I am more inquisitive now and I want more answers (laughs) to everything. I want to know everything and I don't want anything left out. Yes that's probably right it (EBL) has made me more questioning. I think this relates to how I have developed professionally also. It impacts on your work then by asking you try and behave more professionally [W]S1.

Although Schon used concepts of Dewey's work in developing his writing on reflection, Schon tends to concentrate on the outcomes of reflection whilst Dewey analysis the process. The focus of Schon's work (1983: 164) revolves around reflection in and on action and suggests that professionals in action, think and act as they work. When practitioners work, their reflection is integral to the tacit knowledge, experience, judgement and skills performed, and calls this "thinking on one's feet" or "learning by doing". The findings in my study concur with this view and participants say:

I go through the process methodically and I think about the things that I need to do next. When the opportunity arises I would say, 'I have thought about that and now I can try it this way'. And then again through reflection I can relate my theory to the practice [W]S5.

Schon believes that reflection in action accounts for innovation in practice, which arises, from uncertainty and uniqueness of the situation. Reflection in action will inevitably change the experience itself, which Schon called reflexive experience as it
changes the nature of the situation whilst happening. Rolfe (1995) suggests that reflection in action is not only acquiring knowledge during a situation but generating knowledge too, from the experimental process in action. The knowledge becomes experiential and original knowledge and fundamental “truth” to that practitioner, be it subjective and of an individual perspective. Students illustrate these points and add that reflecting on their learning has also developed their practice:

It broadened my way of looking at things and certainly I now think differently. It made me more self-directed. When it comes to finding the information and using it I haven’t consciously put the two together, but I have taken the same approach when I am with a real person I will go away and search the information related to their condition and I will come back with an answer that is relevant to them [W]S3.

Studies on the use of reflection as a learning tool have identified that reflection, as a transferable skill, once developed, will facilitate lifelong learning and continuing professional development (Pee et al 2000). This too concurs with the findings from my study.

I would say that it (reflection) did especially in my being a professional. I do feel now that I can practice independently. It has made me think about what it means to be a midwife and how I need to be autonomous in practice, being able to say what I think is right and stand up for what I think ... I now have the confidence to do that [W]S6.

I think it (EBL) makes students into lifelong learners ... I think it makes them think for themselves rather than being told all the time ... but I think you do have to be self-directed and you do have to be proactive to get the best out of EBL [W]T1.

I think it works well with the well-motivated students ... but I think from an educational point of view it is a good way to learn because I do think that people need to be motivated and well supported you know ... [W]M4.

Reflection on action critically analysis performance, such that knowledge is reconstructed and competencies are developed. One student recognises the difference of reflecting in and on action and says:

I have become a ‘reflective practitioner’, thinking about not only what I am doing at the time (reflection in action) but also why I did it and how I could improve (reflection on action) Y2[R]S8.
The types of knowledge that are reconstructed have been discussed in previous chapter but are fully explored in this chapter. Theoretical knowledge, which is gleaned from the content of the curriculum, is integral to skills or technical knowledge that is learnt in practice. In a sense this could be perceived as behavioural learning and this style of learning seems to lend itself to students new to the profession. Dexterity in skills is developed over time and experiential knowledge is developed. Cognitive understanding arises from the analysis, of self and with others, of not only how something is done but why, as it is underpinned by the related theory. A student explains:

> And it is all part of that reflective process and going away and finding things and if I think of something I will go to my mentors about it as well ... It gives me the confidence and therefore the competence ... and I get the mentors to reflect with me. I sort of discuss things with them and ask if they thought about things in a different way and then we talk about situations [W]S6.

And a participant illustrates how new ways of understanding how skills may be performed in response to new situations allows for experimental knowledge to be developed. She says:

> My confidence and competence has definitely increased throughout the course but then again through my experiences in practice through mentor support ... My mentors have been good at asking me about how I feel after each experience and given me learning opportunities from each experience ... But I think the real benefit for my confidence is that I see my colleagues and discuss our experiences and see that they have been going through the same things that I have been through [W]S4.

According to Schon (1983: 53), with experience tacit knowledge is developed as the "knowing in action" novice becomes the expert. He states that through tacit norms, (professionals) make the judgements, the qualitative appreciation of situations on which competence depends. Constructivist learning follows from reflection on actions taken and judgements made, through a critical analysis of the process. It considers intuitive knowledge and professional knowledge of the expert, as integral to tacit knowledge implied, and a transformative knowledge, which is empowering for both professional and the client should be the result. Through such empowerment,
confidence in knowing and competence in practice is the ultimate achievement in bridging the theory and practice of the professional made “fit for practice”. Jarvis (1983) outlines a conceptual framework based on the triple foundations of professional competence of a practitioner’s knowledge, skills and attitudes of professional competence, and emphasis the role of reflection to promote continuing professional development and competence. Through reflection, knowing and doing are separated, critically analysed and restructured as new knowledge. One student acknowledges:

I would not say that I am totally competent ... and there are gaps in my knowledge but I am able to carry out midwifery skills competently with supervision and my own initiative. I think it is a question of having a personal responsibility as well to learn. You need to identify where your weaknesses are. I know that if I get stuck or I don’t know then I will call my mentor or call someone who is qualified to help. You would then go away and find out (the necessary information) for yourself. I would hope to keep improving my competence as I get more experience. I mean I had the confidence but the competence comes with experience [W]S6.

Through this articulation of the thinking in reflections, language is a medium for reflections. Schon (1983,1991) suggests that skills arise in the manipulation of the language to engage with the situation and reflection can function as experimental knowledge and hypothesis testing. In exploring both the effectiveness of traditional and new knowledge, the knowledge becomes experimental and creates a zone of possibilities in keeping with Vygotsky’s theory on the ‘zone of proximal development’. Known phenomena and theories are examined through reflection and seen from different perspectives. Through a discussion of such issues, the interactive processes encourages what Schon articulates as “reflective conversation” through which students, mentors and tutors may engage in the situation. Technical expertise is then placed within a context of meaning and competence is demonstrated through skills, whilst tacit knowledge is evident in the interaction with others and the client. Participants say:

This is a good way of learning and it really makes you focus on what you are doing and you remember better ... because you do all the groundwork yourself you are able to relate it to practice and it sort of falls into place when you are in practice [W]S5.

EBL has enhanced practice and given students more confidence to be more challenging and not accept traditional patterns of care ... they are more confident to
apply their knowledge to practice skills...This is important when making clinical judgements and aids effective decision-making Y1[Q]M5.

Arguably, this is a forum of empowerment for both practitioner and client and through a reflection with other professionals on the situation may demonstrate their prior knowledge, explore knowledge of peers and experts and identify areas of uncertainty. Schon (1983,1991:310) believes that through reflection:

a practitioner becomes aware of his/her frame (work) and ..... of the possibility of alternative ways of framing the reality of his/her practice.

It seems that through reflection in an EBL approach to learning, in placing practice into different frameworks, the practitioner is conceptualising professional knowledge to understand the competencies required. In other words, the professional creates zones of possibilities and creates new theories of possibilities. Through this changing framework the idea of effectiveness also changes. The practitioner seeks new ways of becoming more effective and this implies that effectiveness is an articulation of competence. However, it is difficult to articulate competence in terms of professional knowledge and skills. Schon argues that confidence and competence are closely linked depending on one’s perceived ability and knowledge in applying professional knowledge to practice skills and visa versa. Credibility and commitment to one’s profession, which Jarvis (1983,1995: 183) identifies as “the willingness to play the role in a professional manner”, are part of this cycle. The participants in the study support and illustrate this by saying:

I feel ready to qualify now but I know that I have still much to learn and will go on learning. But I can behave in a professional way and I know when somebody is not behaving professionally [W]S6.

I think in finding the information themselves and if they are highly motivated, I think it will make them more competent at the end of the day because it fuels their motivation and they go out and find the information, and then they act upon it and its their information rather than being fed the information. I’m sure it does make a difference in the way they behave professionally [W]M1.

9.4 Other ways of knowing
Johns and Freshwater (1998: 1) take a different perspective of reflection. Reflection is not centred on the practice and actions taken but on the practitioners’ own
experiences. The authors believe in “knowing that is embodied within self” as intuitive knowledge drawing on past and concrete experiences to inform the actions taken. Qualitative data from the study coincides with this perspective but suggests that maturity and life experience are additional factors to the development of intuitive knowledge. As detailed in chapter 4, descriptive statistics, applied to the data support these findings and qualitative data concurs with this discussion on knowledge drawn from experience. Participants say:

I think age has a huge impact on the way one learns and becomes competent. Maturity hugely impacts how you behave ...as you get older you have a lot more life experience. I don't think that has anything to do with having your own children. I don't think that really matters. You just have more life experience and therefore the people you meet you can interact with and support [W]S2.

I am a more mature student and I have experience from my own personal life ... and negotiating and reasoning and all those other things that come with life ... and delegation, time management and things like that ... and you do transfer those kind of skills. I think life experience has an enormous impact on these skills and I've had feedback from mentors who say how much they enjoy working with the more mature students who can automatically communicate with women [W]S6.

And I found from personal experience that the more mature they are the better they are at communicating with people. They know the right thing to say and when not to say anything. It's life experience and it shows [W]M5.

It is experience and communication skills which an older person has. They say, 'I can understand why you're feeling that'. They have got much more of an understanding [W]M1.

Reflection appears to give access to this intuitive process to develop tacit knowledge further, and intuition is in turn a manifestation of tacit knowledge, built through experience, in a continuous cycle of learning. John's model of structured reflection (See Appendix 2) is based on this examination of the practitioner's experience in a defined manner but advocates the richness of story telling in context with, not just a description of the situation but, an examination of one's emotions. Mischler (1986: 75) believes that:

telling stories is a significant way for individuals to give meaning to and express their understanding of their experience.
However, reflection does not become just a narrative but identifies what is significant in the experience and begin to guide the reflection and generate cues, which according to Johns (1998: 5) are "cognitive, affective and temporal".

Freshwater (1998: 7) focuses on personal, empirical and ethical aspects of reflection to arrive at aesthetic response to the experience and appropriate actions taken. However, the author believes that reflection on experience is always reflection on past experiences that anticipate future experiences... a fundamental learning process of making sense of the present in terms of the past, with a view towards the future.

The other aspect to reflection is that it is always carried out in retrospect, and inevitable distorted by time and hindsight. What is important therefore, is the meaning that the reflection gives to the situation, even though these may be influenced by the culture and context of the experience as in normative practices within midwifery. One student explains how reflection has developed her practice:

I think it (reflection) has made me more confident to be able to say, 'I know about this and therefore I am able to go out and do it'. It works in both ways really. You learn the theory, examine it and then you apply it or you go out in practice and you learn the skills and you examine them and then you, well you look for the evidence that supports the skill. The reflective process has been a major part in my learning [W]S6.

Social conditions may dictate actions taken but through reflection these actions are analysed through one's own perception, as influenced by previous personal experience. Thus reflections may vary between individuals analysing the same situation. A student explains:

And the way I have learnt ... the way its been ... it has made my knowledge so much wider. You are not learning just one aspect of something. You are not looking at one situation from just one angle or another ... you are looking at it as a whole and in a lateral way. It makes you look in the grey areas not just the black and white [W]S5.

And a mentor agrees saying:
And sometimes they struggle with the idea that they've got the right answers to the same questions [W]M2.

And a tutor adds:

... and then they try to apply the research ... but it doesn't always work ... a situation may be an actual grey area, where normal is fine and where abnormal is known but then the big grey areas in the middle where the research goes in and out .. and sometimes the research is not necessarily matching practice but sometimes you know practice is not always evidenced-based and by the book [W]T1.

It is these varying perspectives that Johns & Freshwater (1998:10) suggest:

explore and understand the factors that contribute to the nature of contradictions between desirable practice and actual practice. Contradiction is the essential learning opportunity within reflection.

As illustrated throughout this chapter, that collaborative conclusions reached through discussion and interaction between practitioners, will help to articulate new ways of knowing which in turn may become new ideologies or transformative practices. In other words interaction becomes the means of shared empowerment. Reflection creates the space or zone for opportunities or possibilities for transformation whilst language is its medium, through which knowledge is validated. As such, written reflections could be viewed as a language of empowerment. John's model of structured reflection may guide the reflective process in the novice practitioner to examine the how, why and what of a situation in an increasing complex level of reflection, but "reflection like transformation, is a process over time", and must not be confined to the existing cultures of normative practices (Johns 1998 : 13). The aim is to generate a creative thinking space, in which interpretative and critical reflections are shaped, which in turn create zones of possibilities for change, as explored by Vygotsky (1987).

Reflection is a very personal experience but when situations are analysed in an interactive forum, personal experiences and perspectives are shared and a development of self and others is also possible. A student explains during an interview:

You talked to other people, you talked to your peers at work, you talked to your mentors and they give you ideas and they say look at it (the situation) in this way or
that. And because you do all the ground work yourself you are able to relate it to practice, it sort of falls into place when you are in practice [WS]5.

It seems that the relationship between one’s self development and one’s practice is complimentary in transforming one’s perceptions and beliefs and transforming one’s practice, and appears to be consistent with an EBL process. One’s personal beliefs are based on one’s experiences and as such are one’s foundation and original source of knowledge. Such knowledge is viewed as the “truth”, one’s personal “truth”, and arising from intuitive or tacit knowledge developed through experience. However, the concept of “truth” indicates understanding and in understanding change may occur. Through reflection a person changes their views and beliefs with new experience gained. Dilemmas, however, arise from a dichotomy between one’s newly formed concepts and perceptions and existing dominant practices. Mentors illustrate these contradictions and say:

I know that sometimes colleagues do not take too kindly to students saying, ‘Oh I found out this or I found out that’. They are more likely to reply ‘Oh well this is the way I’ve always done it and this is how I’m going to do it’ … I think it can be difficult sometimes [WM]1.

EBL has enhanced practice and given students more confidence to be more challenging and not accept traditional patterns of care … they are more confident to apply their knowledge to practice skills. I wouldn’t say that EBL students are more competent than traditionally taught students, but I would argue that EBL students have a better knowledge base and are therefore more intellectually equipped. This is important when making clinical judgements and aids effective decision-making [Y1][Q]M5.

9.5 Empathic and Intuitive Knowing

Little is written about empathic knowing as being different from intuitive knowledge. Intuitive knowledge most likely has its origins in survival and adaptation instincts homed and refined in our ancestors. It is often defined as ‘the power of knowing’ or knowledge obtained without reasoning’ (Robinson 2001). It is therefore reasonable to suggest that everyone has intuitive capability but not everyone is aware of this element in his or her make up or able to use it. Cappon (1994, 2001) suggests that although there is no evidence that particular personalities favour intuition, elements in one’s personality influence it or can help further its development. Intuitive thinking grows out of practice and experience, which is processed unconsciously and
eventually, becomes explicit tacit knowing. When intuitive thinking, which is experiential based instinct, is articulated through reasoning as logical speech promoted intelligence (deductive reasoning) (Cappon 2001), meaning is developed and new concepts and knowledge evolve (inductive reasoning), as creativity arising from initial intuition. Cappon (2004) suggests therefore, that lateral thinking may arise from intuition involving emotions and feelings. Without creativity and imagination knowledge would not develop and therefore in Einstein’s words, ‘Imagination is more important than knowledge’.

Empathy, on the other hand, is not only intuition but also an expanding consciousness of self and others. It tunes into the beliefs of others and seeks a oneness with others, in a struggle to confront contradictions, resorting to hindsight and finding alternative ways of knowing. In other words, it is procedural knowledge in recognising different frameworks as analysis and evaluation of knowledge is carried out in creating new knowledge. Empathy and intuitive knowledge are not easily articulated but are an integral component of what experts define as creating competence, and are skills developed through the EBL process. It seems that the outcomes of intuitive learning are enduring memory effect, resulting in a holistic rather than diagnostic specific approach to situations. This may imply that intuitive capability could be enhanced through the use of triggers in an EBL process, through a brainstorming process and a lateral examination of practice situations. Sharing this exploration with others validates one’s knowledge and accepting feedback from others and facilitators is important in learning to trust oneself, one’s instincts and judgement, resulting in effective decision making (Robinson 2001, Bower 1998).

In addition, Eraut (2000 in Praechter 2001: 110) suggests that expertise come from a combination or integration of tacit knowledge and intuition. The following quotes illustrate the perceived empathetic development by the participants as a necessary element in midwifery practice and say:

And I found from personal experience that the more mature they are the better they are at communicating with people. They know the right thing to say and when not to say anything. It’s life experience and it shows ... in obstetrics and midwifery, you have to be careful. Women are very vulnerable and really sensitive when they’ve just had a baby. Sometimes they (students) say the wrong thing, it shows incompetence [W]M5.
I think communication for any health care professional must be about empathy ... as a midwife, so intimately involved in such life changing events as pregnancy and childbirth, finding ways to 'connect' with a woman, showing them they can trust you to support them and be on their 'side', is not only a vital part of the job but may be literally life saving.

Titchen (2001) believes that a practitioner “shifts the emphasis from intuition” to intuition and rationality to become the expert. In becoming the expert, the attributes developed are the relationship with clients and others, development of professional skills and an increasing ability to reflect on evaluating one's practice. Such a development is only evident when transformation has occurred in the practitioner, the practice or the culture of the profession to which that practitioner belongs, and articulated through written reflections. In reality it is difficult to assess a practitioners intuitive and empathic knowledge. Cappon (1994,2001) has carried out work in devising an assessment strategy, which ensures that intuition is recognised as a full and measurable component of human intelligence. However, the reality is that a standardised method for assessing effective reflective skills and skills of empathy and intuition have not been developed in this curriculum. Thus reflections as a method to evaluate transformation or change within midwifery education and its practices, may be viewed to be subjective, unreliable and invalid as a method of assessment. (This has been discussed at some length in chapter two). However, reflection may be seen to be one of many methods by which knowledge is made manifest, as theory grounded in practice. Indeed Lumby (1998: 95) believes that:

research has a wider focus in determining cause and effect... and ...The process of research in and of itself can be transforming for both the researcher and those involved as participants.

As a researcher reading the reflections of participants, it is likely, that I may have reinterpreted the interpretation of the subjects and the process for constructing meaning and “truth” is never final but becomes a multi-dimensional process of concept exploration, mapping and integration of many perspectives. The interpretative dimension becomes critical reflection when the process is carried out through a forum of interaction between researcher and participants, through which knowledge and meaning is reconstructed. This newly constructed knowledge of the “truth” or social reality becomes tacit and professional knowledge to determine new and empowering competencies in practice (Guzzini 2000). A more radical approach
is reached when such professional knowledge and competence is determined through new transformative action in practice and education. Data from my own field notes suggests that there is evidence of students' progress throughout the programme through the myriad undertakings by students. These varied from minor changes to more significant impact on practice and are illustrated here as examples of these changes. A number of students have developed new literature in the form of information leaflets for women, as dictated through reflection and discussion, where some areas of practice have been found to be lacking available literature. One student has changed the process of induction for post maturity in pregnancy by persuading through her research, gynaecologists and obstetricians in her trust, that her findings on changing time intervals between applications of prostoglandin doses and changing to gel rather than tablet form, had implications for outcomes. Alternatively one student has set out to research and develop clinics in the UK, for women needing education and support in pregnancy after female genital mutilation and this work is being taken to developing African countries.

9.6 Confidence and Competence

As the practitioner grows in expertise and confidence, self-esteem increases and a need to challenge and assert one's own beliefs and attitudes develop. Reflection encourages the exploration and growing awareness of dominant practices, which seem to be increasingly, perceived as contradictions. Through such reflection new intuitive and empathic responses are developed, which if truly transformative may empower the practitioner to seek and activate change, in the self, in one's practice and in the profession generally. Lumby (1998) examines how such transformation is validated, through a manifestation in the action of individuals translated into competencies. However, competency is not merely an ability to perform a skill adequately but appropriately as required to an individual situation, bringing into play all attributes of competence, including knowledge, emotions and values, all of which contribute to the development of competence in achieving the most satisfactory outcome (Bartlett et al 2000). Here a distinction must be made between competencies and outcomes. Flannagan, Baldwin & Clarke (2000) argue that competence relates to specific skills and outcomes represent a broader perspective in relation to specialist knowledge. Competence is concerned with what one can do i.e. the performance rather than what is known. However, competence viewed in this manner, takes a very behavioural approach and is descriptive, rather than considering the normative concept of competence which includes attitudes, levels of effectiveness and knowledge to guide professional judgement.
Performance may imply that a practitioner is confident to carry out a skill but may not necessarily be competent in all its perspectives of knowing as in context and quality of the performance. To be confident and competent is essential to the profession but although linked may not be synonymous. Increased confidence does not necessarily increase competence (Carlisle 2000). However increased self-confidence increases a student's ability to understand and learn and in so doing becomes more knowledgeable as one of the ways of knowing towards becoming competent. Stewart et al (2000: 903) identify through their study on clarifying the concepts of confidence and competence, that

competence represents what individuals knew about their ability and was based on the individual's previous experience of the task. Confidence described a judgement which influenced whether an individual was willing or not to undertake an activity. Confidence was not necessarily based on known levels of competence.

A self-assessment tool was used in this study to measure perceived levels of competence and the authors argue that a practitioner's:

ability to evaluate accurately what they are capable or not capable of doing will make them a safer practitioner and potentially a more secure learner.

Thus a competency based outcome approach to this curriculum may not necessarily ensure a 'fit to practice' practitioner unless competencies are considered within the context of the academic outcomes. Higgs, Titchen & Neville (2001 :4) argue that:

practice and knowledge in the professional context are deeply embedded in each other and operate interdependently.

In addition to this students' own experiences and abilities are integral to this assessment in an environment of learning and development and an interaction between learner and experts, both in the clinical and academic field to facilitate learning through reflection and feedback. Rather than taking on a reductionist approach by breaking down professional effectiveness into key competencies that are clinically assessed, a holistic approach in which theory and practice are integrated is desirable. It appears that such an approach can only be achieved through a combination of clinical observation and portfolio of evidence to include both
situation analysis through triggers and written reflections, which are a critical and analytical examination of personal experiences. One student explains:

Some of the portfolios I’ve really enjoyed ...I think it all depends on the subject area and the things you have been learning at the time ... I think I wouldn’t write anything that I haven’t experienced because then you need to reflect on it and I think portfolios really show what you are learning and you (tutors) can judge how much we know from them. I think if we pass the portfolios then we are meeting the requirements of being competent [W]S7.

The evidence suggests that through an enquiry based approach new ways of knowing are created and concepts conceived as a medium to relate the values of the profession and its skills to the competencies themselves. Such values must include social and interpersonal skills, which are developed through the enquiry approach within small group learning. Shallow (2001) believes that as the practitioner becomes more knowledgeable and self aware, then needs of self, practice and the profession are better defined and new competencies developed.

According to Taylor (1998) such ways of knowing could be described into three broad categories of empirical, interpretative and critical knowledge. This seems to have its origins in how Habermas (1972) theorises that knowledge is driven by human interest and is required to be technical, practical and emancipatory and is interpreted subjectively, through reflection, from personal lived experiences. Such reflections become critical if viewed within the context of the lived experiences and subjected to a scrutiny, which considers political, social and historic impact as discussed in previous chapters. Alternative approaches become evident when such reflections conceive new beliefs and practices, which are then confidently acted out despite contradictions, to aim for and test out new desirable competencies as an expression of new concepts. Thus a cycle of continuous professional development is set into motion. Glaze (1998) suggests that such a cycle can only be maintained if a reflective culture is encouraged, in which practitioners value themselves and their skills. Reflection if used effectively will encourage professional and personal growth. Fay (1987) describes learning as understanding the self, being empowered to change the self and one’s practice and finally, free oneself to radically transform the self into what one needs to be. A student explores these issues and says:
During this midwifery course I have been learning through an approach of EBL, but I have discovered an alternative meaning for these three initials – experience-based learning – which I think encapsulates how my knowledge and understanding have developed in the clinical area. The concept of reflection is crucial to experience-based learning and is a skill. Reflecting on clinical issues has allowed me to resolve discrepancies between classroom teaching and clinical reality, and has empowered me to increase my comprehension through discussion with colleagues, literature exploration and perhaps more importantly self-analysis. Thus reflection on clinical issues increases understanding and the ability to relate theory to practice, and produces a more sensitive self-aware midwife. I have evaluated my experience from practice through written reflections. Y2(R)S8.

In examining the self and what one needs to be to become competent and in time expert, involves a practitioner able to reflect and engage in different forms of discourse with self and others, both in education and practice. Constraints and possibilities are explored and as Strong (2002: 10) suggests, reflection may be used as a tool in “finding competence in oneself, listening for it in others”. Best & Edwards (2001: 168) state that:

Personal knowledge and the understanding of self heightens the students’ ability to self-evaluate, to engage in critical appraisal of their practice and to acknowledge their strengths and weaknesses.

It is not the certainty of the knowledge-based expert that is essential but development, through interaction, of new competencies, emphasising skills of reconstructing knowledge, communication, interaction and constructive challenges through an enquiry process. Higgs and Titchen (1995) suggest that the expert develops competence and confidence in a number of progressive and critical steps to conceive of and test hypotheses in practice. It seems that it is an integration of the knowledge and the knowing, and in time the expert practitioner will transform the theory to develop new competencies through what the authors call new “professional craft knowledge”. In fact Poikela & Poikela (2001: 345) indicate that:

education by itself cannot produce complete professional competence, since professional competence incorporates more extensive dimensions of knowledge and knowing,
and suggest that there is a need to conceptualise the essential elements of competence. They believe that competence is derived from encoded knowledge, which is mainly theoretical knowledge, and embedded knowledge which is practical knowledge. Encoded and embedded knowledge are objective knowledge in their nature. Embrained knowledge, which includes internalised facts and principles, and embodied knowledge, which includes elements of tacit knowledge, are subjective in nature and derived from experience and emotions from a situation. Encultured knowledge is constructed from these types of knowing and may be both subjective, if viewed collectively and objective, when viewed through artefacts that are in use within the midwifery culture. In other words competency is a combination of skills, knowledge and ability that can be assessed by an expert. A dichotomy occurs when such competencies are not effective in moving education and practice forward and a need to critique and change such competencies to improve standards is identified. As discussed previously, more radical approaches in midwifery education may be implemented through reflection and action.

It is difficult to verbalise effectiveness, confidence or competence, but these are indirectly measured by clients on the receiving end of the skills performed and knowledge imparted. However, client satisfaction is not always a reliable measure of competence or effectiveness as experiences vary from one context to the next. On the other hand, a single measure of competence through a written or single practice assessment is not sufficient to ensure effective everyday practice, or to determine a practitioner's confidence in carrying out a skill. Dewing (2001) defines becoming more effective as:

1) being open to the experience of being available to others and developing appropriate ways in dealing with the consequences of being open, available and authentic
2) becoming more person-centred; moving from patient to person centred (holistic to humanistic)
3) practising in ways that live out an expressed philosophy and model of care on a day to day basis that others can see
4) becoming sensitively skilled in ways of using craft knowledge in day to day practice.

So how are confidence, competence and effectiveness assessed? McKinley, Fraser & Barker (2001) have identified five required attributes of an assessment process,
which has been used in the medical profession, but may be applicable in determining competencies in midwifery. These are reliability and validity of performance, acceptability, feasibility and educational impact. Reliability measures variation of assessments between subjects and correlation of assessors' ratings. Validity is concerned with both the instrument and the assessment process as the tool measuring and reflects the practitioner's own practice. Acceptability and feasibility of the assessment process as being acceptable and feasible to participants i.e. student, mentor, tutor and client. Finally as an educational process through which student/practitioner/ assessor (through a moderator), may be given feedback on strengths and weaknesses and action plans for improvement and changes specified. The authors have suggested that such an approach to assessment may be carried out in either a simulated or real situation. Such assessment processes have already put in place for this new curriculum and tutors, practitioners and student self-assessment determine competencies as evidenced through the mapping in appendix 1. The effectiveness of this approach is evidenced by the data from all three groups, which has been generated throughout the three years of the programme to triangulate the findings. Participants say:

Enquiry based learning is extremely effective and highlights the importance of basing practice on evidence based research to provide up to date and effective care. With knowledge to justify your actions you can feel really confident in what you do Y2[R]S1.

EBL has enhanced practice and given students more confidence to be more challenging and not accept traditional patterns of care ... they are more confident to apply their knowledge to practice skills. I wouldn't say that EBL students are more competent than traditionally taught students, but I would argue that EBL students have a better knowledge base and are therefore more intellectually equipped. This is important when making clinical judgements and aids effective decision-making Y1[Q]M5.

There is a link or ladder if you like between confidence, competence and autonomy. You have to have the confidence to start off with to encourage you to become competent and then following competence become an autonomous practitioner and it is this confidence that gets them through practice ... [W]T4.

In addition, client input may be another approach to determine effectiveness and provide a lay perspective and may be recommended as future research, following this evaluative research.
9.7 Reflective Writing as a Learning Tool

Boud (1993 cited in Gamble, Chan & Davey 2001) suggested that

central to understanding the use of reflection to develop professional knowledge and expertise is recognition as the importance of experience as the basis for learning.

Wong et al (1995), through findings in a study on assessing the level of student reflection from reflective journals, concluded that it is possible to firstly ascertain the presence or absence of reflective thinking and secondly to categories students as non-reflectors, reflectors or critical reflectors. On the other hand Freeman (2001) concluded that reflective logs, although found to be time-consuming by students, promoted information exchange and provided opportunities for students’ learning needs and lack of knowledge to be identified and developed. This is also supported by Andrusyszyn & Davie (1995 :2) who suggest that reflecting on new knowledge within context:

Enhance[s] the development of insight, promote cognitive awareness and critical thinking, and lead[s] to personal transformation.

Wells (1999) suggests that writing is a technology for the empowerment of the mind. The author suggests that through reflective writing an increased state of understanding is reached through rethinking and rewriting in a continuous spiral loop of learning and building of knowledge. It is a tool through which meanings are conveyed and to generate new meanings, as thoughts are explored and feelings understood. Wells (1999) sees writing as both an incentive and means of learning, in such a way as to examine gaps in knowledge, clarification of ideas and critique of inconsistencies. As a result, knowledge is reconstructed and new concepts emerge which are then articulated in written reflections and communicated to others for understanding. Writing reflectively encourages learning to think and develop procedural knowledge, whilst examining the ‘why’ of situations encourages cognitive development. Learning effectively from reflective writing is only evident when related to the context of the situation or incident being reflected on and is mediated through social interaction. Such social interaction, according to Vygotsky (1978) becomes internalised knowing, such that professional practice knowledge grows imperceptibly as it develops through experience (Jarvis 1992). Higgs, Titchen & Neville (2001) argue that as professional knowledge develops it is tested and modified in daily
practice. Such a development of knowledge can contribute to the body of knowledge inherent to the profession. Practice knowledge seems to be a combination of propositional, personal and practice knowledge and all three have the potential to transform or inform each other. Although propositional knowledge is objective, this it seems, as evidenced from my own research, is balanced by subjective personal knowledge and integrated into practice knowledge to ensure the performance of a competent professional (Sefton 2001).

The main aim, therefore, of reflective writing is to clarify for self, the thinking and learning so as to be understandable to both writer and reader, and secondly as a contribution to the social discourse and empowerment of the culture to which a student midwife/practitioner belongs. It appears that, both aims and function of reflective writing are integral to these processes, which critically examine the self, the practice and the profession and are essential in determining the actions or new competencies needed to make education and practice more effective. Such reflective approaches are a process and a product of enquiry based learning, which become a transformative and an alternative approach within the midwifery profession, and largely instrumental in the active process of reconstructing knowledge. Students agree and say:

I think EBL has had an effect on my development in practice especially if you are particularly reflective. I think it has made me more confident to say 'I know about this and therefore I am able to go out and do it... The reflective process has been a major part in my learning. I go through the process methodically and think about the things that I need to do next and then I say I have thought about that and now I can try it this way. And then again through reflection I can relate theory to practice [W]S6.

Reflecting on my own performance ... is not something I have ever done before, but I found this stimulating; it really made me think about myself and the interaction of others Y1[Q]S19.

I have reflected on areas of my practice that I could apply research learnt, to better understand the standard of care I offer clients and intend to continue to build on this knowledge in the future Y2[R]S3.

There is one more issue that needs to be addressed before moving on to the concluding chapter: the debate on the expected levels of competencies reached by diploma and degree students. The university where this study was carried out, at
present offers two different academic awards for one level of competent practitioner. On qualifying, both diploma and degree students are entered on the professional register and are expected to take on the same roles and responsibilities in practice, functioning at a minimum level of competence. So what is the justification of having two programmes? New educational policies allow for a greater variety of applicants at different levels of academic ability, and thus widen the entry gate into the profession, which is in desperate need of midwives. Research has suggested that diplomats and graduates do not function differently in practice. This is consistent with Girot's (2000) findings but contradicts Bartlett et al's (2000) finding on confidence, however Girot (2000: 333) suggests that degree-nursing students at least:

use a more systemic approach to information-seeking, better care-planning skills and demonstrate higher quality nurse performance.

However, data analysis from my study was contradictory as mentors and tutors in general did not perceive any differences between diploma and degree students in their learning, whilst there were differences identified between diploma and degree by the students themselves (p= 0.043). Diploma students perceive EBL to be more effective on practice learning than the degree students perceived it to be. However one practice facilitator participant in my study agrees with Girot's (2000) findings when she observed degree students in practice and comments:

For some reason I think the degree girls are much more prepared for practice. I don't really know what it is but I can point out to you the degree girls and they are coming out to practice and they seem ... their learning ability is much better. They seem much more able to apply things in practice. Now I did not think that that was going to be the case and I would have always said that it doesn't matter but the reality of the students that we have today ... I think the degree girls generally are better prepared for practice [W]PF1.

Some of the known literature agrees with this finding, where the authors suggest that degree students are also more likely to go on to further studies and research (Schmidt & van der Molen 2001). On the other hand an American study by Bartlett et al (2000) suggests that graduate nurses are less confident in practice than diploma nurses on qualifying, who scored higher on leadership skills. However, graduates demonstrate more developed skills of cognition. Bartlett et al's study does imply that graduates may have been exposed to fewer opportunities than diplomats to develop
their leadership skills in practice. This however, does not apply to practice experiences in the UK. Learning outcomes for the two groups may be at a different level in terms of academic achievement but the practice competencies are the same for both. However, Bartlett et al (2000) suggest that the research into academic levels and their relationship to competence is contradictory and further research is required.

An enquiry based approach, using reflective writing as a teaching and learning strategy, does not distinguish between levels of competence but identifies levels of reflection in relation to learning outcomes. One small study examining clinical competencies of interns in New South Wales does imply significantly better rated competencies, by supervisors, of students, using a problem solving or enquiry based approach to learning, than their peers using a traditional approach (Rolfe et al 1995). However, in view of the context and size of the study it may be difficult to generalise these findings to a midwifery setting.

9.8 Conclusion
To transform ways of knowing, and translate these into competencies, an integration of assessments, in clinical skills and through a portfolio of evidence, to include analytical and critical reflections, is required. An enquiry based approach, as a teaching and learning strategy to achieve the desired competency-based outcomes, within this curriculum has been adopted. Redfern et al (2002) in a review of the literature to analyse methods of assessing competence in practice and examining their reliability and validity, make some conclusions. Reflections on practice using portfolios are valid if based on not just descriptive approaches but rigorous analysis of situations, located in practice settings, and a multi-method approach to validate and comprehensively assess knowledge and skills.

Reflections move between an ontological perspective exploring more radical developments within the curriculum, from a critical and an interpretative approach, and an epistemological perspective as evidenced by the narrative constructing the social reality of an EBL process. Guzzini (2000: 1) believes that reflective approaches are a core characteristic of constructive theories having an:

epistemological position which stresses the social construction of meaning (and hence knowledge) and an ontological position which stresses the construction of social reality (and hence includes power).
If reflections are an analysis of the self, one’s actions, in relation to others and the situation being examined, then the self is seen to be both subject and object and Parker (1995) suggests that science and other methods can co-operate in exploring it.

Therefore, for reflection to be effective, the practitioner needs to be motivated to engage in the process of reflection, and recognise the value of reflection as a learning tool, using both positive and negative experiences to develop new knowledge and concepts and in time expertise. Professional knowledge is enhanced through a collaborative enquiry process utilising reflection, to critique and analyse situations and experiences. My study suggests that reflection plays a key role in making professional ways of knowing explicit. There is little research evidence of the effectiveness of reflection, and whether a reflective practitioner is more effective than a non-reflective one. There is also very little evidence on how the skills of empathy and intuition are developed through reflection and expertise and are problematic in terms of being assessed appropriately. However, it seems that from data in this study, reflection at least, is useful in understanding the self, one’s practice and profession, to make sense of experiences in new and alternative ways of knowing and doing. This study goes some way towards examining the construction of midwifery professional knowledge or midwifery ways of knowing. In the next chapter a summary of these conclusions will be made and recommendations from analysis of data generated will be put forward.
10.0 Introduction
In chapters 6 to 9 I have explored a number of concepts which appear to 'resonate' with an EBL process and have identified the theories that coincided with these concepts. As previously discussed this evaluation of an EBL approach could only be carried out in context in view of the unique nature of the curriculum content which cannot be compared to other midwifery curricula in other institutions. However the EBL concept has been explored from a theoretical perspective which could be examined in light of previous knowledge and known theories on the subject.

In this study I have illustrated the discussion with data from my research and where possible examined the findings in relation to the theory, and explored where the theory did not coincide with some aspects of the data. However, midwifery has been carried out long before the concept of midwifery theories that underpin practice, started to evolve. Over the years midwifery educational process developed from behaviourist approaches in modelling and teaching skills in practice towards the cognitive and theoretical understanding of the theories that underline these skills. The more recent educational philosophies veer towards constructivist learning strategies, which encourage participants to take ownership of their learning and seek new ways to bridge the divide between theory and practice. An examination of an enquiry teaching and learning process has demonstrated that this approach supports such a philosophy within certain contexts and conditions.

A number of questions were posed at the start of the theoretical discussion chapters, in seeking an answer towards the research question examining the concepts of effectiveness of an enquiry based teaching and learning approach within a new midwifery curriculum. It seems that EBL is generally perceived to be effective in developing critical and reflective skills more in keeping with a midwifery educational philosophy supported by critical and reflective theories. In addition, through this approach, students are perceived to have developed the essential long-term qualities and outcomes in producing autonomous and lifelong learning practitioners. As discussed in previous chapters, concepts of empowerment have underlined these skills. Participants in the study also recognised the need to develop skills of intuition and empathy, among others, which they perceive, is a by-product of an EBL strategy. How these were conceptualised in the curriculum is still not explicit, but psycho-social
theories were perceived to resonate with such interactive concepts supporting these skills. Such skills are essential in supporting contemporary maternity service provision, as recommended by government initiatives, in fulfilling the needs of childbearing women and the midwives who attend them (DH 1999, Powell Kennedy & Lowe 2001, Page 2003, Powell Kennedy et al 2004).

The study has demonstrated a number of aspects of effectiveness of an enquiry based process. Acquisition of knowledge seems to be the central thread that underpins this approach in teaching and learning and the application of this knowledge to practice. Therefore what this investigation has added to the body of knowledge on an enquiry based approach is as follows:

1) Learning through an EBL process, in terms of interactive and small group learning (S1 mean), is generally more effective with more mature students, or students who demonstrate maturity through life experience. Quantitative data concurs with these findings, as indicated through the Spearman's Rank correlation test examining correlation between age and the S2 mean, of personal and professional development as a construct of effectiveness of EBL. This is indicated through an increasingly statistically significant analysis over the three years for these variable (see Tables 4.5 and 4.73), in which p= 0.076 for year 1, p= 0.064 for year 2 and p= 0.027 for year 3. However when the means for the S2 construct of perceived personal and professional development is analysed across groups and years, there appears to be contradictions between the findings from the qualitative data as illustrated above and those resulting from quantitative analysis (see tables 4.8 and 4.9) ANOVA identifies a difference in the perception of personal and professional development between the groups where p = 0.054. This is further verified by t-Tests, which indicate that there is a highly significant difference between tutors and students of this perception of S2 mean (for personal and professional development) in year 3 where p= 0.001. This implied that tutors did not perceive that EBL had any significant effect on students' personal and professional development (S2 mean) as compared to the students' themselves. This is not supported by qualitative data as illustrated in chapter 5.

2) Students with more life experiences were initially perceived, by mentors (in the qualitative data) and tutors (in the quantitative data) to be more effective in practice (S3 mean). Mature students also perceived more effective self-
development in personal and professional skills (S2 mean) through an EBL process. This variable was a persistent factor, which surfaced in the data, and analysis of both qualitative and quantitative data coincided in this respect. When examining the statistical tests for S3 mean (effectiveness of EBL on practice learning) in year 3, there appears to be a difference approaching statistical significance between diploma and degree students for this mean when this was not the case in the previous two years (p= 0.043). Diploma students perceive EBL to be more effective on practice learning than the degree students perceived it to be. In one instance, this contradicts the qualitative findings in which a practice facilitator perceived degree students to be more effective learners in practice settings. This difference evened out towards the end of the programme. I concluded that perceived empowerment in teaching and learning through self-awareness and being inquisitive could be the cornerstone in the change process of self and professional development. This was supported by the discussion in chapter 6 to 9.

3) The process of an EBL approach was perceived to be better than traditional teaching methods, in terms of reflection on practice and learning, improved recall of information, developed spiral learning and was perceived to enhance skills if learning was carried out in the context of practice. However, ANOVA applied to quantitative data, identifies an interactive effect of years and groups indicating a difference between groups in one year but not in another for the perceived impact of EBL on practice learning (S3 mean), where p= 0.034. T-Tests further identify that this difference occurred in year 1 where p= 0.028 and implied that tutors perceived EBL to have a greater impact on practice (S3 Mean) than the students did. This is not implicitly evident in qualitative data but students, tutors and mentors seem to express diverse opinions on these issues. However, the quality of the teaching and learning through an enquiry based approach is influenced by the quality of its facilitation and therefore appropriate preparation, of academic tutors and mentors in developing critical reasoning and reflective skills in practice, for its delivery, is essential to provide support and feedback. A mixed method approach, in addition to an EBL strategy, has been more effective in emphasising reasoning and autonomy in learning through a spiral approach to learning. Generally learnt knowledge seems to be critically and reflectively integrated to new knowledge before its application although tutors and mentors perceived that reflection was not always carried out effectively by some students.
4) Data appear to be contradictory on the effectiveness of an EBL approach, in terms of confidence and competence (S4 mean), as compared to a more traditional curriculum in midwifery as it progressed through the three-year duration of the programme. An EBL approach was perceived to develop generally, learning in practice articulated as confidence and competence. Those students who were perceived to demonstrate competence (S4 mean) also corroborate and appeared to possess skills of effective communication (S1 mean), resorting to past and life experiences and displaying skills of empathy and intuition. This corroborates with the quantitative analysis as identified in the data for year 2 where older students perceived in themselves more effective interactive and communication skills as compared to younger students (Spearman's rank correlation test, table 4.73 where p= 0.017). These findings are also reflected in analysis through t-Tests which indicate that mentors also perceived that an EBL strategy seemed to have an effect on the interactive process of students in developing their communication skills (S1 mean), where p= 0.039.

5) On the other hand, an ability to reason and reflect critically on practice situations appears to be key ingredients in developing both confidence and competence. ANOVA for quantitative data displays a highly significant difference between the groups for perceived effectiveness of confidence and competence through an EBL process, where p= 0.000. Unpaired two-tailed t-Tests identified where these differences lay over the three years of data. In year 1 students perceived themselves to be more confident than mentors perceived them to be where p= 0.016. In year 2, tutors perceived students to be more confident and competent than they perceived themselves to be, where p= 0.022. Finally in the third year students had again perceived themselves to be more confidence and competent than the tutors thought they were (p= 0.000). Tutors also differed from the mentors in this perception in the final year of the programme, which indicated that mentors perceived students to be more confident and competent (S4 mean) than the tutors did, where p= 0.029. This data present conflicting and changing perceptions over the years. There were also, problems as indicated through the data, on the effectiveness of the assessment process in determining competencies in terms of reflective and critical reasoning skills or skills of empathy and intuition.
Additional data: there were some additional themes identified, by the practice facilitators, which mostly related to assessment of students in practice and the difficulties of supporting the use of portfolios in practice by the mentors. Practice facilitators perceived that mentors found difficulties in managing the necessary paperwork relevant to completing the student portfolios.

Practice facilitators also identified the need to re-evaluate the structure of the portfolios as an assessment tool and the difficulties of keeping mentors up to date with their role in signing and identifying those parts of the portfolios that needed to be marked by the mentors. They stressed that some mentors did not have the knowledge to identify relevant literature supporting records of direct observation and reflections in and on practice. They were happy to assess observable skills but could not critically assess written reflections related to practice, as their knowledge of recent research was not always up to date. This they attributed to lack of time to read current literature due to practice workload.

In conclusion, enquiry based learning in a midwifery curriculum generally confirms the literature about its effectiveness as a teaching and learning strategy. The quantitative data indicated that the various constructs pertaining to effectiveness of EBL corroborated and were contributing to the overall effectiveness of EBL. Analysis of Variance tests (ANOVA) indicated differences between group participants across the three years. However, t-Tests on quantitative data identified differences between students and tutors in the final year of the curriculum in their perception of perceived outcomes of an EBL process (S5 Mean), where p = 0.009. This implied that tutors did not think that EBL was as effective on positive outcomes as perceived by the students. There were no significant changes across years and groups for S1 Mean (interactive processes) but S2, S3 and S4 Means indicates some differences.

S2 mean showed a difference for the groups in terms of perceived effectiveness of EBL on personal and professional development where p = 0.054.

S3 mean indicated an interactive effect of group and year indicating a difference between groups in one year but not in another for the perceived impact of EBL on learning in practice, where p = 0.034.
S4 Mean showed a highly significant difference between the groups in their perception of the effectiveness of EBL on confidence and competence where \( p = 0.000 \).

To summarise then:

- Students in the older age brackets perceived more effective outcomes from an EBL process as compared to younger students in terms of development of interactive and communication skills (S1 mean), personal and professional development (S2 mean) and effectiveness in practice (S3 mean) in terms of development of confidence and competence (S4 mean). Mentors generally agreed with these findings.

- Diploma students perceive EBL to be more effective on practice learning than the degree students. However, practice facilitators disagreed with these findings and perceived degree students to be the more effective learners in practice.

- Tutors perceived EBL to have a greater impact on practice (S3 Mean) than students did but disagreed generally about the overall effectiveness of EBL as tutors did not think that EBL was as effective on overall outcomes (S5 mean) as perceived by the students. These findings were generally contradicted by the qualitative data were the majority of 5 tutors interviewed thought that overall an EBL process was effective as a new teaching and learning strategy.

The qualitative data gave multi-perspectives of these views. However data from this study suggest that EBL effectiveness depends on the personal attributes of students (affected by age and experience) in terms of motivation and wanting to learn in a self-directed manner, when effective collaborative learning is the result. On the other hand negative aspects of dominant group members, in hindering learning in small groups, has also become evident.

In addition reflection plays a key role in making professional ways of knowing explicit. Effective reflection may be the corner stone to improved confidence in practice and learning and is articulated as competent action. It is a tool through which participants are empowered to challenge and transform practice. An EBL approach, which results in reflection, discussion and action, is perceived to develop the participant both from a personal and professional perspective as a lifelong learner. This is in terms of communication skills and perceived essential skills of intuition and empathy.
developed as a by-product of the process. Difficulties in assessing such skills have been discussed.

Finally effective facilitation of an EBL process in terms of learning from an exploration of the theories and an examination of practice skills will contribute to these outcomes. Therefore mentor and tutor preparation for facilitation of the EBL process and an understanding of its concepts are essential.

**10.1 Evaluating the Research**

The midwifery curriculum that has been evaluated at this institution may not be the only one in the UK that has adopted an enquiry based approach as a teaching and learning strategy in a combined methods curriculum. The use of EBL is now widespread in health science curricula as identified in the review chapter. However, some curricula in midwifery have adopted this strategy but few have been evaluated and the majority of evaluations have been for nursing pre- or post registration programmes using a problem based approach as the main teaching strategy or used as a teaching strategy in a specified subject (Beeb & Pittam 2004, Newman 2001). One midwifery curriculum evaluation identified in the literature review used a complete problem based learning approach (PBL) and the conclusions have been discussed in chapter two (McCourt & Thomas 2001). Another study has evaluated outcomes of the autonomous practitioner, as an element of effectiveness of an EBL approach, in post-registration midwifery programmes. Additional work was planned in evaluating these aspects from a pre-registration perspective at this researcher's institution but no further work has been published or is accessible to date (Packham 2002).

Recent literature has documented evaluating the use of a PBL or EBL strategy in linking taught themes and concepts of psychological theory to clinical practice in a pre-registration midwifery programme (Fisher & Moore 2005). However no distinction was made between PBL and EBL in this evaluation and the two terms were used interchangeably throughout the paper. Furthermore only one subject disciple, that of psychology, adopted this teaching and learning approach. The conclusions reached add no new evidence and concur with the known literature. Since commencing this research other programmes in pre-registration nursing and midwifery seem to have adopted an enquired based approach (Coles et al 2002 - Oral presentation at a conference at The University of Southampton). After further extensive literature searches and personal contact with a large number of Heads of Midwifery across the
UK, no publications evaluating outcomes of such a curriculum in midwifery have been found to date.

The midwifery programme at this institution uses an enquiry based approach to transcend the content of the curriculum. Subject disciplines, such as biosciences, psychology and sociology, law and ethics, interactive and communication skills, skills of critique and reflection and professional issues, are integrated through the use of triggers and an enquiry based approach, developing a lateral exploration of midwifery theory and practice. The facilitation and application of an EBL approach at this institution seems therefore to be unique to this context and its evaluation is therefore not generalisable to other institutions. As discussed previously the examination of underlying concepts of an EBL process could be useful in offering other educational institutions a further body of knowledge underpinning this phenomenon. In carrying out this work, I have created a synthesised theory, which provides a conceptual framework under which the key concepts and principles of an EBL phenomenon can be identified. This integrates critical and reflective theories, which explore and analyse the self in relation to others, through psychosocial and interactive theories to produce practitioners as a changing force, through perceived empowerment demonstrated as competence, autonomy and action. ‘New knowledge’ is formed when applying existing concepts to an EBL process in developing midwifery practice. Integrating theories and the data generated through this evaluation study has contributed to the body of knowledge in midwifery education.

As discussed in chapter 3, a case study approach to this evaluation using both qualitative and quantitative methods has been adopted. Scientific methods alone can offer an objective view of reality but do not consider the different kinds of knowledge that are shaped by the participants’ interest. This thesis has gone some way towards developing a multi-perspective view about the reality of the students’ learning experiences and the tutors’ and mentors’ changed teaching approaches to promote critical thinking and reasoning. Carr & Kemmis (1983) suggest that knowledge is shaped by individual needs and interests shaped by historic and social conditions and developed through human activity. Cognitive knowledge is generated, through which reality is constructed and acted upon. With reference to critical social theory it has been possible to examine how new educational approaches may be a transformative experience, promoting social change within the education and culture of midwifery.
Habermas (1973) suggests that there are three domains of knowledge: the technical, the practical and the emancipatory. Technical knowledge facilitates control over natural objects and is seen as instrumental knowledge within a scientific context to present a disinterested approach. Practical knowledge serves to understand and clarify conditions for meaningful communication and dialogue i.e. interpretative understanding, which can inform and guide practical judgement leading on to action. However, Habermas states that learning is limited by the objective context of institutions and restricts the scope of individuals in terms of self realisation and zones of possibilities for change and transformation. He suggests that interaction not restricted by traditional forms of education and communication, could develop transformative understanding of what objective limitations confine communication and social actions. In other words, the reality of lived experiences throughout this research, as communicated by participants through reflective writing, questionnaires and interviews, has developed a collective understanding of possibilities for change and an understanding of what might restrict these changes.

First I have examined and gained practical knowledge of an EBL process through the reflections of students and interviews of students, mentors and tutors which enabled a critical approach to exploring the concepts of an EBL process. Next I have examined an EBL process within this new curriculum and gained technical knowledge through questionnaires for students and tutors and developed associations and explanations through an empirical analysis. Finally I examined transformative knowledge as demonstrated by participants through interviews, who describe the teaching and learning experience of an EBL strategy, and their perceived understanding of change and action through their interpretation of outcomes from this approach.

Habermas (1973) acknowledges that interpretative insights cannot be generalised and do not predict a cause and effect of interventions (such as an EBL process). These subjective interpretations are influenced and restrained within the social and historic framework and context of the individuals. However, reflections can be useful in describing and critically analysing issues and situations and may give a self-understanding of distortions and how these can be changed. Habermas suggests that critical social theory can remove the influences which cause subjective meanings to be distorted and argues that it allows individuals to critically reconstruct their understanding and their articulation of their restricted activities and hence is a ground for empowering action. Traditional or hegemonic practices are examined critically
and through self-reflection bringing about a consciousness which is empowering as it produces this knowledge. Critical social theory may be a means through which an individual's beliefs and attitudes are examined and understood in terms of how these are influenced by the social context from which they arise. In doing so individuals arrive at the true meaning of their needs and purposes.

It could therefore be argued that the findings from this study suggest that with the introduction of an alternative EBL strategy to teaching and learning on this midwifery curriculum, a more critical and reflective approach had been adopted. This is rooted in the concrete social experience provided through the interactive process in the EBL and professional tutor group (PTG) settings, and generated through the group dynamics and the reflective process within. Through this forum individuals are enlightened to analyse their situations, beliefs, attitudes, emotions in finding truth and meaning and challenge distortions and false ideologies in their experiences. In examining the progression and consequences of this EBL through an action approach, inadequacies are realised and direction and plans of action are applied. In doing so critical social theory is used and tested through the social activities generated through this curriculum.

Habermas (1981) argues that reflection, analysis and discussion between participants results in consensus and understanding of competing issues through a theory of communicative competence. The theory of communicative competence is an ethical theory of self-realisation, which transforms the source of human ideals into reality and understanding. It analyses and explores transformative knowledge, which is integral to communication whether spoken or expressed through reflective writing. In this manner the true interest of the writer or orator are democratically expressed. Habermas (1981) suggests that however liberating the ethical theory of self-realisation may be, it is not complete and convincing but tentative and suggestive of on going development.

Harvey (1990) argues that the differences between critical and non-critical approaches to social research, are the differences in approaches and where critique is placed either within or outside the research process. Knowledge becomes critique and the research process moves away from the objectivity of knowledge to one of a dynamic and changing process of knowledge in understanding and restructuring of perceptions through a social analysis. Events are explored and critically examine prior knowledge to inform new knowledge, such that, ideologies which oppress and
control are deconstructed and reconstructed in a transformative and empowering process moving from ideology to reality.

Therefore critical social research lends itself to an ethnographic methodology which allows participants to generate an understanding of their experiences from their own perspective and thus the researcher plays the role of both outsider and insider during the process, as discussed in a previous chapter. The effectiveness of an enquiry based teaching and learning approach within a midwifery curriculum, has been examined from the perspectives of the user, student midwives, mentors and tutors. I, as a tutor and researcher have taken on the role of both outsider and insider in this examination and as a result gained a dual perspective. Thus I have moved from an objective examination to one that deconstructs and reconstructs conceptual knowledge “in terms of the social structural relations that inform it” (Harvey 1990: 19). Such an approach i.e. critical ethnography moves beyond interpretations of the participants’ meanings to reconstructing and applying these meanings to the culture of the profession and its ideologies. As Hughes, Deery & Lovatt (2002: 51) succinctly imply, ‘A cultural ethnographic approach is best suited to the consciousness raising and analysis of power relationships that is a pre-requisite for the cultural shift that is necessary if midwives are to be empowered within current UK government policy’.

The reflective practices of the students, within their portfolios of evidence, have not only developed understanding, but have encouraged activity and change after critical examination. The researcher, mentors and tutors have facilitated this reflective examination. Thus practices and historic or routine midwifery knowledge and skills have been critically explored not just from a factual perspective but for active interpretation of their existence in terms of dominant and oppressive ideologies example the impact of patriarchy within the midwifery profession and its education. The impact of political, social, cultural and economic events on the midwifery profession may be seen to have evolved into oppressive structures. By exploring the effect of empowering strategies within midwifery education and practice, such as an EBL process, has encouraged reflection and activity from participants and therefore changes within the profession towards creating alternative perspectives.

The midwifery profession comprises mostly of a female workforce and therefore gender issues are an important element to the transformative concepts of education and practice as competing against a work environment based on medical models of care supported by traditional teaching and learning approaches, which limits
empowerment for midwives. Dominant discourses within the profession have influenced structural organisation within midwifery culture and limited empowerment in both practice and education. To examine such practices, the collaborative but subjective contribution from participants has been intrinsic to analysis of their social experiences. For this reason the methods adopted and used, through both qualitative and quantitative approaches, in this research are justified. It is the way in which data are approached and interpreted, after critique and reflection, following collection, which is fundamental to critical social research. It is the context of the data, which is crucial to its analysis in arriving at the “reality” of observed and lived experiences.

An enquiry based teaching and learning approach within midwifery education could be perceived to replace one dominant strategy or ideological curriculum by another. However, when viewed within the context of the “realities” of students, mentors and tutors, the altered perceptions of participants through critique and reflection, may be the means of ensuring empowerment through an alternative educational approach, such as an enquiry based process within the curriculum.

10.2 Transformative Adult Education Theory
In understanding how “new knowledge” from this research can be usefully applied to make changes towards a new midwifery curriculum I have referred to Mayo’s work. Mayo (1999) describes a theory of adult education, which takes into consideration the political nature of all educational intervention (such as EBL). It calls for social transformation in terms of the learning styles of adult students and educational initiatives that focus upon structural and fundamental systems of education, which may be viewed as being oppressive. The author advocates that educational reform, which lends itself to transformative adult education, should be underpinned by a “language of critique” to unveil a dominant hegemonic discourse (Mayo 1999: 24). He further argues for transformative education which deals in “possibilities” from an idealistically designed curriculum to one that recognises the realities and context of adult learners, and encourages an examination of the implications and consequences of educational changes within a so called democratic structure of teaching and learning. These theories may be usefully applied to the findings in examining this midwifery curriculum. The power-knowledge relationship as generated through an EBL approach is integral to the social interactions that arise through its process and for my thesis it has been a thread in data evidenced by the participants in my evaluation.
An EBL process appears to provide the arena through which such concepts are played out. Gramsci's ideas of a "hegemonic" culture (which could be applied to midwifery practices), are useful in understanding the reasons underlying both the success and failures of past practices, and the realisation of a new vision and direction for changing the culture of midwifery within existing conditions (Mayo 1999). Mayo draws on the work of both Gramsci (1988) and Freire (1970, 1972, 1973, 1985, 1994, 1998), to theorise about transformative adult education, in terms of educational process, sites of practice and content within the curriculum, and argues for an interrelationship in the process of adult education. Such an interrelationship has been evidenced through the findings of my study, which suggest that enquiry based approaches to learning within this midwifery curriculum encourage personal values, beliefs and cultures to be shared and enrich the learning process. As a consequence a collaborative examination of present midwifery culture encourages critique and reflection, and eventually changes practices within the profession, both in education and in the work place.

Like Mayo (1999), who uses Gramsci's (1988) work in terms of hegemonic discourse within "dominant groups", it could be argued that hegemony exists in the culture and medicalised midwifery practices and its education. This thesis has examined how an EBL strategy may be a move away from hegemonic discourse within this curriculum towards counter-hegemonic or heterogenic practices, and endeavours to encourage autonomy in both practice and education within the profession. However, it can never be claimed that a social and educational institution can ever be politically neutral and must be influenced by existing hegemonic discourse to serve the interests of stakeholders steered by government initiatives such as evidenced in Making a Difference (DH 1999) and Fitness for Practice (UKCC 1999).

Gramsci (1988) argues that participative education, as underpinned by instructive teaching or "fixed resource sessions" is essential to the learning process. Mayo (1999) believes that such combination of methods enhances education but requires that didactic or instructive teaching is not merely delivered but facilitated to allow the learner freedom of critical and reflective analysis, whilst drawing on personal experiences and existing knowledge. Like Gramsci, he supports the view that education is effective through practice activities to bridge the theory-practice gap, in today's terminology. However, such ideals may in reality not be as effective as Gramsci first believed, in attempting to bridge the theory-practice gap, and is evidence in many of today's literature around education in nursing and midwifery.
(Knight, Moule & Desbottes 2000). Gramsci’s thoughts are useful as applied to an EBL process to understand its conceptual underpinning. As supported by his theories then, this evaluation indicates that an EBL process provides the tools in narrowing the gap between what midwives know and what they do. Participants implied that in understanding the concepts that underpin what they do in practice makes a difference to their perception of existing practices and experiences and makes room for analysis, reflection and change. Theories define an enquiry based learning process and give practitioners an understanding and purpose of their role as lifelong learners, which promotes long term effective outcomes in becoming enriched and fulfilled practitioners.

Mayo (1999) also examines Freire’s work in relation to educational theories. Freire held similar beliefs to Gramsci in terms of the extent to which education could be regarded as neutral, given the way in which dominant political interests as a precursor to social and educational transformation influence it. Education and how society is intrinsically transformed through its effect is of particular importance to Freire. Therefore Mayo (1999) argues that in Freire’s view, action and reflection are substantive elements in a radical andragogy as in transformative adult education. As the data indicate dialogue between facilitator and students and amongst students, is an essential part of the educational process and is in accordance with Freire’s perspective. Giroux (1983, 1985, 1988, 1996) takes this a step further and advocates the affirmation of self-knowledge (or what one knows and understands) before moving on to acquiring new knowledge. Freire in all his work constantly presents the concept of practical activity as an educational process, through which learners critique and reflect on their own learning cultures and examine the contradictions within. This concurs with data from my study, which implies that through an EBL process motivated students take ownership and become authors of their own learning.

Mayo’s examination of these two prominent writers demonstrates how both moves the student from an “object” to a “subject”. Both believed that in transforming the site of practice to a place of social activity, an adult learning environment is created conducive to empowerment and autonomy. Mayo’s examination of adult learning fit in well with the principles and philosophies of an enquiry based teaching and learning strategy within this midwifery curriculum. Creating a conducive environment to learning in which this continues to happen is essential. According to Mayo (1999: 89):
the learners participate in the unveiling of their own reality in the creation of their own knowledge.

As illustrated in chapters 8 and 9, learning through critique and reflection engages the learner in not only changing themselves, through a consciousness of their role, but the learning and social environment in which they interact. They combine the effective elements of an EBL process in learning the skills by which these are achieved on a journey to achieve expertise through scientific and artistic elements of midwifery, combined through intuition and empathy necessary in being sensitive to women’s needs during the childbearing continuum. Technology alone will never be the instrument of care but requires in addition the qualities and skills of midwives in promoting “normal childbirth” during their support of childbearing women. As indicated from the findings these essential skills include those of effective communication, an intuitive and empathetic presence and an autonomous ability to empower women to make choices, judgements and decisions during this meaningful partnership. The purpose of midwifery education is therefore to support and enhance positive outcomes of the childbearing process and all that it implies.

10.3 Limitations of the study

The limitations of the study are that it is based in one institution examining one cohort of a small number of participants and therefore the finding cannot be generalised to other institutions. The concepts and theories identified are applicable to other curricula but the EBL process itself is unique to each institution in which it takes place.

A multi-method approach in this research has resulted in contradictory evidence but personal perspectives of participants have provided a multiple realities of this curriculum and widened and enriched the data. This has aided in identifying where future work and follow up study needs to be carried out. In retrospect qualitative approaches using more in depth interviews aided by reflective journals or diaries from participants would have enhanced the data. However it has been useful in identifying differences, between participant groups, of their perceptions of the effectiveness of an EBL process through quantitative methods.
10.4 Recommendations for Future Developments

Overall the introduction of an enquiry approach in this midwifery curriculum was well received. However as with all new programmes adjustments needed to be made as the curriculum progressed and issues emerged.

Firstly adequate preparation of mentors and tutors to facilitate the enquiry process is essential for the successful development of the student. This has now been addressed through setting up sessions for professional development and informing new tutors and mentors of developments, facilitation and support of an EBL strategy. Mentors however, still perceive that they feel inadequate in supporting students in their reflective and critical skills. A solution would be in reshaping the facilitation process by reaffirming and improving links between academic staff and practitioners through locality tutors’ sessions, on these skills, in practice for mentors. The literature recommends that more emphasis is placed on teaching theoretical models of reflection and critique as opposed to learning how to carry out the process of reflection (Nicholl & Higgins 2004). Tutors and mentors both need the understanding and knowledge of critical theory and reflective models before they are able to teach and facilitate these skills. In addition support in developing the skills and assessment of intuition and empathy needs to be considered. As indicated, although perceived by participants to be essential and present in the content of the curriculum, making these more creatively explicit within the curriculum content is now necessary and needs to be discussed with the curriculum planning team. Further work is required to understand how an articulation of empathy and intuitive skills can be integrated into the assessment process.

Another element in the EBL process that needs to be addressed, is the facilitation of small group learning and the need for tutors to ensure that the negative effects of dominant group members which inhibits learning does not dominate the process. More work needs to be done into why these situations occur and how facilitation could be improved.

The assessment through the use of portfolios needs to be re-examined. Tutors and mentors perceive that assessing students through enquiry based work generated towards a portfolio, is time consuming from their perspective and that of the students. A strategy has been developed since the curriculum commenced in 2001, which has streamlined the necessary evidence required towards the assessment in the portfolios. The assessment criteria have also been revised, (Appendix 17) to highlight
requirements of demonstrating the need to evidence practice, by linking it explicitly to
the theory achieved through critical and reflective writing. However, assessors still
perceive that this is not an adequate method in determining competence in practice
skills and there is a move to incorporate further practical assessments throughout the
programme. This supports what the recent literature recommends in terms of more
effective mixed methods of assessment integrated through a portfolio (McMullan et al

Furthermore cross validation of portfolio assessment is essential to improve inter­
reliability between markers through an agreed criteria between mentors in practice
and academic markers. A solution of setting up assessment committees has been
recommended in recent literature with the view of improving reliability between
markers of portfolios through setting up more stringent portfolio assessment criteria
(Driessen et al 2005). This to some extent has already been addressed through the
new structure of portfolio assessment criteria that is presently in place (Appendix 17)
and a peer review system for teaching and marking which has just been put into
place at this institution (Appendix 18 on peer review documentation).

Finally the effectiveness of this educational strategy needs to be re-evaluated, with
subsequent programmes, in a constant cycle to make further improvements with
each cohort of students, mentors and tutors who access the programme. Further
research needs to include the client perspective of their perceived effectiveness of
midwifery care delivery, from students who use an enquiry based approach in their
learning.

I conclude that although an EBL strategy has got the right ingredients to promote
these skills which have been conceptualised in the present programme, they must
become more prominent and explicit in future curricula. The essential qualities, which
are part of midwifery artistry in promoting holistic, individualised care designed to suit
this woman-midwife partnership, context and uniqueness of each birth experience,
need to be more transparent (Powell Kennedy 2004). It appears that an EBL
approach is able to provide the tools, space and opportunities for such
developments. The social aspects of the profession are a crucial element in the
teaching and learning processes and have implications for recruitment criteria. The
profession needs student midwives who demonstrate abilities to be self-motivated
and self-directed in their learning, display team player qualities, show evidence of
effective communication skills through previous life experiences and be willing to
develop their creativity through intuitive and empathetic skills that require an understanding of self and others. An EBL process has the possibility to fulfil these expectations of the creative learner, who is competent in skills, able to apply theoretical knowledge to practice, learn from practice and enhance the theory, and display more emotive and spiritual elements of the artistry of midwifery.

The profession seeks candidates who will enhance their practice by developing into “fit for practice” professionals able to promote normalcy in childbirth through knowledge and sensitivity in supporting childbearing women. Such empowerment is not only addressed in practice but has its roots in the education of midwives. It is a voice in providing a service that engenders a shared responsibility between providers and users, in creating a social meaning of midwifery education and practices.

10.5 Conclusion
This thesis has examined, through case study evaluation research, an EBL process and the concepts that underpin it. It could be argued that the professional constraints placed by the NMC proficiencies and prescribed learning outcomes would limit personal change and feelings of empowerment for tutors, mentors and students. The issue is that any attempt at true change may be overcome by more traditional teaching practices. Teachers often find difficulties in making time to reflect on their practices and consequently may refrain from seeking understanding of the realities of these changes. Carr & Kemmis (1986: 189) state that “teachers practice according to implicit and tacit theories”. Awareness is stilted and change never happens. For lasting change to occur tutors, mentors and students must believe in the changes possible through an EBL process. Most participants understand the process. In understanding the concepts that underpin it, practice and theory can be married harmoniously and applied effectively. Participants have collaborated in reaching this understanding. In continuing to reflect on the process and outcomes of an enquiry based teaching and learning strategy and its underpinning concepts, then the knowledge developed is personal and neither subjective nor objective and judged to be authentic when viewed and judged through rational reflection on experience. It gains validity through the combined multi-perspectives of participants. The reality of an EBL process and its consequences is created through this reflective process.

It could be argued that I, the researcher, through this research and involvement in the curriculum might be biased in the examination of these practices, having been involved in the teaching strategy. But through this investigation it has been possible
to recognise emerging issues in the new curriculum and change them. In recognising the limitations placed on the curriculum by the institution and making recommendations there is less risk of replacing existing ideologies with new ones.

Habermas (1973) believed that organisation of change allows for situations to be changed politically from above and socially from below. Empowerment shows how the constraints of an ideology can be overcome. By involving the participants through the process of educational research transformation occurs through their self-reflection, self-critique and improved self-esteem. It seems that as teachers may be empowered in transforming teaching practices, students may also achieve the same autonomy in their learning. The situation should be reciprocal through an enquiry based strategy. Empirical data suggest that the relationship between learning, knowledge and empowerment must consider the self, or individual, and others in the process. Rapid discussion between teachers and learners develops interested active participants through the EBL process which results in a backward reasoning strategy in which outcomes are tried, tested and changed to result in broader knowledge of the situation and a holistic approaches to midwifery care. This is in direct opposition to using a medical and problem solving model of forward reasoning based on diagnosis followed by management and treatment of symptoms.

As the researcher I am obliged to share the findings of this study with the participants through publication of the results. As a researcher involved in evaluation research I have developed an understanding of an enquiry based learning practice, its theories and its concepts, identified its strengths and weaknesses and brought about change in the production of knowledge in advancing a new curriculum. There is a risk that if teachers and mentors do not become fully engaged in the EBL process then there is no direct control of change. As the researcher, however, throughout the research process, I have formed a co-operative relationship with teachers, mentors and students in bridging the realities between theory and practice. Through this research an attempt has been made to change life experiences into reconstructed knowledge, learnt knowledge into applicable knowledge and reflection into understanding to bring about continuing change and development.

Through the examination of enquiry based teaching and learning practices, I have fulfilled multiple roles. I have initiated the investigation, working collaboratively with practitioners, mentors and students, observing the process and consequence of EBL (through both qualitative and quantitative approaches), serve the interests of
both the institution and the individuals involved on the midwifery programme and ensured the continuing development of the new curriculum.

Habermas (1991) articulated a concept of educational research, which has the purpose of empowering its participants. Thus participants and researcher are seen to be actively involved. The researcher is part of the action to bring about changes through the development of knowledge through a social activity of learning. Carr & Kemmis (1986) suggest evaluation research may be a link between critical social science and educational theory. In this manner critical educational research is an examination for education and not about it as a means of changing educational practices. It is a move to ensure that educational research is making practice more theoretical. Educationalists need to be conducting research to change rather than just interpreting realities of educational practices, through a critical and reflective approach. There is interaction between researcher and practitioners or participants in critical educational research. A process of understanding to improve conditions and practices must be alongside changes of dominant teaching practices as historically generated through educational institutions. It is hoped that this contribution made through a process of critical educational research not only transforms awareness of teaching and practice realities through understanding and reflection, but will be changing midwifery education itself through the research. It takes place in and through history and changes practice through its use.

Utilising evaluation research relates practice, understanding and the context of the practice. It is perceived that, this research has encouraged a deliberate social process involving students, teachers and mentors and an examination of their interactive activities to result in learning. However, in examining a social process, the political constraints imposed through an educational institution must be considered and addressed before changes can be accomplished and present a reality of what an enquiry based teaching and learning strategy is, what it is not and what it is to become.

I conclude that a new curriculum in midwifery should involve all participants to play an active part in contributing to the creation of a teaching and learning environment conducive to progressive learning. An enquiry approach has been instrumental in developing these strategies in terms of explicit theoretical and practical learning through group activities in creating knowledge through partnership, ownership and empowerment in learning, and must be retained.
Mentors and tutors have a large part in facilitating enquiry based learning but understanding the underpinning concepts of such approach through the theories of social, critical and reflective processes will enhance this process. Preparation of these participants in understanding these concepts would be invaluable in ensuring a collaborative and successful outcome to effective facilitation and learning through an EBL process. Acknowledging and supporting their contribution engenders motivation and involvement and must be valued.

A new curriculum must however consider how implicit or hidden qualities in midwifery practice such as communication skills, and support of women through empathy and intuition are to be articulated and assessed. Collaborative development between practice facilitators and curriculum team members seems to be the way forward in designing and facilitating effective assessment processes in determining competence, safety and a holistic approach to midwifery care in the future.
APPENDICES
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REFERENCES
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<tr>
<th>NMC PROFICIENCIES</th>
<th>PROFESSIONAL PRACTICE SKILLS</th>
<th>TEACHING/LEARNING STRATEGY</th>
<th>EVIDENCE OF ACHIEVEMENT</th>
<th>SIGNATURE OF MENTOR/ TUTOR</th>
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<tr>
<td>Practice in accordance with the UKCC's Code of Professional Conduct within the limitations of one's own competence, knowledge and sphere of professional practice</td>
<td>1. Recognise and acknowledge own limitations with respect to carrying out nursing/midwifery care functioning within the professional practice code of conduct</td>
<td>Ethic &amp; Law Lectures</td>
<td>EBL sessions 1, 2</td>
<td>Self Ass Formative Summative Date</td>
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<td></td>
<td>2. Demonstrate an awareness of how a professional practitioner must be an ethical one</td>
<td>Professional Practice Themes</td>
<td>Student discussion &amp; reflection</td>
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<td>3. Demonstrate a range of essential skills, under the supervision of a registered practitioner, to meet individual needs</td>
<td>PTG discussion</td>
<td>Written assignment</td>
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<td></td>
<td>4. Undertake and record skin assessment in child and adult demonstrate professional care in meeting hygiene, elimination, and eating and drinking needs</td>
<td>Practice Experience</td>
<td>Professional Behaviour Form</td>
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<td></td>
<td>5. Maintaining the safety and dignity of the client at all times</td>
<td>EBL session 1, 2</td>
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<td>Demonstrate evidence of a developing knowledge base which underpins safe practice Create &amp; utilise opportunities to promote the health and well-being of patients, clients &amp; groups</td>
<td>6. Demonstrates risk assessment of the immediate environment in a simulated situation</td>
<td>Related Practical Skills Sessions</td>
<td>Written assessment Certificate of competence(M&amp;H)</td>
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<td>MH schedule</td>
<td>Skills schedule</td>
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<td>Record of Direct Observation</td>
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<td>EBL session 2</td>
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<td>Assessment Tool in RDO</td>
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<td>Certificate of competence (M&amp;H)</td>
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<td>BLS certificate</td>
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<td>Reflections from Practice</td>
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<td>NMC PROFICIENCIES</td>
<td>VALUES AND ATTITUDES</td>
<td>TEACHING/LEARNING STRATEGY</td>
<td>EVIDENCE OF ACHIEVEMENT</td>
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<td>Contribute to the identification of actual and potential risks to the patients,</td>
<td>7. Demonstrates safe use of equipment</td>
<td>MH schedule</td>
<td>Certificate of competence (MH)</td>
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<td>clients and their carers, to oneself and to others and participate in measures</td>
<td>8. Make a comfortable bed (nursing)</td>
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<td>to promote and ensure health and safety</td>
<td>9. Recognise the need for and demonstrate effective basic life support skills for</td>
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<td>children and adults within a simulated setting</td>
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<td>10. Measure and record a range of functional parameters including vital signs of</td>
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<td>temperature, pulse, blood pressure and respiration.</td>
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<td>Engage in, develop and disengage from therapeutic relationships through the use</td>
<td>11. Develop basic assertive and perceptive skills</td>
<td>Communication Practice sessions</td>
<td>Reflection on EBL</td>
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<td>of appropriate communication &amp; interpersonal skills</td>
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<td>Communications Lecture</td>
<td>Written assessment</td>
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<td>PTG discussion</td>
<td>Feedback from tutors/mentors</td>
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<td>Practice in a fair and anti-discriminatory way, acknowledging the differences in</td>
<td>12. Be aware of the contribution of self to interactive processes and the need to</td>
<td>Small group work</td>
<td>Reflections and discussion from PTGs</td>
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<td>beliefs &amp; cultural practices of individuals or groups</td>
<td>practice in a non judgmental manner</td>
<td>Practical Experience under supervision</td>
<td>Written assessment</td>
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<td>Visits appropriate to gain a specific insight into midwifery/</td>
<td>Feedback from tutors/mentors</td>
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<td>nursing care</td>
<td>Student reflection on individual visits</td>
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<td>Practice in accordance with an ethical &amp; legal framework which ensures the</td>
<td>13. Express broad moral perspectives on health care in relation to the perspectives</td>
<td>Related Lectures on psycho-social issues</td>
<td>Student reflection</td>
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<td>primacy of patient and client interest &amp; well-being and respects confidentiality</td>
<td>of others</td>
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<td>Written assignment</td>
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<td>EBL sessions</td>
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<td>Undertake and document a comprehensive, systemic and accurate nursing assessment of the physical, psychological, social and spiritual needs of the patients, clients and communities</td>
<td>14. Identify key physical, sociological &amp; psychological concepts and suggest how such concepts may be relevant to an individual's experience of health and illness and sensitive &amp; appropriate healthcare</td>
<td>Small group work Related P &amp; S, A &amp; P Lectures PTG</td>
<td>Reflection on practice Written assessment A &amp; P Exam Practice skills sessions</td>
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<td>Demonstrate knowledge of effective inter-professional working practices which respect &amp; utilise the contribution of members of the health &amp; social care team</td>
<td>15. Understand the contribution of memory when communicating health information</td>
<td>Communications Practice Sessions Tutor feedback EBL session 3</td>
<td>Student reflection Professional Behaviour Form EBL session 3</td>
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<td>Evaluate and document the outcomes of practice and other interventions</td>
<td>16. Understand the principles of the research process and scientific reasoning</td>
<td>IT workshops Library visits</td>
<td>Written assessment Reading logs</td>
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<td>Provide a rationale for the care delivered which takes account of social, cultural, spiritual, legal, political &amp; economical influences</td>
<td>17. Show a grasp of the broad legal setting of health care practice with special reference to the duty of care &amp; negligence</td>
<td>Health &amp; social care settings field visits L &amp; E Lectures</td>
<td>Student reflections in portfolio</td>
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<tr>
<th>NMC PROFICIENCIES</th>
<th>COGNITIVE SKILLS</th>
<th>TEACHING/LEARNING STRATEGY</th>
<th>EVIDENCE OF ACHIEVEMENT</th>
<th>SIGNATURE OF MENTOR /TUTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate skills of interpretation and utilising data and technology taking account of legal, ethical and safe considerations</td>
<td>18. Review and make judgement about the appropriate use of information including published research</td>
<td>Related Lectures Assignment workshop Library visits</td>
<td>Formative written assessment Reading logs</td>
<td></td>
</tr>
<tr>
<td>Interpret and present information in a comprehensive manner to inform practice and to take appropriate action</td>
<td>19. Interpret information from a variety of sources related to health</td>
<td>Study skills sessions Portfolio workshop</td>
<td>Formative written assessment Reading Logs</td>
<td></td>
</tr>
<tr>
<td>NMC PROFICIENCIES</td>
<td>KEY SKILLS</td>
<td>TEACHING/LEARNING STRATEGY</td>
<td>EVIDENCE OF ACHIEVEMENT</td>
<td>SIGNATURE OF MENTOR</td>
</tr>
<tr>
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</tr>
<tr>
<td>Utilise a range of effective and appropriate communication and engagement skills</td>
<td>20. Identify, describe and demonstrate a range of communication skills</td>
<td>Communication lectures and practice skills sessions</td>
<td>Reflections from practice Tutor/mentor feedback (PBF)</td>
<td></td>
</tr>
<tr>
<td>Demonstrate key skills of literacy, numeracy &amp; computer skills needed to record, enter, store, retrieve and organise data essential for care delivery</td>
<td>21. Write accurate, legible and complete records</td>
<td>PTG sessions</td>
<td>Written assessment</td>
<td></td>
</tr>
<tr>
<td>Contribute to creating a climate conducive to learning</td>
<td>22. Use the Harvard approach to the bibliographic reference</td>
<td>Tutor feedback</td>
<td>Written assignment , reading log</td>
<td></td>
</tr>
<tr>
<td>Demonstrate a commitment to review, develop and enhance own knowledge, skills and fitness to practice</td>
<td>23. Draw up a learning agreement identifying own specific learning needs to negotiate and implement a programme of study</td>
<td>Tutor support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate key skills of information retrieval, interpretation and management</td>
<td>24. Search for, access and retrieve published research and other types of information from a range of resources including the internet</td>
<td>IT workshops Library visits</td>
<td>Written assignment Reading Logs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25. Use word processing skills for the preparation of assignments</td>
<td>IT workshops</td>
<td>Written assignment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>26. Produce a record of achievement</td>
<td>Tutor support PTG sessions</td>
<td>Tutor/Mentor feedback(PBF) Student reflection in portfolio Scenario assessment</td>
<td></td>
</tr>
</tbody>
</table>

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EHMMS, UNIS
**FOUNDATION OF PROFESSIONAL PRACTICE MODULE HOURS**

<table>
<thead>
<tr>
<th>Fixed resource sessions</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to programme/module</td>
<td>18 hrs</td>
</tr>
<tr>
<td>Sociology &amp; psychology</td>
<td>20 hrs</td>
</tr>
<tr>
<td>Biosciences</td>
<td>24 hrs</td>
</tr>
<tr>
<td>Law &amp; ethics</td>
<td>14 hrs</td>
</tr>
<tr>
<td>Moving &amp; handling</td>
<td>16 hrs</td>
</tr>
<tr>
<td>Basic life support</td>
<td>6 hrs</td>
</tr>
<tr>
<td>Study skills</td>
<td>14 hrs</td>
</tr>
<tr>
<td>Assignment &amp; portfolio sessions</td>
<td>4 hrs</td>
</tr>
<tr>
<td>Professional tutor groups</td>
<td>10 hrs</td>
</tr>
<tr>
<td>EBL Triggers &amp; Feedback</td>
<td>16 hrs</td>
</tr>
<tr>
<td>Evaluation</td>
<td>2 hr</td>
</tr>
</tbody>
</table>

**TOTAL** 130 contact hours = intro module hours

<table>
<thead>
<tr>
<th>Practice Hours</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust Week</td>
<td>25 hrs</td>
</tr>
<tr>
<td>Practice Weeks x 6</td>
<td>140 hrs</td>
</tr>
<tr>
<td>Professional Practice Sessions/G. Work</td>
<td>8 hrs</td>
</tr>
<tr>
<td>Practical Skills</td>
<td>20 hrs</td>
</tr>
<tr>
<td>Specific Practice skills</td>
<td>6 hrs</td>
</tr>
<tr>
<td>Locality &amp; Trust week talks</td>
<td>3 hrs</td>
</tr>
<tr>
<td>Other introduction to practice</td>
<td>4 hrs</td>
</tr>
</tbody>
</table>

**TOTAL** 206 hrs

**Self directed study**
To include practice reflection and academic work
Using a Reflective Model

A Circular Journey:

NEW EXPERIENCE

THINKING ABOUT THE EXPERIENCE WHILE DOING IT

DESCRIBING THE EXPERIENCE

REFLECTING ON THE EXPERIENCE

REFLECTING ON THE PROCESSES OF LEARNING

Brockbank A, McGill I 1998 Facilitating reflective learning in higher education Open University Press Buckingham
The reflective cycle (from Gibbs, 1988)

### Levels of Reflection (Goodman 1984)

**1st level**
Reflection to reach given objectives: criteria for reflection are limited to technocratic issues of efficiency, effectiveness and accountability.

**2nd level**
Reflection on the relationship between principles and practice: There is an assessment of the implications and consequences of actions and beliefs as well as the underlying rationale for practice.

**3rd level**
Reflection which besides the above incorporates ethical and political concerns: Issues of justice and emancipation enter deliberations over the value of professional goals and practice and the practitioner makes links between the setting of everyday practice and broader social structure and forces.
JOHNS [1992] MODEL OF REFLECTION.

CORE QUESTION- What information do I need access to in order to learn through this experience?

CUE QUESTIONS-
Description of experience.
1. Phenomenon - describe the 'here and now' experience.
2. Causal - what essential factors contributed to this experience?
3. Context - What are the significant background actors to this experience?
4. Clarifying - What are the key processes [for reflection] in the experience?

Reflection
1. What was I trying to achieve?
2. Why did I intervene as I did?
3. What were the consequences of my actions for: myself
   the patient/family
   for the people I work with
4. How did I feel about this experience when it was happening?
5. How did the patient feel about it?
6. How do I know how the patient felt about it?

Influencing factors.
1. What internal factors influenced my decision making?
2. What external factors influenced my decision making?
3. What sources of knowledge did/should have influenced my decision making?

Could I have dealt better with the situation.
1. What other choices did I have?
2. What would have been the consequences of these actions?

Learning.
1. How do I feel about this situation?
2. How have I made sense of this experience in the light of past experiences and future practice?
3. How has this experience changed my ways of knowing - empirics
   aesthetics
   ethics
   personal

Examples of two models of structured reflection

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analysis of a specific aspect of the client care episode</strong></td>
<td>Aesthetic knowing</td>
</tr>
<tr>
<td><strong>Feelings - uncomfortable feelings</strong></td>
<td>Influencing factors informing the action</td>
</tr>
<tr>
<td>• Emotional reaction</td>
<td>• Previous knowledge</td>
</tr>
<tr>
<td>• Things not verbally expressed - tacit knowledge, challenging expert knowledge, intuition</td>
<td>• Intuition - based on previous experience</td>
</tr>
<tr>
<td><strong>Critically analyse these feelings</strong></td>
<td>• Intuition based on previous learned knowledge</td>
</tr>
<tr>
<td></td>
<td><strong>Critically analyse this knowing</strong></td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td>Personal knowing or feelings</td>
</tr>
<tr>
<td>• Rationalise the therapy given</td>
<td>• Personal hunch</td>
</tr>
<tr>
<td>• Was the nursing action appropriate</td>
<td>• Uncomfortable feelings</td>
</tr>
<tr>
<td>• Explore the normal</td>
<td>• Coping mechanisms</td>
</tr>
<tr>
<td>• Review the literature supporting best practice</td>
<td>• What influenced how I responded to the situation</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td>Ethical knowing</td>
</tr>
<tr>
<td>• What was your understanding of the situation?</td>
<td>• Did the nurse or the team work in a co-operative manner</td>
</tr>
<tr>
<td>• Can we rely on tacit interpretations?</td>
<td>• How can the nursing intervention be justified</td>
</tr>
<tr>
<td><strong>Action plan</strong></td>
<td>• Did the health care practitioner act morally (autonomy, advocacy etc)</td>
</tr>
<tr>
<td>• Recommendations for future practice</td>
<td>Empirical knowing</td>
</tr>
<tr>
<td>• Is a time frame for implementation required?</td>
<td>• What knowledge informed the nursing actions</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>How is this knowledge gained e.g. experience, reading, reflective, personal</td>
</tr>
<tr>
<td>Has your presentation demonstrated the following</td>
<td>• Did previous knowledge allow the practitioner to act more decisively and knowingly</td>
</tr>
<tr>
<td>• Reflective theory</td>
<td>Reflexive knowing</td>
</tr>
<tr>
<td>• Evidence based knowledge and practice</td>
<td>• Ability to look back with a changed perspective</td>
</tr>
<tr>
<td>• Development of personal and professional knowledge</td>
<td>• How you would handle the situation if it arose again</td>
</tr>
<tr>
<td>• Positive effects on patient care</td>
<td>• Has practice been enhanced by your reflections</td>
</tr>
</tbody>
</table>
APPENDIX 3
A variable map showing extraneous and intervening variables for the correlation study to determine predictors of effectiveness of an enquiry based teaching and learning (EBL) strategy on a midwifery curriculum.
Since the last trigger I have not had a lot of time to carry out much further reading and reflection, owing to revising for the Anatomy and Physiology exam, trying to prepare for Christmas at home and spending time putting my portfolio together.

During a literature search for information on the current trigger I found a very moving article on the impact of sexual abuse on childbirth (Gutteridge 2001). The article quoted that a staggering 40% of women have experienced some degree of sexual abuse (Riley 1995, cited in Gutteridge 2001). In my previous reflection I said I felt it was important to care for every woman with the utmost sensitivity and this article further reinforced that feeling. I think that occasionally I have to be selfish, and recognise when someone is becoming a drain on my resources, to stay sane. I feel I can now move forward on the course without having to look over my shoulder to check this person is OK.

I have given some additional thought to my personal risk of burnout in relation to working practices.

I have high hopes for the kind of midwifery that I would like to practise. For example, supporting and promoting normal pregnancy and birth, through informed choice, empowering women and demonstrating my confidence in the birth process (always recognising that there are risks too). I have formed these ideas over the years through my own birth experiences and the contact and conversations I have had with couples from my antenatal classes. I know in my heart and bones that I want to practise normal midwifery. My fear is that normal birth is fast becoming a thing of the past – high intervention rates and rising caesarean section rates – and I will become an obstetric nurse. In addition, this article made me consider further the words we use as professionals and how the women we care for might interpret these. For example, during labour, ‘lie still, love, this won’t hurt’, may produce a cognitive cue and flashback to an abuse situation (Gutteridge 2001).

The person I discussed in the previous trigger has now made a definite decision to leave the course. I have to be honest and say, from a purely personal viewpoint, that I felt an overwhelming sense of relief when I heard the news. I no longer have to neutralise her negativity. Selfish: maybe. I recognise that this leaves me vulnerable to dissatisfaction and disappointment. On a positive note, what I have seen so far in university has given me hope for the future that the midwives of tomorrow will be more aware of the needs of women and will help to turn the tide of medicalisation.

I feel concerned that once I am in practice I may lose sight of these ideals and become socialised into the system. Or worse: I find myself working in an unsupportive medicalised unit, thus laying myself open to potential work place bullying (Hadikin & O’Driscoll 2000). I hope that being aware of these pitfalls will help me to avoid falling in...
APPENDIX 6
What is your perception of EBL as a new approach in the curriculum?
I have really enjoyed it. I think it is a really good approach because it allows you to study in as broad and as deep an approach as you wish. I think it is a way in which I have enjoyed being able to go and look things up for myself but then I have always done that it is the way I work. I think you have to be able to work in this way to get anything out of it and some people might find this way of working more difficult as they need direction and have never worked in a self directed way before. I couldn't learn in any other way now and I think even the younger students coming straight from A levels and being directed in their learning learn much better this way. I remember it more and then I can use it. Some topics there has been too much to take in but mostly if it is a topic I haven't known too much about it I researched widely.

Do you think this approach has changed the way you learn?
Not as such but it has made me more questioning of what I do and I reflect more. I think it makes you more reflective and therefore you change the way in which you see things. Yes I think it has made me more analytic of my practice and what the theory is saying. There have been times when I have gone away and find out about things I didn't know much about and there have been other times when I've felt snowed under and didn't really extend my search. At first I panicked about how much I needed to know especially in the theory bit but then when you went out in practice I became more selective about what I needed to know. It's not that you don't need to know about them but not in so much depth. I'm a perfectionist and I'm not the type of person that I like to be spoon fed information. Yes I like to get the basics but overall I'd like to go out and do it myself. So this type of learning has suited me to the ground because I like to go and do it myself. For me personally it has been a good way to learn. I think this way of learning will change people but it can be very daunting to start with even for someone who learns that way. But even it was daunting for me. But overall it will change someone's way of looking at things.

Do you think then that this approach has effected your development in practice?
Yes I think especially if you are particularly reflective. I think it has made me more confident to be able to say "I know about this and therefore I am able to go out and do it". It works in both ways really. You learn the theory, examine it and then you apply it or your go out in practice and you learn the skills and you examine them and then you, well you look for the evidence that supports the skill. Again the reflective process has been a major part in my learning. I go through the process methodically and think about the things that I need to do next. When the opportunity's arisen I would say "I have thought about that and now I can try it this way". And then again through reflection I can relate my theory to the practice.

Do you think that this approach has effected your personal development?
Yes probably in small ways. Well I am a more mature student and therefore I have had jobs before and I have experience from my own personal life raising children and being married and negotiating and reasoning and all those other things that come with my life. I mean it was difficult and stressful at first because the EBL and the curriculum overall took over my life and I was this dark figure sat at the computer and occasionally I had to reacquaint myself with my children and husband instead of this person saying "Go away! Leave me alone! Go and make your lunch!" because I was too busy getting the assignment finished. Having said that I have chilled out a bit. I have learnt throughout the course and things have got better that I now make time for myself and my children and I try not to let the work dominate. But I have learnt to prioritise things that are important.
Do you think that this approach has effected your professional development?

Yes enormously. I would say that it did especially in my being a professional. I do feel now that I can practice independently. It has made me think about what it means to be a midwife and how I need to be autonomous in practice, being able to say what I think is right and standing up for what I think. At the stage I am now I feel quite happy to go off and do my own thing and if I really get stuck on something to ask. I now have the confidence to do that. And I think EBL has developed that confidence. And it is all part of that reflective process and going away and finding things and if I think of something I will go and talk to my mentors about it as well. It is all part of reflection which gives me the confidence and therefore the competence and in a sneaky way (laughs) I get the mentors to reflect with me. I sort of discuss things with them and ask them if they thought about things in a different way and then we talk about situations.

So how do you think EBL has effected your confidence and then your competence?

I think the building up of competence in skills has been a bit of a jumble. Sometimes the theory did not match the practice or visa versa. I was doing blood pressures before the theory and things like that. I would watch people in practice because I knew that someday I would have to do these things so I had watched things being done and it wasn’t totally new. We should have had more skills practice related to midwifery. And my mentor was a phlebotomist for 8 years and she was completely experienced and I was taking blood before we learnt the theory as she was able to do that anyway. Then I found out I should not have been taking blood before the theory. We got a lot of mixed messages like that. Like the pharmacology when we did the theory and assignment mentors thought we could check and give drugs. Well we can’t, that sort of thing.

I would not say that I am totally competent, maybe I shouldn’t be saying that so near to qualifying (laughs) and say there are gaps in my knowledge, but seriously I am able to carry out my midwifery skills competently with supervision and my own initiative. I think it is a question of having a personal responsibility as well to learn it. You need to identify where your weakness are. I know that if I get stuck or I don’t know then I will call to my mentor or call someone who is qualified to help. You would then go away and find out for yourself. I would hope to keep improving my competence as I get more experience. I think the building up of competence in skills has been a bit of a jumble. Sometimes the theory did not match the practice or visa versa. I was doing blood pressures before the theory and things like that. I would watch people in practice because I knew that someday I would have to do these things so I had watched things being done and it wasn’t totally new. We should have had more skills practice related to midwifery. And my mentor was a phlebotomist for 8 years and she was completely experienced and I was taking blood before we learnt the theory as she was able to do that anyway. Then I found out I should not have been taking blood before the theory. We got a lot of mixed messages like that. Like the pharmacology when we did the theory and assignment mentors thought we could check and give drugs. Well we can’t, that sort of thing.

Do you think that this approach has effect your interactive and communication skills?

Well no well and that is not a failing on the part of the communication element in the course but I have looked at this from a very different angle. You know as I said before the experiences I’ve had and the jobs I’ve had been doing before I came here, which was very much group dynamics and communicating with people, I think those skills for me were quite well developed anyway. I think age or maturity has an enormous effect and I think it is because you have more experience of life. You have come across these problems before. If you have a family and if you’re married and having children, you have to learn delegation, time management and things like that. I have children and had to learn to be quite organised and you do transfer those kind of skills. I think that life experience have an enormous impact on these skills and I’ve had feedback from mentors who say how much they enjoy working with more mature students who can automatically communicate with women. I don’t suppose it’s the same for every mature student or younger student but the generalisation seems to be that the more mature students adapt better but the younger students soon catch up. I think in this course you either sink or swim and those who swim, swim well at the end of it you couldn’t survive otherwise in this job. Even those that are very young and have no life experiences when they first come into midwifery soon mature quickly otherwise they just can’t cope and leave the course.
Do you think that this approach has had an effect on the way you are mentored?

No I don't think so because I don't think the mentors knew we were using EBL. I think they view anything new from the university a bit indifferently. Generally speaking I think a lot of the mentors I've worked with have been trained in the old ways. They generally feel that we are not being trained to be a midwife at the university but we are trained to be midwives out here (in practice). They do have a point and up to a point I agree. But I think the two compliment each other. You need evidence based practice. I don't think mentors have a clue of what EBL is all about. They don't want to know either way and get on with the business of teaching practice. I think reflection has been a major part in my learning and I may not write every thing down when I qualify but I will certainly carry on with reflecting on my practice. The mentors overall have been very supportive if not extremely busy at times.

Can you outline the advantages of EBL?

I think the main advantage is that you learn to be self-motivated. I have already mentioned the way in which I learn and the major effect of reflection it has had and I think well you take responsibility for what you learn and then use it as well as you can. You learn the responsibility of not letting the team down and bringing the information back and you learn that kind of team spirit. It is the self-motivating issues of wanting to learn has a major influence through the EBL. And I think it makes you far more autonomous because it makes you so self motivated and the self-direction aspect of it helps you to make your own decisions and helps you to develop your thinking. And that reflective element of it certainly...

Can you outline any disadvantages?

Well ... there has been something. I have found myself supporting an awful lot of other students. I feel very stressed that other people rely on me to give them the information because they know I will do a good job of it and then they come to me to help them with their assignment and I end up taking time out of my own time to help them. I can't turn them away and I have never been able to say no .. you know me .. (laughs) but it has been stressful and I wish people would go away and do their own work. It is not that I am one of the more mature students because there are other mature students in the group. There is no kind of recognition that I might be struggling too. I am on my own here too. Even tutors when I've asked for help have said you are capable. That has been a real down side of the course for me. That has been quite hard for me. Apart from that ... oh yes... We should have more practice assessment as in year one. We had much closer links with practice the, than in year 2 or 3. I would have liked more practice assessments throughout the 3 years. I don't think you can judge people's competence by what they write alone. I could write a perfect essay and lie about how well I am able to do things in practice. You can make yourself sound fantastic. But if we were assessed on various things throughout the course in practice I think that would have been a better judgement of competence. Some students would say that practice assessments are stressful but then so are the portfolios so what's the difference...

Is there anything else you wish to add about the curriculum?

No I don't think so. I have really enjoyed the course and am really sad that it is coming to an end. I shall miss our PTG's. I really, really enjoyed those. ... oh yes ... another thing about the PTG's I wish they had been made use of in a better way. We seem to go over the paper work for the portfolios most times when we all know what paper work is required ... we're all suppose to be adults and having to remind people all the time ... so why waste time and not use it to discuss interesting things from practice. I think that what frustrated me but generally speaking. I think there is also an element of repetitiveness between modules and within modules that could maybe be changed. But then you must take responsibility for your own learning and find out things when you need them but then EBL does teach you that. Apart from that I have really thoroughly
enjoyed this course and I shall miss meeting everyone and coming to Uni. I feel quite sad it is coming to an end. You know me, I'm a study junky (laughs). I will probably not stop here and do some more studying maybe become a practice facilitator at some stage but then I must walk before I can run (laughter).
APPENDIX 7
Students on the September 2001 curriculum have been using Enquiry Based Learning as one of the teaching and learning strategies for the last 3 years. As part of my PhD studies, I am interested in knowing how effective the strategies in place have been in making comparisons across the three years to determine any changes during this period. I would value your contribution for the final year in this programme by giving your honest opinions in making this evaluation. The information that is generated from this questionnaire would enable the teaching team to make improvements and determine changes in future curricula. All responses are anonymous and information will be treated in the strictest confidence. Thank you. Anna M. Brown – Midwifery Tutor

The scale of 1 to 7 offers a scale ranging from 1 where you disagree, to 7 where you agree most with the statement, with 4 being the neutral middle reply for each of the following sections. Please tick one box for each statement which best indicates your own opinion or feelings.

Please identify which group you belong to:

Degree □ Diploma □

How old are you?

18-24 yrs □ 25-30 yrs □
31-40 yrs □ 41-older □

Section 1 - Group Dynamics

What are your views of Professional Tutor Groups?

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I work well with the members in my PTG group</td>
<td>1  2  3  4  5  6  7</td>
</tr>
<tr>
<td>2. I feel that the group does not work well together</td>
<td></td>
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<tr>
<td>3. I help other PTG members when they need it</td>
<td></td>
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<tr>
<td>4. I feel I am not well supported by other group members</td>
<td></td>
</tr>
<tr>
<td>5. I am unable to influence other people during discussion in the PTGs</td>
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</tr>
<tr>
<td>6. I am not concerned about how other PTG members are coping</td>
<td></td>
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</tbody>
</table>
7. I like being a part of the PTGs
8. The PTG’s have helped me to improve my understanding of midwifery issues
9. We are unable to get constructive feedback during PTGs from our tutor
10. As a group, we are unable to come to conclusions during the PTGs
11. Tutors are supportive during PTG sessions
12. PTGs stimulate discussion through which I can learn

Please add any other statement which would indicate how you feel about Professional tutor groups.

Section 2- Personal Development
How do you feel about your own personal development through this programme?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My personal learning and development is my responsibility</td>
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<tr>
<td>2. I cannot plan my work and learn effectively</td>
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<tr>
<td>3. I am able to work well on my own to develop my knowledge</td>
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<tr>
<td>4. I do not interact well with my colleagues</td>
<td></td>
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<td>5. I am able to stick by my beliefs when challenged</td>
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<td>6. Self-directed learning has not improved my confidence</td>
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<td>7. I am not confident in interpreting research to support my practice</td>
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<td>8. I can reflect on my learning effectively</td>
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<td>9. What I study does not makes sense</td>
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<td>10. I feel my personal achievements have increased since the start of this programme</td>
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</table>
Please add any other statement which would indicate how you feel about your own personal development through this programme.

Section 3 – Impact of Enquiry Based Learning (EBL) on Practice

What are your views of the impact of Enquiry Based Learning (EBL) on practice?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Agree</th>
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</thead>
<tbody>
<tr>
<td>1. EBL has enabled me to understand the relevance of theory to my practice</td>
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<tr>
<td>2. Through EBL I am able to understand how research can be applied to practice</td>
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<td>3. Working in the skills lab has not prepared me to use skills effectively</td>
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<td>4. EBL has enabled me to recall acquired knowledge more effectively</td>
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<td>5. EBL has not given me the confidence to work as a team member</td>
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<td>6. I think EBL is a more effective method of learning than other methods</td>
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<td>7. I do not prefer enquiry based learning over traditional methods</td>
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<td>8. EBL has not changed the way I learn</td>
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<td>9. EBL has influenced my personal attitudes and beliefs</td>
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<td>10. EBL has not improved my interactive skills</td>
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<tr>
<td>11. EBL has not made linking theory to practice more effective</td>
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<td>12. I think EBL encourages confidence in practice</td>
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<tr>
<td>13. I think EBL has not motivated my self directed learning</td>
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</tbody>
</table>
14. EBL has enabled me to manage information and apply to practice as necessary

15. EBL does not encourage a student to question theory and practice assumptions

16. I do not think that EBL encourages lifelong learning

17. I understand the value of portfolios for my understanding

18. Through EBL I can relate learning outcomes to evidence of achievement

19. EBL has not improved my research skills

20. EBL has made learning more significant

Please add any other statement which would indicate your opinions of the impact of Enquiry Based Learning on your practice.

Section 4 - Confidence & Competence

What impact has Enquiry Based Learning had on your confidence and competence?

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

1. I do worry about making mistakes in practice

2. I am confident in using the right skills when I am out in practice

3. EBL has improved my communication skills with clients, peers and colleagues

4. I am not confident that I have been able to use my knowledge to give holistic care to clients
5. I am confident that I can manage complex issues in practice

6. I do not feel competent in offering clients appropriate care

7. I am more aware of the holistic needs of the clients

8. I am unable to apply the knowledge I have gained to new situations in practice

9. I am able to apply critical thinking to my practice

10. I am unable to deal with clinical dilemmas

11. I am able to fulfil personal goals

12. I do not feel confident when I am caring for clients

13. I am able to plan and work independently

14. I am unable to work effectively under pressure

Please add any other statement which would indicate how you think Enquiry Based Learning has affected your confidence and competence.

Section 5 - Learning Process

What are your views of Enquiry Based Learning as a learning tool?

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

1. EBL assists me to take responsibly for my own learning

2. EBL does not enable me to manage my learning effectively

3. EBL helps me to relate academic knowledge to my practice skills

4. EBL has not helped me to understand the theory better
Enquiry Based Learning on a Midwifery/Nursing Curriculum
Questionnaire for Tutors Facilitating EBL (Sept 2001 Cohort)

Students on the September 2001 curriculum have been using Enquiry Based Learning as one of the teaching and learning strategies. As part of my PhD studies, I am interested in knowing how effective the strategies in place have been in making comparisons across the three years to determine any changes during this period. I would value your contribution for the final year in this programme by giving your honest opinions in making this evaluation. The information generated from this questionnaire would enable the teaching team to make improvements and changes on future programmes. All responses are anonymous and information will be treated in the strictest confidence. Thank you. Anna M. Brown – Midwifery Tutor

The scale of 1 to 7 offers a scale ranging from 1 where you disagree, to 7 where you agree most with the statement, with 4 being the neutral middle reply for each of the following sections. Please tick one box for each statement which best indicates your own opinion or feelings.

**Section 1- Group Dynamics**

What are your views of Professional Tutor Groups?

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students on this programme</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>1. work well with their peers in the PTG groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. help other PTG members when they need it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. are not well supported by other group members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. are unable to influence other people during discussion in the PTGs</td>
<td></td>
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<tr>
<td>5. are not concerned about how other PTG members are coping</td>
<td></td>
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</tr>
<tr>
<td>6. like being a part of the PTGs</td>
<td></td>
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<tr>
<td>7. have not improved their understanding of nursing/midwifery issues during PTGs</td>
<td></td>
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<tr>
<td>8. learn during stimulated discussion during PTGs</td>
<td></td>
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<tr>
<td>As a tutor on this programme</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>9. I am able to facilitate PTG sessions</td>
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<tr>
<td>10. I am unable to give constructive feedback during PTGs</td>
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<tr>
<td>11. I am able to support students during PTG sessions</td>
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<tr>
<td>12. I do not enjoy facilitating PTG sessions</td>
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</tbody>
</table>
Please add any other statement which would indicate how you feel about Professional tutor groups.

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**Section 2: Personal Development**

How do you perceive students’ personal development through this programme?  

<table>
<thead>
<tr>
<th>Students on this programme</th>
<th>1</th>
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<th>6</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td>1. take responsibility for their own personal learning and development</td>
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<td>2. cannot plan their work and learn effectively</td>
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<td>3. are able to develop their knowledge through self-directed learning</td>
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<td>4. do not interact well with other professional colleagues</td>
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<td>5. are able to stick to their beliefs when challenged</td>
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<tr>
<td>6. have not improved their confidence through self-directed learning</td>
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<td>7. are not confident in interpreting research to support their practice</td>
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<td>8. can reflect on their learning effectively</td>
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<td>9. cannot apply what they learn</td>
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<tr>
<td>10. have increased their personal achievements since the start of this programme</td>
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Please add any other statement which would indicate how you perceive students’ personal development as effected by this programme.
### Section 3 – Impact of Enquiry Based Learning (EBL) on Practice

What are your views of the impact of Enquiry Based Learning (EBL) on practice?

<table>
<thead>
<tr>
<th>1. enables students to understand the relevance of theory to practice</th>
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<tr>
<td>2. enables students to understand how research can be applied to practice</td>
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<td>3. has not prepared students to use skills effectively</td>
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<tr>
<td>4. enables students to recall acquired knowledge more effectively</td>
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<tr>
<td>5. has not given students the confidence to work as team members</td>
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<td>6. is a more effective method of learning than other methods</td>
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<td>7. indicates that students do not prefer enquiry based learning over traditional methods</td>
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<td>8. has not changed the way students learn in practice</td>
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<tr>
<td>9. has influenced students' personal attitudes and beliefs</td>
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<td>10. has not improved students' interactive skills</td>
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<tr>
<td>11. has not made linking theory to practice more effective</td>
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<td>12. encourages confidence in practice</td>
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<td>13. has not motivated self directed learning</td>
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<tr>
<td>14. enables students to manage information and apply to practice as necessary</td>
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<td>15. does not encourage a student to question theory and practice assumptions</td>
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<td>16. does not encourages lifelong learning</td>
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<tr>
<td>17. helps students to understand the value of portfolios for their practice learning</td>
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<td>18. helps students to relate learning outcomes to evidence of achievement</td>
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<td>19. has not improved the students' research skills</td>
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<td>20. has made learning from practice more significant</td>
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</table>
Please add any other statement which would indicate your opinions of the impact of Enquiry Based Learning on students' practice.

### Section 4 - Confidence & Competence

What impact has Enquiry Based Learning had on students' confidence and competence?

<table>
<thead>
<tr>
<th>I think students on this programme ....</th>
<th>Disagree</th>
<th>Agree</th>
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</thead>
<tbody>
<tr>
<td>1. do worry about making mistakes in practice</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>2. are confident in using the right skills when out in practice</td>
<td></td>
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</tr>
<tr>
<td>3. have improved communication skills with clients, peers and colleagues</td>
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<tr>
<td>4. are not confident that they are able to use their knowledge to give holistic care to clients</td>
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<tr>
<td>5. are confident that they can manage complex issues in practice</td>
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<tr>
<td>6. do not feel competent in offering clients appropriate care</td>
<td></td>
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<tr>
<td>7. are more aware of the holistic needs of the clients</td>
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<tr>
<td>8. are unable to apply the knowledge they have gained to new situations in practice</td>
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<tr>
<td>9. are able to apply critical thinking to their practice</td>
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<tr>
<td>10. are unable to deal with clinical dilemmas</td>
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<tr>
<td>11. are able to fulfil personal goals</td>
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<tr>
<td>12. do not feel confident when caring for clients</td>
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</table>
### Section 5 – Teaching and Learning

#### What are your views of Enquiry Based Teaching and Learning?  

<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I enjoy facilitating EBL sessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I am unable to facilitate EBL sessions effectively</td>
<td></td>
<td></td>
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<tr>
<td>3. I am able to motivate students through the EBL process</td>
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<tr>
<td>4. I prefer lecturing to facilitating EBL sessions</td>
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<tr>
<td>5. I find teaching EBL sessions unsettling</td>
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<tr>
<td>6. I think a traditional curriculum would have encouraged more in depth clinical knowledge</td>
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<tr>
<td>7. I think EBL has encouraged students to learn in a deeper and broader way</td>
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<tr>
<td>8. The use of portfolios has not helped students to learn effectively</td>
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<tr>
<td>9. Reflection has been valuable as part of the learning process through EBL</td>
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<tr>
<td>10. Students have difficulty with the EBL workload</td>
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<tr>
<td>11. Students are anxious about the assessments on this programme</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Students have enjoyed self directed learning on this programme</td>
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</tbody>
</table>

Please add any other statement which would indicate how you think Enquiry Based Learning has affected students' confidence and competence.
13. Reflections help students to analyse their beliefs and attitudes

14. Through reflections students are able to put learning into practice

15. EBL helps students to relate academic knowledge to practice skills

16. EBL enables students to remember relevant nursing/midwifery knowledge

17. EBL students are no different to other students

18. I think EBL students are more competent than other traditionally taught students

19. I do not think that the standard of learning has improved by using an EBL strategy

20. EBL does not enable students to manage their learning more effectively

Please add any other statement which would indicate your opinions of Enquiry Based Teaching and Learning.

Thank you for taking the time to complete this questionnaire. Your input will be used to plan and make changes on future programmes. Please return the questionnaires, by the 21.07.04, in the envelope provided to:

Anna M. Brown – Midwifery Tutor
University of Surrey
EIHMS
Level 5 Duke of Kent Building
Stag Hill
Guildford
Surrey
Enquiry Based Learning on a Midwifery/Nursing Curriculum
Questionnaire for Mentors (Sept 2001 Cohort)

Students on the September 2001 curriculum have been using Enquiry Based Learning as one of the teaching and learning strategies for the last 3 years. As part of my PhD studies, I am interested in knowing how effective the strategies in place have been in making comparisons across the three years to determine any changes during this period. I would value your contribution for the final year in this programme by giving your honest opinions in making this evaluation. The information generated from this questionnaire would enable improvements and determine changes on future programmes. All responses are anonymous and information will be treated in the strictest confidence. Thank you. Anna M. Brown – Midwifery Tutor

The scale of 1 to 7 offers a scale ranging from 1 where you disagree, to 7 where you agree most with the statement, with 4 being the neutral middle reply for each of the following sections. Please tick one box for each statement which best indicates your own opinion or feelings.

Please give a definition of Enquiry-based learning as you understand it.

---

Section 1- Group Dynamics

What are your views of students' interactive skills?

<table>
<thead>
<tr>
<th>Students on this programme</th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. work well with their colleagues in practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. help other staff members when they need it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. are <strong>not</strong> well supported by other staff members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. are <strong>unable</strong> to influence other colleagues in practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. are <strong>not</strong> concerned about other team members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. like being a part of a team</td>
<td></td>
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</tr>
<tr>
<td>7. have <strong>not</strong> improved their understanding of midwifery issues whilst in practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. learn during discussions around practice</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**As a mentor on this programme**

9. I am able to facilitate teaching in practice
10. I am unable to give constructive feedback to students
11. I am able to support students during their placements
12. I do not enjoy mentoring students

Please add any other statement which would indicate how you feel about students’ interactive skills on this programme.

---

**Section 2- Personal Development**

**How do you perceive students’ personal development through this programme?**

<table>
<thead>
<tr>
<th>Students on this programme</th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. take responsibility for their own personal learning and development</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>2. cannot plan their work and learn effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. are able to develop their knowledge through self-directed learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. do not interact well with other professional colleagues</td>
<td></td>
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</tr>
<tr>
<td>5. are able to stick to their beliefs when challenged about practice skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. have not improved their confidence through self-directed learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. are not confident in interpreting research to support their practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. can reflect on their learning effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. cannot apply what they learn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. have increased their personal achievements since the start of this programme</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please add any other statement which would indicate how you perceive students' personal development as effected by this programme.

Section 3 – Impact of Enquiry Based Learning (EBL) on Practice

What are your views of the impact of Enquiry Based Learning (EBL) on practice?

<table>
<thead>
<tr>
<th>The use of EBL on this programme</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. enables students to understand the relevance of theory to practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. enables students to understand how research can be applied to practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. has not prepared students to use skills effectively</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. enables students to recall acquired knowledge more effectively</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5. has not given students the confidence to work as team members</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6. is a more effective method of learning than other methods</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7. indicates that students do not prefer enquiry based learning over traditional methods</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8. has not changed the way students learn in practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. has influenced students' personal attitudes and beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. has not improved students' interactive skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. has not made linking theory to practice more effective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. encourages confidence in practice</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>13. has not motivated self directed learning</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. enables students to manage information and apply to practice as necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>Agree</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. does not encourage a student to question practice assumptions</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. does not encourage lifelong learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. helps students to understand the value of their practice experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. helps students to relate learning outcomes to evidence of achievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. has not improved the students’ research skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. has made learning from practice more significant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please add any other statement which would indicate your opinions of the impact of Enquiry Based Learning on students’ practice.

**Section 4 - Confidence & Competence**

What impact has Enquiry Based Learning had on students’ confidence and competence?

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think students on this programme ....</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>1. do worry about making mistakes in practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. are confident in using the right skills when out in practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. have improved communication skills with clients, peers and colleagues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. are not confident that they are able to use their knowledge to give holistic care to clients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. are confident that they can manage problems in practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. do not feel competent in offering clients appropriate care</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. are more aware of the holistic needs of the clients
8. are unable to apply the knowledge they have gained to new situations in practice
9. are able to apply critical thinking to their practice
10. are unable to take responsibility for their work
11. are able to fulfil personal goals
12. do not feel confident when caring for clients
13. are able to plan and work independently
14. are unable to work effectively under pressure

Please add any other statement which would indicate how you think Enquiry Based Learning has affected students’ confidence and competence.

Section 5 – Teaching and Learning
What are your views of Enquiry Based Teaching and Learning?

1. I enjoy facilitating teaching in practice
2. I am unable to facilitate appropriate teaching effectively
3. I am able to motivate students on placements
4. I prefer to tell students what to learn
5. I find mentoring unsettling
6. I think a traditional curriculum would have encouraged more in depth midwifery knowledge
7. I think EBL has encouraged students to learn in a deeper and broader way
8. The use of portfolios has not helped students to learn effectively
9. Reflection has been valuable as part of the learning process through EBL
<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Students <strong>have difficulty</strong> with the EBL workload</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11. Students <strong>are anxious</strong> about the assessments on this programme</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Students have enjoyed self directed learning on this programme</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Reflections help students to analyse their beliefs and attitudes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Through reflections students are able to put learning into practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. EBL helps students to relate academic knowledge to practice skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. EBL enables students to remember relevant midwifery knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. EBL students are <strong>no</strong> different to other students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I think EBL students are more competent than other traditionally taught students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. I do <strong>not</strong> think that the standard of learning has improved by using an EBL strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. EBL does <strong>not</strong> enable students to manage their learning more effectively</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please add any other statement which would indicate your opinions of Enquiry Based Teaching and Learning.

Thank you for taking the time to complete this questionnaire. Your input will be used to plan and make changes on future programmes. Please return the questionnaires, by the **21.07.04** in the envelope provided to:

Anna M. Brown – Midwifery Tutor  
University of Surrey  
EIHMS  
Level 5 Duke of Kent Building  
Stag Hill  
Guildford  
Surrey
5. EBL enables me to remember relevant midwifery knowledge

6. I think a traditional curriculum would have encouraged more in depth midwifery knowledge

7. I think EBL has encouraged me to learn in a deeper and broader way

8. The use of portfolios has not helped me to learn effectively

9. Reflection has been valuable as part of my learning process through EBL

10. I cannot cope with the EBL workload

11. I am anxious about the assessments on this programme

12. I have enjoyed self directed learning on this programme

13. Reflections help me to analyse my beliefs and attitudes

14. When I reflect I am unable to put my learning into practice

Please add any other statement which would indicate your opinions of Enquiry Based Learning as a learning tool.

Thank you for taking the time to complete this questionnaire. Your input will be used to plan changes in future programmes. Please return the questionnaires, by the 20.07.04, in the envelope provided to:

Anna M. Brown – Midwifery Tutor
University of Surrey
EIHMS
Level 5 Duke of Kent Building
Stag Hill
Guildford
Surrey
APPENDIX 8
Interview schedule for students

Thanks for agreeing to take part in this interview
The purpose of this interview is to clarify your perception of EBL within the new midwifery curricula

1) What do you think of EBL as a new approach in teaching and learning in the new curriculum?

2) Do you think that this approach has changed the way you learn?
2a) If so in what way?

3) Do you think that this approach has had an effect on the way in which you development in practice?
3a) If so, in what way?

4) Do you think that this approach has had an effect on your personal and professional development?
4a) If so, in what way?

5) Do you think that this new approach has had an effect on the way in which you develop confidence and competence in practice?
5a) If so, in what way?

6) Do you think that this approach has had an effect on the interactive or communication process with colleagues, peers and clients?
6a) If so, in what way?

7) Do you think that this approach has had any impact on the way you are mentored?
7a) If so, in what way?

9) Could you outline any perceived advantages to an EBL approach in midwifery practice and education?

10) Could you outline any perceived disadvantages to any EBL approach in midwifery practice and education?

11) What changes could be made to improve this approach?

12) Can you outline any other issues on this new curriculum?

Thank you for your time, the interview is now ended.
Interview schedule for tutors

Thanks for agreeing to take part in this interview
The purpose of this interview is to clarify your perception of EBL within the new midwifery curricula

1) Have you had much involvement with students using the new curriculum over the last two years?

2) What is your perception of EBL as a new approach in teaching and learning in the new curriculum?

3) Do you think that this approach has changed the way students learn?


4) Do you think that this approach has changed the way in which students development in practice?

4a) If so, in what way? Question of autonomy

5) Do you think that this approach has changed the way in which students develop personally and professionally?

5a) If so, in what way? Links between theory and practice

6) Do you think that this new approach has changed the way in which students develop confidence and competence in practice?

6a) If so, in what way? Link between confidence and competence and autonomy.

7) Do you think that this approach has changed the way in which students interact with colleagues, peers and clients?

7a) If so, in what way? Power relationships between students, colleagues, tutors, clients.

8) Do you think that this approach has had any impact on the way students are mentored?

8a) If so, in what way? Power relationships between mentors and students.

9) Could you outline any advantages to an EBL approach in midwifery practice and education?

9a) Is the assessment process effective in assessing students and determining competence? Does it test for the hidden qualities of being a midwife?

10) Could you outline any disadvantages to any EBL approach in midwifery practice and education?

11) What changes could be made to improve this approach?
12) Can you outline any major differences between the old and the new curriculum?

Thank you for your time, the interview is now ended.
Interview schedule for mentors

Thanks for agreeing to take part in this interview
The purpose of this interview is to clarify your perception of EBL within the new midwifery curricula

1) Have you had much involvement with students using the new curriculum over the last two years?

2) What do you think of EBL as a new approach in teaching and learning in the new curriculum?

3) Do you think that this approach has effected the way students learn?
3a) If so in what way?

4) Do you think that this approach has effected the way in which students development in practice?
4a) If so, in what way?

5) Do you think that this approach has effected the way in which students' develop personally and professionally?
5a) If so, in what way?

6) Do you think that this new approach has had any effect on students' development of confidence and competence in practice?
6a) If so, in what way?

7) Do you think that this approach has effected students’ interactive skills?
7a) If so, in what way?

8) Do you think that this approach has had any impact on the way you mentor students?
8a) If so, in what way?

9) Could you outline any advantages to an EBL approach in midwifery practice and education?

10) Could you outline any disadvantages to any EBL approach in midwifery practice and education?

11) What changes could be made to improve this approach?

12) Can you outline any major differences between the old and the new curriculum?

Thank you for your time, the interview is now ended.
APPENDIX 9
Research Title: A study to determine the perceived effectiveness, by midwives, of an
enquiry-based teaching and learning strategy: a triangular approach to outcome
evaluation of a midwifery curriculum

Dear Student, Tutor or Mentor,

Thank you for taking the time to read this letter and the enclosed questionnaire.

As you are aware, this university has commenced a new curriculum using enquiry-based
learning as part of its teaching and learning strategy. As a tutor on this curriculum I am
interested in the outcomes of enquiry-based learning. I would, therefore, appreciate your
completion of the attached questionnaire to examine your honest views and opinions of this
strategy, as part of my work towards a PhD. The information gathered would enable
improvements to be made throughout the three years of the programme.

By completing the questionnaire, consent is implicit. Questionnaires are completely
anonymous and thus confidentiality is ensured.

The questionnaire has been designed on a Likert scale of 1 to 7 ranging from 1 where you
disagree to 7 where you agree with the statement, with 4 being the neutral middle reply for
each of the following sections. Please tick one box for each statement which best indicates
your own opinion or feelings. This will take approximately 15 minutes to complete.

Should you require additional information please contact me on:
Tel No 01483 684621 or E-mail Am.Brown@surrey.ac.uk or my principal supervisor,
Dr. M. Olssen on 01483 682120 or e-mail on M.Olssen@surrey.ac.uk

Many thanks,
Anna M. Brown (Midwifery Tutor)

Please return the questionnaire, by the .................in the enclosed envelope provided to:

Anna M. Brown
Midwifery Tutor
University of Surrey
EIHMS
Duke of Kent Building - Level 5
Stag Hill
Guildford
Surrey
Research title: A study to determine the perceived effectiveness, by midwives, of an enquiry-based teaching and learning strategy: a triangular approach to outcome evaluation of a midwifery curriculum

Dear Student/ Tutors/ Mentors,

As part of the evaluation process on the midwifery programme, it may be necessary to use student assignments, to determine the outcomes and effectiveness of the new Fitness for Practice curriculum. The information gathered will be used to determine what changes will be required to ensure smooth progression in teaching and learning strategies and a successful outcome for students at the point of registration.

You will be required to:
1. complete questionnaires, once a year, during the three years
2. be randomly selected to be interviewed, or be part of a focus group, at the end of the three year programme, to gather in-depth information about the successes or necessary improvement to the programme.

Please sign if you agree to take part in the study:

- I the undersigned voluntarily agree to take part in the study to evaluate enquiry-based learning strategies on the midwifery programme (September 2001 cohort).
- I have read and understood the information provided. I have been given information of the nature, purpose, location and likely duration of the study, and what I will be expected to do.
- I understand that all personal data relating to volunteers is held and processed in the strictest confidence, and in accordance with Data Protection Act (1998). I understand that I will not seek to restrict the use of the results of the study on the understanding that my anonymity is preserved.
- I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice.
- I confirm that I have read and understood the above and freely consent to participate in this study. I have been given adequate time to consider my participation and agree to comply with the instructions of the study.

Name of Volunteer (BLOCK CAPITALS) .................................................................
Signed  ..........................................................................................................
Date ............................................................................................................. PTO
If you require additional information please contact
Anna M. Brown (Midwifery Tutor) on 01483 684621
Or e-mail on: Am.Brown@surrey.ac.uk

Or Principal supervisor Dr. Mark Olssen on 01483 682120
Or e-mail on M.Olssen@surrey.ac.uk
2nd October, 2003

Dear Mentor,

This is a pleading letter to ask if you would kindly return a completed questionnaire, which was due back to me on the 28th July.

The data you provide will enable me to evaluate, from your opinions, how the new curriculum is shaping up from a practice perspective. I need input from mentors to triangulate and support what students and tutors are saying about this curriculum. However, your contribution is most valuable as it gives a true practice evaluation from professionals and experts.

Therefore could I please ask you to complete the enclosed questionnaire (which is a replica of the first one sent should you have mislaid the original) and return to me in the envelope provided by the 18th October, 2003. The first response rate has been very poor at only 17% but I thank you if you are one of the few mentor who has responded.

Many thanks

Yours sincerely,

Anna M. Brown
Midwife Tutor
University of Surrey
EIHMS Midwifery Dept
Stag Hill
Guildford Surrey
GU2 5TE
Dear

Thank you for taking the time to read this letter and the following information.

As you may be aware, the University of Surrey commenced a new midwifery curriculum in September 2009, using enquiry-based learning as part of its teaching and learning strategy. As a tutor on this curriculum, I am interested in your perspectives, as a mentor to our students on this programme, of the effectiveness of enquiry-based learning (EBL).

I would appreciate and value your time of half an hour to take part in an interview with myself discussing the above issues and your views on the outcomes and consequences of EBL. The information gathered would enable improvements to be made throughout the three-year midwifery programme and as a contribution towards data as part of the PhD work I am presently carrying out.

If you are willing to be interviewed please sign and return the enclosed consent form in the envelope provided and confirm that the ................ at ............ at ...................... in the community office will be suitable. Should this arrangement not be to your convenience could you please indicate a number of dates, which would better suit your work arrangements, and I shall confirm in writing an alternate date, time and venue.

Should you need to arrange a mutual venue or make alternative arrangements please contact me on 01483 684621 or alternatively e-mail me on Am.Brown@surrey.ac.uk

Many thanks.

Yours sincerely,

Anna M. Brown
Midwifery Tutor,
University of Surrey
ElHMS, Duke of Kent Buildings
Level 5
Stag Hill, Guildford
Surrey
APPENDIX 11
Themes, sub-themes from qualitative data analysis

Group learning

| Small groups | Negative and positive effects |
| Large groups | Generally negative |
| Interactive groups | Learning from others, sharing and caring, supportive and safe environments, facilitation of learning by peers & tutors |

Developing skills -

- Personal: Communication
- Social: Discussion and presentation
- Psychological: Critical reasoning and reflection, motivational and self-directed

Outcomes - Satisfaction with group learning, improved knowledge, personal confidence, feelings of empowerment, professional competence & autonomy

Other factors: Impact of maturity and life experience on group learning

Personal and professional development

Personal - Maturity, age & experience, new knowledge, being inquisitive and motivated

Developing skills: Communication, confidence

Psychosocial skills: Reasoning, reflection

Professional - Midwifery skills: Critique and Autonomy, competence

Outcomes - Self-directed & Lifelong learning

Other factors - Impact of small group learning on this construct, facilitation of learning, learning in midwifery context
### Impact of Enquiry based teaching and learning on practice

<table>
<thead>
<tr>
<th>Process</th>
<th>Increased knowledge and recall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linking theory to practice</td>
<td>Spiral learning</td>
</tr>
<tr>
<td>through alternative methods</td>
<td>Reflection &amp; critique</td>
</tr>
<tr>
<td>Learning in context</td>
<td>Reality of practice</td>
</tr>
<tr>
<td>The right answer</td>
<td>Confidence &amp; Competence</td>
</tr>
</tbody>
</table>

| Small group learning         | Shared learning                |
| Personal                     | Qualification & experience     |
| Type of student              | Self-directed & motivated      |
| Style of learning            | Interpersonal skills           |
| Attributes                   |                                |

| Professional Facilitation   | Support (mentor/tutor)         |
| Feedback                    | Expertise                      |

#### Outcomes

- Satisfaction with learning process
- Translating skills into practice

### Confidence and Competence

<table>
<thead>
<tr>
<th>Process</th>
<th>Interactive &amp; communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Link to small group learning</td>
<td>Improved knowledge</td>
</tr>
<tr>
<td>Confidence</td>
<td></td>
</tr>
</tbody>
</table>

| Personal                     | Life experience                |
| Personal attributes          | Empathy & intuition            |

| Professional                 | Practical experience           |
| Support & feedback           | Critical reflection            |
| (mentors & tutors)           |                                |

| Product                      | Practical reasoning            |
| Improved skills              | Critical reflection            |
| Competence                   |                                |

<p>| Outcome                      | Of effective teaching &amp; learning in practice |
| Assessment process through reflections and portfolios |</p>
<table>
<thead>
<tr>
<th>Style of learning</th>
<th>Personal attributes</th>
<th>Motivation &amp; self-direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group learning</td>
<td>Facilitation</td>
<td>Mentors / tutors</td>
</tr>
<tr>
<td>Content</td>
<td>Resources</td>
<td>Support</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Differences</td>
<td>Traditional curriculum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBL</td>
</tr>
<tr>
<td>Professional</td>
<td></td>
<td>Confidence/competence</td>
</tr>
<tr>
<td></td>
<td>Satisfaction/dissatisfaction</td>
<td>with teaching and learning</td>
</tr>
<tr>
<td></td>
<td>Life long learning</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 12
**Timescale - 4 years**

**2001/2002**
- September
  - literature review / Commence curriculum
- October to December
  - literature review / start PhD modules
- January
  - literature review
- February/March
  - design pilot questionnaires for students
- April/May
  - design questionnaires for tutors and mentors
- June
  - application to ethics committees (University & Trusts)
- July
  - distribute pilot questionnaires
  - statistically test results of pilot questionnaires
- August
  - distribute questionnaires to students, tutor and mentors at end of first year
  - portfolio submitted for Module 3 assessment containing student reflections (sample taken for content analysis) (refine indicators from content analysis of these reflections to readjust questionnaires)

**2002/2003**
- October to December
  - analysis of student, tutor and mentor questionnaires
  - update literature review
  - complete PhD modules
- January to March
  - develop semi-structured interviews / focus group for tutors and mentors
  - develop semi-structured interviews for students
- March to June
  - commence write up of chapters for thesis
- June to August
  - distribute revised questionnaire for second-year students
  - distribute revised questionnaires for tutors and mentors
  - analysis questionnaires
- August
  - Assessment of portfolio module 6 (Sept 2001 cohort) containing reflections (sample taken for content analysis)
  - portfolio submitted for Module 3 (Sept 2002 cohort) assessment containing student reflections (sample taken for content analysis to ensure validity) (refine indicators from content analysis of these reflections to readjust questionnaires)

**2003/2004**
- September
  - analysis of student and tutor and mentor questionnaires
- October to May
  - structure data analysis and results / literature update / continue writing
- May
  - Assessment of portfolio module 8 (Sept 2001 cohort)
- June
  - distribute questionnaire for third year students
  - distribute questionnaires for tutors and mentor at end of third year
  - analysis of questionnaires
- July
  - conduct interviews with a selection of students and tutors and mentors supporting these students
- August
  - analysis of interviews and writing up of results
- September to June 2005
  - completion, write up and presentation of findings
APPENDIX 13
Dear Ms Brown

What is the perceived effectiveness, by midwives, of an enquiry-based teaching and learning strategy: a triangular approach to outcome evaluation of a midwifery curriculum (ACE/2002/48/EIHMS)

I am writing to inform you that the Advisory Committee on Ethics has considered the above protocol (and the subsequent information supplied) and has approved it on the understanding that the Ethical Guidelines for Teaching and Research are observed and that the following condition is met:-

- The typographical error in the Information Sheet, fourth paragraph, is corrected i.e. ‘...has been designed’.

For your information, and future reference, the Guidelines can be downloaded from the Committee’s website at http://www.surrey.ac.uk/Surrey/ACE/.

This letter of approval relates only to the study specified in your research protocol (ACE/2002/48/EIHMS). The Committee should be notified of any changes to the proposal, any adverse reactions, and if the study is terminated earlier than expected, with reasons.

Contd ....
I should be grateful if you would confirm in writing your acceptance of the condition above, forwarding the amended documents for the Committee’s records.

Date of approval by the Advisory Committee on Ethics: 07 August 2002
Date of expiry of approval by the Advisory Committee on Ethics: 06 August 2007

Please inform me when the research has been completed.

Yours sincerely

Catherine Ashbee (Mrs)
Secretary, University Advisory Committee on Ethics

cc: Chairman, ACE
    Dr M Olssen, Supervisor, Educational Studies
    Ms P Smith, Supervisor, EIHMS
24 July 2002

Anna Brown  
Midwifery Tutor  
EIHMS, Duke of Kent Buildings level 5  
University of Surrey  
Guildford  
Surrey GU2 7TE

Dear Ms Brown

**PRO/59/02**  Please use this reference in all correspondence  
What is the perceived effectiveness of an enquiry-based teaching and learning strategy: a study to determine students' competence in practice, from students, tutors and mentors in practice perspective, as effected by enquiry based teaching and learning strategies

Thank you for submitting the above protocol for review by the North West Surrey LREC on 17 July 2002. The committee decided that, from what you have submitted thus far, LREC review is not necessary. It was noted, however, that you mention in your protocol your intention to conduct interviews/focus groups in 2003/04 (page 12). This sort of activity might need ethical review and we should like to receive more details about this when you have them – initially, you might prefer to submit only one copy of these documents for the Chair to judge whether it requires full committee review. Please use the above reference number for all future contact regarding this study.

For your information, the following documentation was received:

- LREC application form – dated 1 July 2002  
- Protocol  
- Participant information sheet and consent form  
- Competencies in practice table  
- Mapping of teaching and learning strategy  
- Questionnaire for mentors (September 2001 cohort)  
- Questionnaire for midwives (September 2001 cohort)  
- Questionnaire for tutors (September 2001 cohort)  
- Curriculum Vitae for Anna Maria Brown
What is the perceived effectiveness of an enquiry-based teaching and learning strategy: a study to determine students’ competence in practice, from students, tutors and mentors in practice perspective, as effected by enquiry based teaching and learning strategies.

The NW Surrey Local Research Ethics Committee operates according to ICH-GCP and applicable laws and regulations.

Yours sincerely,

Dr Dayantha Fernando

ACTING CO-CHAIR
APPENDIX 14
Our ref SJMD/PJJ/Midwifery Curriculum

26 September 2002

Anna M Brown, Midwifery Tutor
University of Surrey
University Campus
Duke of Kent Building
Stag Hill
Guildford
Surrey
GU2 7TE

Dear Anna

Subject: Research Proposal

Thank you for your recent research proposal entitled "What is the perceived effectiveness by midwives of an enquiry-based teaching and learning strategy: a triangular approach to outcome evaluation of a midwifery curriculum". I am pleased to say that this has been considered by the Research and Development Committee and given approval.

With best regards

Yours sincerely,

STUART M DAVIES MA FRCS
CONSULTANT ORTHOPAEDIC SURGEON
CHAIRMAN, RESEARCH & DEVELOPMENT COMMITTEE
July 22, 2002

Re Research for PhD studies-

Dear Anna

Thank you for your letter dated 1st July 2002.

I am writing to confirm that I am quite happy with your proposal to interview mentors and send questionnaires.

I understand it is going to the Trust R&D committee today.

Yours sincerely

Marilyn Saker
Head of Midwifery
18th July 2002

Dear Ms. Brown,

Re: Research into Effectiveness of Midwifery Training Curriculum

I have discussed with the Community Team Mentors your request for help with this important piece of research. They will be very happy to support you in this and we look forward to hearing from you with further information.

Yours sincerely

Heather Parker
Midwifery Manager

Cc Jean Plummer – Head of Midwifery
Dear Anna,

Re: Research – Evaluation of New Curriculum

Thank you for your letter regarding the above. I have copied this to Mr J. Wright – Consultant Obstetrics & Gynaecology, as he is the new lead for R & D within Ashford & St. Peter’s.

I have no objection to any of the details of your research; although I am mindful that interviewing the mentors will be another pressure on the staff.

Please liaise with the other senior midwives for practical purposes when this all comes to fruition.

Yours sincerely

Denise Skidmore
Head of Midwifery

Copy: Mr J. Wright – Consultant Obstetrics & Gynaecology
Liz Rodgers – Assistant Head of Midwifery
Theresa Spink – Community Manager
Lesley Howick – Delivery Suite Manager
Dianne Casey – Clinical Specialist – Delivery Suite
Stephanie East – Clinical Practice Facilitator
Dear Anna

Thank you for your letter dated 1st July. I assume the date should be 2002 and not 2001 as I hope it hasn’t taken a year to get to me!

I’m very happy for you to carry out your research as suggested in your letter subject to ethical approval. I would be interested to know the outcome of the research in due course although I understand as it is with a PhD then it might take some time for this.

I hope you are keeping well and I look forward to seeing you soon.

With best wishes.

Yours sincerely

Eileen Nolan
Head of Midwifery/General Manager
Women & Childrens Services
Normality tests for the 3 years (2002, 2003, 2004) for the 5 means

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<thead>
<tr>
<th>year</th>
<th>Kolmogorov-Smirnov(a)</th>
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</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
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* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Normality tests for distribution of score for the 5 constructs of effectiveness for Year 2 data (2003)

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<th>S 3 MEAN</th>
<th>S 4 MEAN</th>
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<td>Mean</td>
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<td>5.7697</td>
<td>5.1500</td>
<td>5.3444</td>
<td>4.7813</td>
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<td>Std. Deviation</td>
<td>0.9810</td>
<td>0.8690</td>
<td>1.0384</td>
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<td>7.00</td>
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Normality tests for distribution of score for the 5 constructs of effectiveness for Year 3 data (2004)

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<th>S 3 MEAN</th>
<th>S 4 MEAN</th>
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<td>5.6338</td>
<td>4.9215</td>
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<td>1.0368</td>
<td>1.0753</td>
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<td>2.60</td>
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</tr>
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APPENDIX 16
Fig 11. Histogram for S1 mean (Group dynamics and student interaction)

Normal Q-Q Plot of s1mean for year 2003
Fig 12. Histogram for S2 mean (Personal & Professional Development)

- Mean = 5.7697
- Std. Dev. = 0.86909
- N = 29

Normal Q-Q Plot of s2mean for year= 2003
Fig 13. Histogram for S3 mean (Enquiry based learning on practice)

Year 2003

Mean = 5.15
Std. Dev. = 1.03846
N = 29

Normal Q-Q Plot of s3mean

for year = 2003
Fig 14. Histogram for S4 mean (Confidence & Competence)

Mean = 5.3444
Std. Dev. = 0.8248
N = 28

Normal Q-Q Plot of s4mean for year = 2003

Expected Normal vs. Observed Value
Fig 15. Histogram for S5 mean (Overall effect on the teaching and learning process)

Mean = 4.7813
Std. Dev. = 0.95766
N = 29

Normal Q-Q Plot of s5mean

for year= 2003
Fig 16. Histogram for S1 Mean (Group dynamics & student interaction)

Mean = 5.6985  
Std. Dev. = 0.83384  
N = 34

Normal Q-Q Plot of s1mean for year= 2004
Fig 17. Histogram for S2 mean (Personal and Professional development)

Year 2004

Mean = 5.6338
Std. Dev. = 1.0368
N = 34

Normal Q-Q Plot of s2mean

for year = 2004
Fig 18. Histogram of S3 mean (Enquiry based learning on practice)

Mean = 4.9215
Std. Dev. = 1.07537
N = 34

Normal Q-Q Plot of s3mean

for year = 2004
Fig 19. Histogram of S4 mean (Confidence & Competence)

Mean = 5.1422  
Std. Dev. = 1.0547  
N = 34

Normal Q-Q Plot of s4mean

for year= 2004
Fig 20. Histogram for S5 mean (Overall effect on the teaching and learning process)

Normal Q-Q Plot of s5mean

for year= 2004
APPENDIX 17
7.5.3 Practice Assessment Accreditation Criteria

In the assessment of the level 0 and level 1 modules, students will be awarded a pass or fail with formative commentary. A pass will be awarded on the basis that the evidence presented in the portfolio supports the achievement of the learning outcomes. Mentors in the work place are familiar with signing off observations of student's practice.

In the assessment of the level 2 and 3 modules, students will be deemed to have passed should the evidence support the achievement of the learning outcomes. This will be ascertained by the mentor. The level of attainment will then be graded within the accreditation of practice framework. The aim is for both mentor and professional tutor to be involved in this summative work. However, it is recognised that not all mentors will have participated in such activities. The mentor updates programmes will involve the grading of the achievement of practice outcomes and be supported through the locality teams. In the beginning, grading at level 2 and 3 will be undertaken by the midwifery tutors.
<table>
<thead>
<tr>
<th>Level</th>
<th>Evidence</th>
<th>Knowledge</th>
<th>Application</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>70% +</td>
<td>Uses a selection of relevant literature, mostly from primary sources. Demonstrates skills of analysis</td>
<td>Appropriate analysis of the literature. Comprehensive range of essential principles identified</td>
<td>Reaches conclusions which are effectively applied to area of study/practice. Utilises reflection. Presents a meaningful discussion</td>
<td>Clear logical, creative and well-organised work, in accordance with guidelines. Uses correct system of referencing</td>
</tr>
<tr>
<td>60 - 69%</td>
<td>Uses a selection of relevant literature, some from primary sources. Some analysis</td>
<td>Many essential principles accurately identified and related appropriately</td>
<td>Conclusions reached which are integrated to area of study/practice</td>
<td>Clear and organised work in accordance with guidelines. Uses correct system of referencing</td>
</tr>
<tr>
<td>50 - 59%</td>
<td>Limited range of literature much of which is derived from secondary sources. Some analysis</td>
<td>Most essential principles identified with an accurate account given</td>
<td>Conclusions not entirely supported by the evidence. Presented with some application</td>
<td>Organised and in accordance with guidelines. Uses correct systems of referencing</td>
</tr>
<tr>
<td>35 - 49%</td>
<td>Limited range of literature. Most is derived from secondary sources. Limited analysis</td>
<td>Identifies most/some essential principles but with some misinterpretation/omission/errors</td>
<td>Conclusions minimally/not supported by the evidence presented with some/little application. Safe practice included</td>
<td>Presented in accordance with guidelines. Some minor inaccuracies</td>
</tr>
<tr>
<td>0 - 34%</td>
<td>Little or no reference to literature</td>
<td>Essential principles not identified</td>
<td>Conclusions not supported or are inappropriate to area of study/practice</td>
<td>Work not presented in accordance with guidelines</td>
</tr>
</tbody>
</table>
Portfolio

UNIVERSITY OF SURREY
EUROPEAN INSTITUTE OF HEALTH AND MEDICAL SCIENCES
Practice Portfolio Feedback Sheet

NAME: .....................................................................................................

PROGRAMME: ......................................................................................

COHORT: ....................................................... BRANCH: ......................

PROFESSIONAL TUTOR: .................................................................

MODULE TITLE: ...................................................................................

MODULE ORGANISER: ...........................................................................

SUBMISSION DATE: ........................................................ NUMBER OF WORDS:

☐ 1st attempt ☐ Retrieval (NB It is essential that you show clearly which work is being resubmitted. Your first attempt must also be included.) ☐ Authorised Extension/Deferment

I declare that this portfolio is wholly my own work except where acknowledged specifically as the published or unpublished work of others.

Signed: ........................................................................... Date: ......................................

Comments (in ink):

Marker's Name: .......................................................... Signature: ..........................................................

Date: ........................................................................

Moderator's Name: ............................................. Signature: .....................................................

*must be given to the student. The original must be retained in the academic file.
## EUROPEAN INSTITUTE OF HEALTH AND MEDICAL SCIENCES
### GRADING CRITERIA FOR PRACTICE PORTFOLIOS
#### LEVEL 0

<table>
<thead>
<tr>
<th>KNOWLEDGE &amp; UNDERSTANDING 30%</th>
<th>COGNITIVE SKILLS 10%</th>
<th>KEY TRANSFERABLE SKILLS 30%</th>
<th>INTEGRATION OF THEORY &amp; PRACTICE 30%</th>
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<tr>
<td><strong>Pass 40 and above</strong></td>
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<tr>
<td>Adequate knowledge and understanding. Mainly descriptive use of relevant knowledge and principles. Little or some evidence used. May omit one or two minor issues.</td>
<td>Good description demonstrated. Some aspects of an argument developed.</td>
<td>Acceptable use of English, with few grammatical and/or spelling errors. Fairly good structure and presentation. Evidence of supporting literature, with reference list. A few missing or inaccurate references.</td>
<td>Begins to use a reflective model by demonstrating an appreciation of the module focus, clearly defining the learning situation, discriminating between relevant details. Begins to explore feelings of self and others generated by the situation. Pertinent range and depth of reading. Evidence of learning explicit.</td>
</tr>
<tr>
<td><strong>Refer 39 and below</strong></td>
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Assignment

UNIVERSITY OF SURREY
EUROPEAN INSTITUTE OF HEALTH AND MEDICAL SCIENCES
Assessment of Theory Feedback Sheet

NAME: .......................................................................................................

PROGRAMME: ...........................................................................................

COHORT: ..........................................................   BRANCH: ................................

PROFESSIONAL TUTOR: ...........................................................................

MODULE TITLE: ..........................................................................................

MODULE ORGANISER: ................................................................................

SUBMISSION DATE: ..................................................   NUMBER OF WORDS: ...

☐ 1st attempt ☐ Retrieval (NB Your first attempt must be submitted with your retrieval – inserted at the back of the same folder.) ☐ Authorised Extension/Deferment

I declare that this essay is wholly my own work except where acknowledged specifically as the published or unpublished work of others.

Signed: ..........................................................   Date: ..........................................................

Comments (in ink):

Marker's Name: ..........................................................   Signature: ..........................................................

Moderator's Name: ..........................................................   Signature: ..........................................................

A photocopy of this form must be given to the student. The original must be retained in the academic file.
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<td>Number of Words:</td>
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<tr>
<td>1st attempt</td>
<td>Retrieval (NB Your first attempt must be submitted with your retrieval – inserted at the back of the same folder.)</td>
</tr>
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</table>

I declare that this essay is wholly my own work except where acknowledged specifically as the published or unpublished work of others.

Signed: Date: 

Comments (in ink):

Marker's Name: Signature: 

Moderator's Name: Signature: 

A photocopy of this form must be given to the student. The original must be retained in the academic file.
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<tr>
<td>27</td>
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</tr>
<tr>
<td>26</td>
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<td>3</td>
<td>Understanding the assessment criteria for portfolios.</td>
</tr>
<tr>
<td>2</td>
<td>Understanding the evaluation process and how it is used to assess portfolios.</td>
</tr>
<tr>
<td>1</td>
<td>Understanding the role of the portfolio in the learning process.</td>
</tr>
<tr>
<td>0</td>
<td>Understanding the relationship between portfolios and other forms of assessment.</td>
</tr>
<tr>
<td>&lt;0</td>
<td>Understanding the benefits and limitations of portfolios.</td>
</tr>
</tbody>
</table>
Assignment

UNIVERSITY OF SURREY
EUROPEAN INSTITUTE OF HEALTH AND MEDICAL SCIENCES
Assessment of Theory Feedback Sheet

NAME: ..................................................................................................

PROGRAMME: ..................................................................................................

COHORT: .............................................  BRANCH: .............................................

PROFESSIONAL TUTOR: ........................................................................

MODULE TITLE: ..................................................................................

MODULE ORGANISER: ...........................................................................

SUBMISSION DATE: .......................................................... NUMBER OF WORDS: ..........................

☐ 1st attempt  ☐ Retrieval (NB Your first attempt must be submitted with your retrieval – inserted at the back of the same folder.)  ☐ Authorised Extension/Deferral

I declare that this essay is wholly my own work except where acknowledged specifically as the published or unpublished work of others.

Signed: ..........................................................  Date: ..........................................................

Comments (in ink):

Marker's Name: ..........................................................  Signature: ..........................................................

Moderator's Name: ..........................................................  Signature: ..........................................................

A photocopy of this form must be given to the student. The original must be retained in the academic file.
<table>
<thead>
<tr>
<th>Practice</th>
<th>Conceptual Understanding</th>
<th>Knowledge and Information</th>
<th>Operation and Problem Solving</th>
<th>Evaluation</th>
<th>Critical Thinking</th>
<th>Communication Skills</th>
<th>Practice</th>
<th>Reflective Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20t</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>20t</td>
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<td>20t</td>
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<td></td>
<td></td>
<td></td>
<td>Reflective Practice</td>
</tr>
<tr>
<td>20t</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reflective Practice</td>
</tr>
<tr>
<td>20t</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reflective Practice</td>
</tr>
<tr>
<td>20t</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reflective Practice</td>
</tr>
</tbody>
</table>
APPENDIX 18
Lecturer/Tutor Marking Feedback Form

<table>
<thead>
<tr>
<th>Programme:</th>
<th>Module:</th>
<th>Cohort:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peer Reviewer (PR):</th>
<th>Name of marker:</th>
<th>Date sent to PR:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of assignment:</th>
<th>Level: 0 [], 1 [], 2 [], 3 [], M []</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ranking Scale indicates  
1 = Excellent  
2 = Satisfactory  
3 = Some development needed

Reviewers impression of markers comments on script:  

<table>
<thead>
<tr>
<th>Markers comments on script</th>
<th>Rank on scale 1-3</th>
<th>Rank on scale 1-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legibility of markers handwriting</td>
<td>Corrects errors / misunderstandings on the script</td>
<td></td>
</tr>
<tr>
<td>Explains reasons for mark</td>
<td>Makes necessary reference to an appropriate evidence base</td>
<td></td>
</tr>
<tr>
<td>Feedback written in a helpful and encouraging tone</td>
<td>Comments re over/under word length</td>
<td></td>
</tr>
<tr>
<td>Comments likely to help students improve</td>
<td>Establishes a dialogue with the student</td>
<td></td>
</tr>
<tr>
<td>Circles the relevant box on the reverse of the feedback sheet</td>
<td>Refers student to appropriate School guidelines/resources</td>
<td></td>
</tr>
</tbody>
</table>

Mark Leniency/Severity (please tick)  

<table>
<thead>
<tr>
<th>Student's Name</th>
<th>Mark awarded</th>
<th>PR's mark</th>
<th>lenient</th>
<th>fair</th>
<th>severe</th>
<th>Comments (rank on scale 1-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>On front sheet</td>
</tr>
</tbody>
</table>

Peer Reviewer's Feedback / Advice to Marker

Peer reviewer signature: ____________________ Date: ____________

Date sent to Framework Co-ordinator: ____________ Date: ____________
UNIVERSITY OF SURREY
EUROPEAN INSTITUTE of HEALTH and MEDICAL SCIENCES

PEER REVIEW OF MARKING

Trial:
- This academic year, as part of the Quality Assurance Framework, a trial of Peer Review of Marking will be started to coincide with the use of the new Marking Criteria.

Objectives:
1. To offer opportunities to share good practice with peers.
2. To provide valuable developmental feedback on the School's marking process.
3. To help identify staff development requirements.

The Process:
- A member of staff would choose their own Peer Reviewer (PR), but must change their Peer Reviewer each academic year.
- If asked to be a Peer Reviewer a member of staff should check whether he/she could accommodate this role within their current workload.
- This role is carried out on voluntary basis.
- The School expects that everyone should have at least one colleague for whom they are acting as a Peer Reviewer.
- The staff member should inform the Examination Officer of the name of their Peer Reviewer.

The Activity:
- Following the marking and moderation of scripts, Exams Office will operate the scheme.
- From each batch of scripts marked, one script will be randomly selected, photocopied and sent to your Peer Reviewer.
- For new staff three scripts from each batch will be copied and sent to that member of staff's Peer Reviewer for the first year, (probationary year).
- The Peer Reviewer will review the script and complete the Peer Review Feedback Form, (see enclosed).
- One copy of the Feedback form will be returned to the marker and the other to the Programme Framework Co-ordinator, (not the manager).
- The Peer Reviewer should ensure that feedback is helpful and constructive to the marker.

THIS IS PEER REVIEW AND NOT INSPECTION
GUIDELINES FOR USING THE NEW MARKING CRITERIA

(For Essays and Reports only).

For Portfolios, Examination Papers and Dissertations use other specific marking criteria.

1. Before marking, please check that student has included the correct signed Assessment of Theory Feedback sheet for the academic level:

   Level 0  Pink
   Level 1  Salmon
   Level 2  Blue
   Level 3  Green
   Level M  In progress

MARKING

2. Mark the assignment by making an assessment of the extent to which the student has achieved the specific assessment criteria and module outcomes.

3. Using the marking criteria, allocate marks out of 100 for each of the four components:
   ➢ Knowledge and Understanding
   ➢ Cognitive Skills,
   ➢ Key Transferable Skills,
   ➢ Integration of Theory and Practice.

4. Using the appropriate Marking Calculation Sheets, (laminated sheets or available off S drive), work out the weighted mark for each component.

5. Add up the weighted marks from each component to calculate the total mark for the assignment.

6. Record the total mark in pencil in the 'Agreed Mark' box on the front sheet or a separate list.
   The following illustration shows how the marks should be calculated:

C:\TEMP\Guidelines for using New Marking Criteria.doc
Student: Fred Bloggs

<table>
<thead>
<tr>
<th>Components</th>
<th>Knowledge &amp; Understanding 30%</th>
<th>Cognitive Skills 40%</th>
<th>Key Transferable Skills 10%</th>
<th>Integration of Theory &amp; Practice 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial marking</td>
<td>65</td>
<td>55</td>
<td>70</td>
<td>66</td>
</tr>
<tr>
<td>Weighted mark</td>
<td>20</td>
<td>22</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Total mark for the assignment:</td>
<td>Sum of the weighted mark: 62%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STUDENT FEEDBACK

7. The student is not shown the calculation but only gets the final mark awarded following moderation. Do not write the percentage marks in the boxes.

8. Either tick the relevant statements from the appropriate boxes or circle the appropriate box (if all statements are applicable) on the back of the feedback sheet for each component from which the actual marks were calculated. When writing feedback for students on the front sheet, do not copy the statements that have already been circled, but highlight strengths and areas for improvement.

WORD LIMIT

Students are normally allowed a 10% leeway for their assignments. Students submitting an assignment below the recommended word limit would have deemed to penalise themselves by not taking advantage of the word limit. However, those who exceed the word limit beyond the permitted level should be penalised proportionately. The following illustration is given to show how this could be achieved.


Therefore the essay could be between 1800 - 2200 words, to take into account of the 10% leeway. However, Fred's essay is 2540 words and a mark of 68% is initially given using the new marking criteria.

Calculate the excess: 2540 taken from 2200 = 340 words

Penalty to be calculated as follows:

Work out the percentage excess: 100 divided by 2200, multiply by 340 = 15%

Work out the abatement: 68 divided by 100, multiply by 15 = 10 marks

Mark awarded before going to internal moderation: (68 - 10) = 58%
MODERATION

8. During the internal moderation process, moderators should include some comments before stating that they either support or not the actual mark given by the first marker. In the event that a final mark/grade is substantially changed (e.g. more than 10% difference or from a pass to a refer), then both the marker and the moderator should revise the original comments to ensure that the comments reflect the new mark/grade awarded.

11. Following the internal moderation, the chair of the group should ensure that:

   a) All assignments below 40%, borderline passes and a sample of scripts over 70% have been moderated;
   b) A 10% sample of the remaining assignments are also moderated;
   c) All marks are recorded in ink on all the students' feedback sheets;
   d) All feedback sheets have been adequately completed, signed and dated;
   e) The Record of Internal Moderation form is completed, incorporating comments from internal markers to be sent to the External Examiner;
   f) The Marking and Moderation Record sheet is completed;
   g) All assignments are returned to either the Examination Office (Level 4, for Pre-registration Programmes) or Bill Holbrow (Level 5, for Continuous Professional Development Programmes), together with the documents specified in e and f above;
   h) Sample to External Examiners: The Examination Officers will send all assignments below 40%, borderline passes, re-submissions and at least a 10% sample of remaining scripts to External Examiners.

NOTE: It is always good practice for staff to plan adequate time for marking and moderation, as a strategy for quality assurance and enhancement.
Good Practice for Markers at EIHMS

Student feedback has recently identified discrepancies and variation in the quality of feedback on their work. This good practice outline has been produced for the pre-registration nursing PMT to address this issue. It is intended to assist staff undertaking peer review of marking in 2005.

- ALWAYS use pencil when you are first marker and writing marks on the front of the feedback sheet. Marks should be written in ink only after moderation.

- Marking should be done like NHS notes, as if it were being read by the patient (student!). Consideration should be given to the usefulness of the feedback to the student in improving their work.

- Comments written on the student's work itself should be legible, and coherent. Expressions such as "What?" are often not clear, and any notes made should be fully explained to make them comprehensible and useful to the student.

- Comments written work itself should be about specific issues. Comments on the front marking sheet should be broader, as space does not permit much detail.

- When work is of a good standard, feedback should be given so that the students know what to do to improve their marks. Exclusively positive feedback is almost as unhelpful as exclusively negative. Positive feedback should usually come first.

- Use the marking criteria found on the reverse of the front sheets when deciding a mark – tick the boxes first, and then decide a precise mark based on these rather than the other way around for each section (knowledge and understanding, cognitive skills, key transferable skills and integration of theory and practice). Use the marks guidance grid to work out the actual mark.

- Distinguish clearly between global comments about errors in the work and specific ones. So when a global comment is made, such as "some references were incorrectly written", not all errors will be identified by the marker, but this does not mean that they do not require correction or alteration. This is especially important when work has to be retrieved.

- Distinguish if necessary between substantive and minor errors in the work.

- Students whose work has failed need extra feedback so that they are clear about what needs to be addressed when retrieving. Markers of retrievals should mark to this, and not find extra fault with the work (unless significantly altered in other ways to warrant reducing the mark for other reasons).
- Ensure your corrections themselves are correct, for example that you are using the correct referencing formats yourself.

- Giving feedback on literacy and presentation can help the student in their overall personal and professional development.

- Advise students to seek advice from the module team about the content of an assignment, and from the personal tutor for advice about presentation only. Give advice on content only when you are very familiar with the module and the aims of the assessment.

- Second markers must be clear about how and why they are altering marks if they wish to do so, using back of the feedback sheet as a guide in the usual way.

Ruth Jordan, Bridget Nicholson, Clare Moore
18.11.04
On behalf of pre-registration nursing PMT
European Institute of Health & Medical Sciences
Proposal for support of new / unqualified tutors marking assignments/ portfolios

Definitions

**Qualified teacher**- those staff who have a teaching qualification but are not registered with the Nursing and Midwifery Council
**Qualified nurse teacher** those staff who are Registered as Nurse teachers with the NMC and or have ILT recognition
**Unqualified teacher**- those staff who are not registered as Nurse Teachers by the NMC or have ILT recognition

New – a new member of academic staff to the School
Existing – A staff member who has been with the School and completed their probationary period
Experienced- A member of the School academic staff who is a qualified nurse teacher or recognised equivalent, has been a member of the module team for at least 1 academic year. Is an active member of the modules marking moderation team. Is a peer reviewer of marking for other academic staff

Present situation

There is a lack of clarity regarding the level of support provided for tutors who are unqualified and/or new to the organisation. This has resulted in academic staff being unclear as to the requirements related to marking.

This paper is intended to clarify the above and provide a clear development process for new academic staff to ensure the validity and reliability of assessment processes within the EIHMS.

Proposal

1. All new academic staff (qualified or unqualified tutors) will be provided with
   • an experienced member of academic staff from each of the module teams they are allocated to, to act as their “buddy”
   • Marking will be divided between the “buddy”/experienced member of academic staff and the new member of staff
   • All work marked by the new member of staff will be moderated by their buddy
   • Verbal feedback will be given to the new member of academic staff regarding the quality of marking etc (see peer review of marking sheet for further guidance) and the peer review of marking sheet completed.
   • During the probationary period all marking will follow this process with at least 2 formal peer review of marking forms completed
   • All marking will then proceed as per the marking moderation process

2. Existing academic staff who are inexperienced marker’s & unqualified tutors
   • To buddy with an experienced member of academic staff for the module.
   • To mark an agreed proportion of the experienced markers marking load
   • All work then to be second mark and feedback given using the peer review of marking forms and verbal feedback.
   • Subject to satisfactory peer review of marking on 2 occasions the member of staff will then be allocated a pro rata marking load which will then be subject to the normal marking moderation process

3. Existing academic staff who are experienced markers
Draft 2 Guidelines re marking process

- All staff within EIHMS are subject to a peer review of marking. Subject to 2 satisfactory peer reviews the member of staff will continue to mark and all subsequent marking will be reviewed via the marking moderation process.

4. Staff who are not from the relevant professional discipline marking portfolios

In the case of the Professional Preparatory Programmes:- Experienced markers who are on the module team and not from a nursing background will be subject to moderation of all work. This will ensure that the nursing element of the portfolio has been assessed in a valid and reliable manner to meet the requirements of the Nursing and Midwifery Council.
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