Evaluation of a post basic course for antenatal teachers.

by

Tricia Murphy-Black
MSc RGN RM RCNT

Thesis submitted to the University of Manchester
for the degree of Doctor of Philosophy
in the Faculty of Medicine.

Department of Nursing

1986

Declaration.

I declare that no portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification for this or any other university or other institute of learning.

Tricia Murphy-Black

September 1986

Tricia Murphy-Black qualified as a nurse at Liverpool Royal Infirmary in 1968 and as a midwife at Liverpool Maternity Hospital in 1973. Further certificates in Special and Intensive Care of the Newborn (1974); Further Education Teachers Certificate (1974) and Registered Clinical Nurse Teachers Certificate (1975) were obtained prior to commencing research at St Mary's Hospital, Manchester in 1977. A Master of Science degree was awarded from the University of Manchester in 1981 for research entitled "Smoking in pregnancy: the effects of the tar, nicotine and carbon monoxide yields of cigarettes on the fetus in labour, at birth and in the newborn period."

ACKNOWLEDGEMENTS.

I would like to thank the following:

Ann Faulkner, Department of Nursing, who supervised this research and whose support and thoughtful criticism were inestimable;

the staff of the Department of Computation, especially Val Hillier, whose teaching, encouragement and advice were invaluable with the statisitcal aspects of this study, especially with the computation of the interaction analysis;

Jane Randell of the Health Education Council, whose interest and enthusiasm were always a source of inspiration;

my friends and colleagues, Katie Booth and Lesley Ward for their constant support;

the midwives and health visitors who took part in this research and have taught me much about teaching and group work skills.

I am grateful to the Health Education Council for funding this research.

DEDICATION.

To the memory of my father

Thomas Black,

MB ChBEd FRCP(Ed) FRCPath.

whose final words to me were

of encouragement to complete this work.

"Then said a teacher, Speak to us of Teaching.

And he said:

No man can reveal to you aught but that which already lies half asleep in the dawning of your knowledge.

The teacher who walks in the shadow of the temple, among his followers, gives not of his wisdom, but rather of his faith and his lovingness.

If he is indeed wise he does not bid you enter the house of his wisdom, but rather leads you to the threshold of your own mind."

The Prophet, Kahlil Gibran, 1980.

"...the best teaching can be done when the teacher does not 'hold the floor' all the time, but is an active member of the group, sharing experiences with the other members; is not 'out in front of' the group, confronting it with information, but has the skill and confidence to be able to stand back sometimes and let the members explore subjects themselves; and encourages discussion in such a way that any member feels free to introduce a subject which is on her mind, whether or not it is in the syllabus."

Kitzinger, 1977.

ABSTRACT

The overall aim of this study was to determine if attending a post basic antenatal teaching and group work skills course held in two centres would 1) meet the expectations of the midwives and health visitors and 2) change the teaching behaviour post course compared with the pre course observations. There were two studies, 1) a series of questionnaires to evaluate the process of the course and 2) an observational study, using a pre test post test design, to evaluate the outcome of the course.

The expectations of midwives and health visitors attending the course were met by the training course. The antenatal classes which were associated with an increased interaction between mothers and teachers in the pre and post course analysis were those taught by a self selected group of teachers, and to a lesser extent in the classes led by health visitors. The other factors analysed demonstrated increased interaction in the classes with babies present and where the subject of discussion was breast feeding, although these results may be related. Semi circular seating was associated with a slight increase in interaction between mothers and teachers. There was an increased incidence of closed questions by the teachers from one of the centres and exploratory questions by health visitors, in the post course classes. Asking 'any questions' was shown to have little effect. Of the few questions mothers did ask, the majority were requests for further information.

The results of the process and outcome evaluations have been discussed with recommendations for further research.

CONTENTS.

3. The Study

4. Research Design and Methods

TABLES

FIGURES

CHAPTER 1.

INTRODUCTION AND BACKGROUND TO THE STUDY.

1.1. Introduction

1.1.1 Aims of the research

The evaluation of a post basic training course for midwives and health visitors involved in antenatal education was the focus of this study. There were two aims:

1) to determine if the antenatal group work and teaching skills course would meet the expectations of the midwives and health visitors who would attend;

2) to determine if there would be a difference in the interaction between mother and teacher in observed antenatal classes after the training course.

1.1.2 Context and perspective.

The research took place from January 1982 to July 1985 in two study centres in England and Wales. Data were collected from the midwives and health visitors attending three similar post basic training courses, a subset of whom were observed while teaching antenatal classes.

Two studies were involved in the evaluation of the training course. Questionnaires were used to investigate the process of the course. Observation was used to investigate the outcome of the course. The observation of the teaching behaviour of a subset, using a pre test post test design, involved many variables in the wide variety of teaching situations. All the midwives and health visitors, however, had attended similar training courses, which is the constant factor within the study. This aspect is discussed fully in chapter 4.

In the analysis of the data from this research it has been accepted that the subjects from each centre have to be treated as a separate group, although there is additional analysis of the two occupational groups to determine if there is any difference in the training needs between them. While this division allows for the inferences on the similarities and differences between groups, it reduces the generalisation which may be possible from a single sample.

1.1.3 Terminology

There are many involved in teaching during the antenatal period. Obstetric physiotherapists have been teaching mothers since the inception of antenatal education, indeed the impetus came from one, Minnie Randall in 1912. (Ebner, 1967; Williams and Booth, 1974). Other contributors include obstetricians, anaesthetists, dentists, and dietitians.

The National Childbirth Trust (NCT) is a large organisation, established for over 25 years, which undertakes voluntary antenatal teaching. NCT members have a lengthy and detailed training, but may not necessarily be members of any of the paramedical professions (Kitzinger, 1977). More recently the active birth movement has included teaching to prepare mothers for their role (Balaskas, 1984).

'Antenatal teachers' in this study refers to the midwives and health visitors who would be attending the post basic training course. The majority of them had also trained as Registered General Nurses, with additional qualifications appropriate to their designation. Some of the midwives worked in hospital, some in the community. They are also referred to as the subjects of the study.

In the context of this study, 'tutors' are those who taught on the postbasic training course.

'Sessions' refer to parts of the training courses attended by the subjects; 'classes' are the antenatal classes taught by the subset in the observation study.

'Teaching behaviour' is the reciprocal contact between antenatal teachers and the mothers who attend the antenatal classes. Flanders (1970) calls the interchange between teacher and pupil, teaching.

The 'mothers' referred to are the pregnant women who attended the antenatal classes or contributed to the training course. It may be argued that a pregnant woman may not yet be a mother, even though some are both pregnant and mothers. As both the course organisers and the antenatal teachers used the term, it was also adopted in this study.

This research study was funded by the Health Education Council (HEC) as part of its Education and Preparation for Parenthood Programme, which was later redesignated as the Family and Personal Health Programme.

1.2 Background to the study

This study is unusual in one respect, in that a request for assistance with and evaluation of their antenatal education service came from those providing this service rather than researchers. The background to this request developed from a variety of sources.

1.2.1 Role of the Health Education Council in antenatal education.

The HEC became actively involved in the training and development of the health professionals participating in antenatal education in response to the concern voiced in the Court (Committee on Child Health Services, 1976) and Short (Social Services Committee, 1980) reports. The HEC Antenatal Health Education Working Party was set up in 1980 to look at:

> "the potential for health education in the antenatal period, with special reference to perinatal and neonatal mortality. Issues that emerged included the teaching of parentcraft in the antenatal period and the inservice training needs of the health professionals involved." (HEC Annual Report, p17 1980-81.)

This was a response to the request in the Court report (Committee on Child Health Services, 1976) for guidance on what information to give parents and how best to present it to them. The Short report (Social Services Committee, 1980) encouraged research into methods of health education.

These concerns coincided with changes expressed by parents, the maternity and health education services:

1. Changes in the life styles of parents and the maternity services require a greater flexibilty in

antenatal teaching. The attitudes and expectations of the pregnant women and their partners have altered considerably in recent years.

2. There has been a recognition both by the managers and antenatal teachers within the health service, that there is a need to reconsider antenatal education so that it will be suitable for the needs and expectations of today's parents.

3. The value of group work and teaching methods which involve the participants has been recognised within health education (Satow and Evans, 1983).

Despite these changes many of the professionals have had little, if any, education for this form of teaching. The training of midwives and health visitors for their role in antenatal education will be discussed in chapter 2.

1.2.2 Development of an antenatal training course.

In 1974 the Leverhulme Health Education Project was commenced in Nottingham, with wide terms of reference

> "to explore the theory, practice and the teaching of health education in a university setting and to design a model system (of health education) for an Area Health Authority." (Anderson et al, 1980)

Part of this research by Perkins (1975 - 80) involved many teaching aspects of pregnancy and childbirth, including a specific focus on antenatal education. Perkins examined attendance at antenatal clinics, both the provision of and attendance at antenatal classes, teaching methods, preparation for teaching (Perkins 1978a; 1978b; 1979a; 1979b; 1979c; 1979d; Parsons and Perkins, 1982) as well as

developing a research tool for monitoring antenatal classes (Perkins 1979e). This research was used as a basis for improving practice. As the research project was also expected to have a development role, there was liaison with the local health authorities to develop the antenatal education service. The suggestions for change were received more favourably if the managers were already aware of the need for improvement in antenatal education.

Collaboration with senior managers in two Health Districts eventually resulted in two courses - a basic one (Perkins and Craig, 1981) and an intermediate one (Perkins, 1982). After experience of teaching, and with the encouragement of the HEC, a teachers' manual for the basic course was produced for teachers and distributed on restricted circulation, prior to evaluation and dissemination.

The teachers' manual was based on the idea that

> "good antenatal teaching involves staff being responsive to the needs of individual women and their partners."(Perkins and Craig, 1981, p1.)

It was designed to encourage the use of small groups, with the staff providing a relaxed atmosphere, which would make teaching and learning enjoyable for all. Discussing new ideas, which move away from syllabus examination systems, highlight student activity and provide feedback for tutors, would free the health visitors and midwives from the straightjacket of their own experience and increase their confidence (Perkins and Craig, 1981).

1.2.3 Developments within the study centres.

A brief history of the developments within the two study centres will demonstrate the activities which preceded this project. Centre A examined their antenatal education service as a single Health Authority whereas the approach in Centre B consisted of the combined efforts of four Health Authorities.

A. Developments in Centre A.

It became apparent to midwifery and health visiting managers in Centre A, following the NHS reorganisation in 1974, that antenatal education services were varied but rarely met perceived needs. The Divisional Nursing Officers met to estimate the size of the task required to correct the situation and exchange ideas on solutions to the problems. The first stage consisted of

1. identifying problems;
2. setting standards and guidelines
3. attempting to foster local working relationships.

A critical appraisal of the services was encouraged following the appointment of an Senior Health Education Officer (SHEO) in 1979. Proposed changes needed the support of both the managers and the staff who would become involved in the implementation.

Awareness of the work of Perkins encouraged the working group to consider changes in their service. An approach was made to the HEC for assistance. The members of the working

group were also aware of the work in Centre B and suggested that the Health Education Council might fund a research officer to work between Centre A and Centre B and undertake a study of development in both areas.

The following were seen as necessary for the service in Centre A:

a) a joint training programme for health visitors and midwives.

b) a need to identify and examine the services provided.

c) a need to turn the geographical problems to good effect by making use of flexible local approaches and applications of programmes

d) a need to foster mutual respect and acceptance between midwives and health visitors by educational means and influence good personal relationships on the sharing of parentcraft roles.

e) a need to achieve common aims.

The means of achieving and evaluating these aims as well as the ability to provide the resources were seen as a major task.

To identify areas of need, as recommended by the Leverhulme Health Education Project (Anderson et al, 1980) a survey was undertaken of a 1000 mothers who had given birth between August and December 1981. This provided information about the number of attenders, their parity, ages and socio-economic groups.

B. Developments in Centre B.

As part of the "Year of the Child" (1979) the Health Education Unit in Centre B organised a day conference on Preparation for Parenthood which was attended by a multi-disciplinary group, representing many aspects of antenatal experience. As a result of the day, the Health Authority was recommended to review the antenatal services in depth (Rees, 1979).

A survey was undertaken in Centre B (Rees 1982a) of the views of the midwives and health visitors involved in antenatal education. This led to a series of recommendations for change and centred round three main areas:

the content and presentation of classes;
the timing and location of classes;
the publicity about the classes.

The findings gave management an opportunity to identify priority areas within the structure of the hospital and community services.

The changes implemented in Centre B included:

1. production of a series of posters, leaflets and invitation cards aimed at informing mothers-to-be and their partners of the facilities available;
2. arranging new classes in some areas and altering times to meet the needs of the mothers;
3. production of a fact sheet giving details of classes throughout the area;

4. devising an invitation card in co-operation with local medical practitioners. This was sent with the information leaflet to all pregnant mothers advising them of the classes and their venues.

5. renaming the classes "Ready for Baby Groups" and designing attractive posters to publicise the groups.

6. recommending improvements to the content and presentation of classes.

A major innovation recommended by the groups was that the communication skills of midwives and health visitors should be improved, which led to the development of the antenatal education group-skills workshops. In addition

> "one of the reasons given by the professionals for the low numbers (of mothers) attending classes was the formal style of teaching. This was felt to deter many people from attending, particularly social classes four and five. In looking at possible areas for improvement, it was suggested that classes should be more informal, with women given greater encouragement to participate and discuss their needs and opinions." (Rees, 1982c, p2)

To make the numbers on such a course viable without too much strain placed on any one authority, a working party was set up consisting of Health Education Officers from the four Health Authorities which formed Centre B. There was liaison with the HEC which led to agreement to test the training course devised by Perkins and Craig (1981).

1.2.4 Overall framework of the study.

This study, although discrete, can be seen within a larger framework which combines the approaches of both action research and evaluation.

Rapoport (1970) lists the influences which have contributed to action research. While not exhaustive, they include the 1940s work at the Tavistock Institute of a multi disciplinary group working with war time problems and operational research utilising mathematical models and computer analysis. Group dynamics which incorporated both an academic approach and links with experimental psychology were examined as well as applied anthropology which derived from psychological warfare and looked at problems in 'culture and sub culture terms' using both psychological and sociotechnical approaches. These developments were interrelated with links between different research programmes and institutes. The underlying concept, of transferring psychoanalytic ideas and methods to the social context, has been modified.

> "The role of the action researcher, from the outset, has been in professional terms and not in simple service terms. From the earliest days, the action researcher has had to feel that his expertise could help the client but that the client was not expected to dictate the terms of the research unilaterally. The problem presented by the client was taken as data but not a mandate. The contract with the client has always been based on an understanding that the effort would be a collaborative one to help work through a problematic situation." (Rapoport, 1970, p502)

Early work was concerned with the effects on the client of the researchers perception of 'reality' while later work involved 'social consultancy' with conceptual distinctions between research and therapeutic aspects. Rapoport (1970) discussed some of the problems in action research which stemmed from the involvement of the researcher in the action process.

Curle's (1949) statement that action research

> "aims not only to discover facts, but to help in altering certain conditions experienced by the community as unsatisfactory" (p270)

while accepted as a broad definition, is less applicable to this study than that proposed by Rapoport (1970):

> "Action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable framework." (p499)

Hult and Lennung (1980) note that action research is one way of integrating research findings and their application by practitioners, and on this basis alone, is an attractive proposition within nursing and midwifery. Their definition, ten years later than that of Rapoport, has increased the scope of action research:

> "Action research simultaneously assists in practical problem solving and expands scientific knowledge, as well as enhances the competencies of the respective actors, being performed collaboratively in an immediate situation using data feedback in a cyclical process aiming at an increased understanding of change processes in social systems and undertaken within a mutually acceptable framework." (Hult and Lennung, 1980, p247)

The application of such a definition to this study identifies some of the differences between the action research and evaluation. For instance, the Leverhulme Health Education Project defined specific and practical problems, within one health district, for which a training course was devised as a means of improving the local service. The provision of a training course for the practitioners fulfills the need to "enhance the competencies of the respective actors." Both devising and teaching the course involved the combined efforts of the researcher and a midwife tutor, with the collaboration of the managers. Although the evaluation of the course had certain limitations (Perkins, 1981a; Daniels and Perkins, 1982) this feedback was sufficient after teaching the course 3 times to say:

> "Basically, this course worked. I would have been less happy to say this without the participant observation; the tutor's intuition can lead to exaggerated assessments in either direction, and my assessment this time was crucial for the future of the course locally as well as for the possible use of the material outside Nottinghamshire." (Daniels and Perkins, 1982 p16)

The next stage of the cyclical process, a redefinition of the problem, (see figure 1.1) was to teach the course in different settings with local adaptations by the organisers. The evaluation of the course, at this stage of the development, was instigated both by the study centres and the funding body. The understanding of the change processes has not been specifically studied in this project but the framework has been mutally acceptable to those in Nottinghamshire and the study centres.

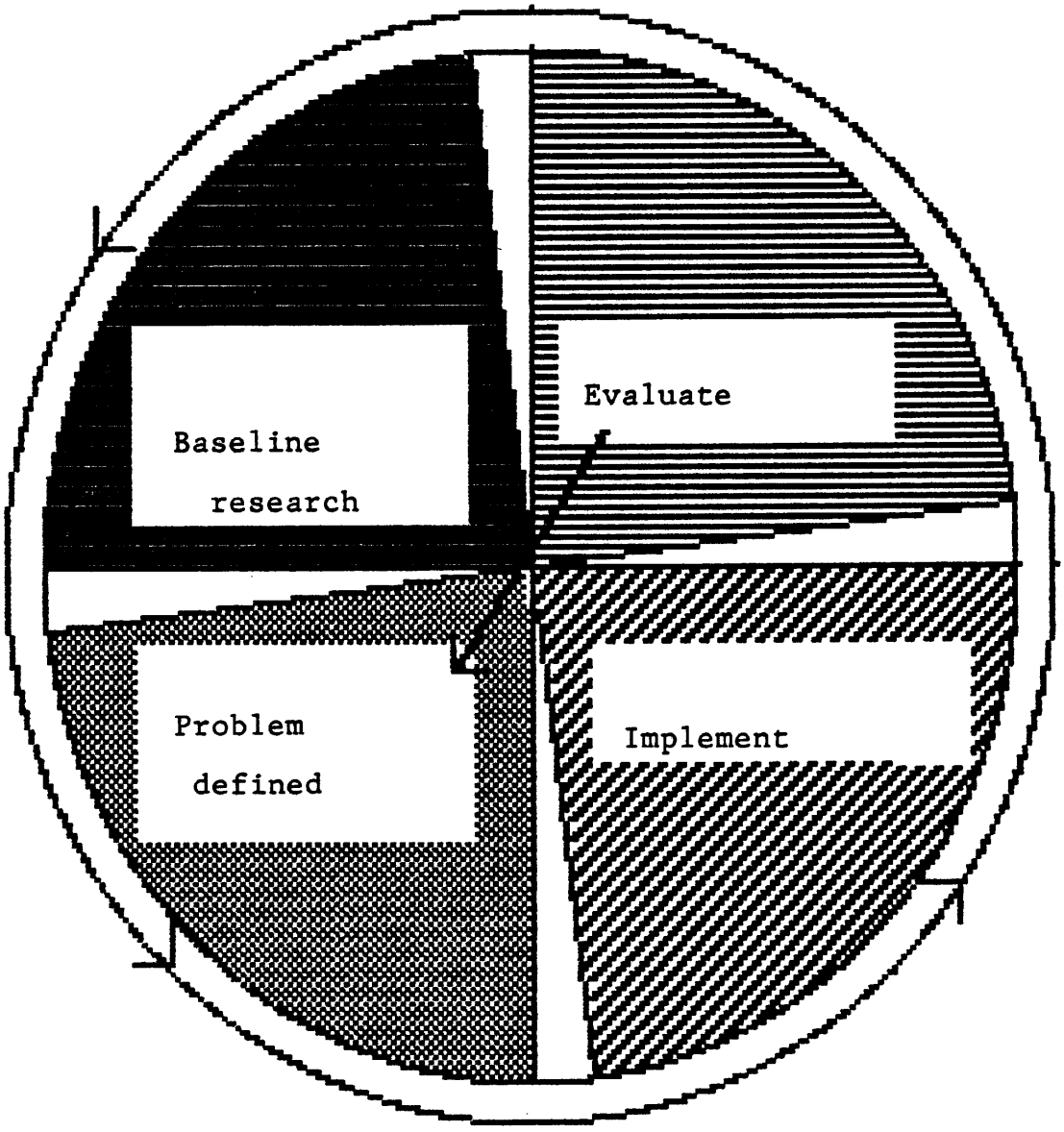


FIGURE 1.1

To show the cyclical nature of the overall framework.

This cycle has taken a considerable time (1975-1986) and was not planned as an overall whole. It can, however, be seen in the light of Shaver and Larkins' (1973) statement:

> "Although the researcher may not be able to conduct a series of studies himself, he can fit his study into a series. And although he may not be able to control the experimental situation and systematically vary the variables from one study to the next as in pure systematic replication, he can ferret out and report the differences in samples and context from one study to the next." (p1253).

Campbell (1973) advocates such a series of studies while Flanders and Simon (1970) support the need for long term research. Evaluation in the early stages, while still in use with the staff for which it was devised, and again after use in 2 other centres, is in accordance with the recommendations of Zusman and Bissonette (1973).

Rosenshine and Furst (1973) describe classroom research within a four-stage cycle:

1. categorise classroom interaction;
2. undertake correlational studies to determine the behaviours to pursue further;
3. correlational results should be tested in experimental studies to determine the effects which specific manipulations have on both subsequent classroom interactions and student growth;
4. develop explanatory theory which accounts for the relationships uncovered in the experimental studies.

They go on to cite the research with Flanders' interaction analysis categories as an example of this cycle. Although they support the need for long term research, Rosenshine and

Furst (1973) comment that individual researchers do need to limit the research to the important and manageable rather than to risk finding themselves overwhelmed with data.

There were some similarities in this project with the study to evaluate the learning skills of innumerate learners by Pirie (1984). Having identified numeracy problems among nurses, an experiment was conducted to identify the form of remediation which would enable the students to master the necessary skills. The final stage was the publication of a book to provide a means for nurses to improve their mathematical skills.

One of the disadvantages of action research is that generalisations cannot be made from the results, a point also made by Metcalf (1982) in her study of change in the system of giving care in a maternity hospital. This problem is implicit in the four-stage cycle of Rosenshine and Furst (1973). The studies within in their cycle may be undertaken within one setting. If, however, such studies are in different contexts with different samples as suggested by Shaver and Larkins (1973) the theory developed may be applicable to a wider setting, but would still require testing before generalisation.

CHAPTER 2

REVIEW OF THE LITERATURE.

2.1 Health Education.

2.1.1 The role of health education.

Examination of the mortality rates and patterns of disease between the late nineteenth and twentieth centuries demonstrated both what has been achieved and what is still required in health care. The major successes of the early twentieth century were due to the improvement in environmental health and the conquest of the infectious diseases. Many of the health problems of todays' population have been attributed to human behaviour, life styles and self inflicted illnesses (DHSS, 1976a, Anderson 1979). If a large proportion of the general population were able to prevent illness they would not require the increasingly expensive technological advances. It is to these people that health education is aimed. Anderson (1979) maintains

> "The case for health education is simple, attractive and versatile" p13

Part of the attraction is that the appeal of health education is wide. For administrators, it is cheaper than curative medicine; for the doctor, diagnosis and cure are easier with the health educated; for the moralist, it places responsibility on the individual and for employers, a

healthier workforce is more productive (Anderson, 1979). Health education is particularly important when resources are limited (DHSS 1976b).

The aim of health education is to promote real health as well as to reduce behaviour-induced disease. Doubt about the possibility of defining health has been expressed by Baeley (1979) who comments that it is illness that produces an awareness of health. The Alma Ata Declaration (WHO 1978) definined health as

> "a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity." p2

A World Health Organisation definition of health education is:

> "Health education aims at promoting the greatest possible fulfilment of inherited powers of the body and mind and the happy adjustment of the individual to society." (p23, WHO, 1958)

Health education is concerned to promote healthier living by establishing or inducing change in personal and group activities and behaviour (Jones and Grahame, 1974). Smith (1979) defined health education as:

> "Health education is...intentional, planned, methodical teaching and information giving, which is not casual or sporadic and which is aimed at helping each individual citizen achieve and maintain an optimum state of complete physical, mental and social wellbeing, free from disease or infirmity." p531

There is, however, a need to be aware of a range of behavioural options without attempts to bias choice. There is a danger that health education tends to be overtly preventive; that improvement of individual and community

health status overrides the wishes of the individual. Tones (1981) points out that an individual may not find it possible or desirable to comply, even if agreeing with the message.

Freudenberg (1978), however, questions if changing the behaviour of an individual should be the primary goal of health education, as it raises grave ethical issues, and has, in fact, failed to have a significant impact on individual behaviour. He argues in favour of collective action which will create health promoting environments and life styles. Among the principles he advocated are the need for collective action and mutual support. The starting point, Freudenberg (1978) asserts, is the problems that people face in their daily lives and that the primary allegiance of such health education would be to the people it serves. Randell and Sutherland (1978) point out that there is a need for change to be desired and agreed before positive change can take place, a philosophy supported in the States by Dormody Clark, (1981).

Traditional health education methods were criticised in a paper by Haggerty (1977) in which he argued for a combination of approaches both for the individual and society. The many facets of health education should be dealt with as interlocking and interacting aspects of a social whole (Wilkening, 1981).

The need for research was pointed out by the Short Report (Social Services Committee, 1980) which stated:

"We were left with the strong impression that there

> is still an urgent need for research into new methods of teaching health education, with many different experimental approaches...but we would expect to see a close evaluation of such experiments." p128

Green (1978) points out the problems with design of evaluation of health education - rigor versus significance, internal versus external validity, experimental versus placebo effects, effectiveness versus economy of scale, long term and short term analysis as well as the problems of budgeting for health education. Jones and Grahame (1974) note that material reported as health education research is often descriptive or narrative and that there is little attention paid to design. A weakness, they argue, is that the results and deductions were not subjected to critical analysis.

One solution which Jones and Grahame saw in the 1974 NHS re-organisation was that the integration of hospital and community services would make up for deficiencies in the exchange of information such as vitial statisitics, mortality, morbidity and the disability of a given population. Hunter (1981) noted that the HEC has striven towards using the techniques and frameworks of established science, but it may be questioned if these techniques are always applicable to health education.

2.1.2 Nurses' role in health education.

Health education can be carried out by specialists, such as health education officers, and by those outside the health care professions, such as teachers. As nurses are

the largest group of health workers, (Smith, 1979) their potential influence is great. The concept of the nurse as a health educator has received considerable support. Florence Nightingale (1859) was the first nurse to emphasise this role. The Statutory Instrument (1983), resulting from the Nurses, Midwives and Health Visitors Act 1979 states that nurses shall:

> "acquire the competencies required to advise on the promotion of health and the prevention of illness; recognise situations that may be detrimental to the health and well being of the individual." Statutory instrument. 1983 P10, Sect 18 (1) (a-b).

This point has been supported by others (Report on the Committee on Nursing 1972; Scottish National Nursing and Midwifery Consultative Committee 1976; Royal Commission on the NHS, 1979).

The health education role has been seen as part of the nursing process and greater involvement is a logical and rational extension (Smith 1979). One model of health education examines the prevention of disease and divides it into primary, secondary and tertiary. The primary function is seen as preventing disease; secondary aims at arresting disease and achieving a complete return to health while tertiary aims to minimise disability caused by disease if it is not possible to restore an individual to complete health (Tones and Davison, 1979). Within the nursing process, the assessment stage can combine both the medical prescription with a care plan based on the patient's needs so that the teaching which is required is acceptable to the individual.

Although it may be accepted that nurses have a health education role, deficiencies have been demonstrated by research. These include Elkind (1980) who reported that nurses lack an understanding of and skills in health education and an inadequate knowledge base. The latter has been supported in studies which showed both nurses' and tutors' knowledge of the dangers of smoking was deficient (Faulkner and Ward, 1983; Ward and Faulkner, 1983). Syred (1981) discusses the abdication of the health education role by hospital nurses and suggests that their education has failed to equip them. She lists poor communication and a deficit of analytical skills and recommends that education should be directed at the ward sister. Pohl (1965) noted that although the majority of 1500 American nurses felt that teaching was a responsibility of the nursing profession, they were dissatisfied with the quality and quantity of teaching. Factors which interfered with teaching were lack of time, heavy work load and understaffing. The latter point was also made by Jamieson (1981). Wilson-Barnett, (1983) considers the belief which emerges from empirical studies is that nurses should do more patient teaching than they have time for but the reasons why they do not is a lack of knowledge and lack of awareness of patients' need for information. Jones (1983) noticed that many nurses have a rigid view of health education and advice, and are unable to tailor their contribution to the needs of individual patients.

Efforts are being made to improve the situation. The basic nurse curriculum has included health education only since 1983 (Slack, 1985), despite the acceptance of the role since the mid 1970s. Lofthouse (1980) emphasised the importance of training student nurses for their health education role, including communication skills. The continuing education of the nurse should treat as a priority the needs for ward staff for preparation for their teaching role using workshops on teaching skills, based on active experiential learning principles (Alexander (1984). Not all training shows much change. A study of the training of group dynamics to student health educators demonstrated only a improvement in stability in a test of 16 personality factors in an experimental group (Phillip and Rahman 1971)

Communication skills, which are taught in just over half of the schools of nursing, are receiving specific emphasis in an experimental project (Faulkner, 1984a) Smith (1979) discusses health education in broad terms so that nurses need to develop their social skills, update knowledge of society and commit themselves to the aims of health education. He emphasised the need to take health education to the people in the community.

Although health education by hospital nurses is important, some (such as Turton, 1982 and 1983; Kratz 1985) have stressed the health education role of nurses working in the community. Cliff (1985) argues that because community nurses have a special role in health promotion, they should

be the body to influence the nursing profession at local and national level in terms of policies and priorites for health promotion. Davies (1980) advocates health education in schools and feels that health visitors are the 'ideal people' to fulfill this role. Turton (1983) makes four recommendations:

1. increase the number of staff so that they have more time;
2. provide more in-service training to improve and update knowledge base;
3. provide training in more appropriate communication skills;
4. unification of the role of health educator with that of nurse.

which she feels will help the district nurse in her health education role. Jones (1983) reports that training is provided for some district nurses.

2.1.3 Midwives' and health visitors' role in health education.

There are differences in the health education role of midwives and health visitors compared with nurses. The latter are mainly in contact with the sick while the clients of the former, are healthy. Contact with the health services by mothers is close and sustained, which can have an impact, not merely on the individual, but the family as well (Perkins 1978c). Much health education by nurses will be individual patient teaching, while midwives and health visitors are more involved with group teaching. This

contact with groups of clients who are still healthy could be more cost effective than individual teaching by nurses.

Both midwives and health visitors have been long accepted as health educators. (An inquiry into health visiting, Jameson Report, 1956; RCM 1964). The midwives' role includes family planning, the pre conception and postnatal periods as well as antenatal education. The health visitors' role is much broader as it encompasses advice, counselling, reassurance and education to all age groups (O'Connell 1978; RCN 1983). Syred (1981) maintains that midwives and health visitors have a well defined health education role, especially in antenatal and post natal care. Many midwives and health visitors have developed a high degree of skill with the use of group discussion methods (Dalzell Ward, 1974). It has been shown that both midwives and health visitors, however, give very little advice to women in one specific health education situation, that is, smoking in pregnancy (Gardiner et al 1981; Black 1984).

There is some debate about the relative responsibilities of midwives and health visitors for antenatal education. Problems have been identified between midwives and health visitors in terms of who teaches the classes (Hyde, 1982). There are variations in different reports. Robinson et al (1983) questioned community midwives about the relative responsibilities of midwives and health visitors for organising antenatal education. There were 53.3% who replied that both played an equal part; 29.5% community midwives replied that the midwife was responsible compared

with 10.6% who responded that health visitors organised the classes. McCabe et al (1984) report 43.2% of midwives compared with 39.5% of health visitors replied that both groups organised and taught classes. There were 27.3% of midwives and 10.5% of health visitors whose only involvement was teaching. One of the consequences of these differences between the professions is the poor coordination and planning of the classes and poor or no continuity in the teaching (McCabe et al 1984). Lahiff (1977) fears that there may be a danger that the needs of mothers may not be met by either profession while signficant differences have been reported between midwives and health visitors as to who the appropriate person was to give advice and information (Robinson et al 1983).

A fear of loss of professional identity by each profession is expressed by midwives and health visitors (McCabe et al 1984). Draper et al (1984a) discuss relationships from the health visitors' view point. Their study suggests not all health visitors have a good working relationship with their midwife colleagues. This, they attribute to poor communication and an undervaluing by the midwives of the health visitors' role in the antenatal and postnatal periods. Similar reports of ignorance of, undervaluing of the others' work or over rating of their own, has been noted between health visitors and social workers (Clark 1973) midwives and health visitors (Robinson et al 1983) and GPs, midwives and health visitors (McCabe et al 1984).

While (1983) feels that the midwife's role in family care is fragmented and limited, and it is the health visitor who can establish a relationship which could last throughout childhood. A similar sense of invasion of their role has been expressed by midwives (ADM Students, Derbyshire College of Education, 1984). Field et al (1982a) report in a survey of 51 mothers which identifies the strengths of both groups. The mothers who got to know the health visitors in antenatal classes derived much more benefit in the postnatal period than if there was not antenatal contact. The same mothers describe the community midwife as the most important professional encountered during pregnancy.

Explanations for this debate may be due to different training, contrast in the nature and structure of the service provided (24 hours, 7 days a week as opposed to 9-5, Monday to Friday), pay structures or the possibility that each profession attracts a different type of person. Such conflicts are not confined to midwives and health visitors alone but are reported between midwives and physiotherapists (Comaroff, 1977) as well as doctors, health visitors and social workers (Dingwall, 1983).

Milne (1980), although referring to other members of the primary health care team, recommends joint training. Others have proposed that midwives and health visitors should be trained together at post basic level (Homans, 1980) and share a common module in basic training (Hyde, 1982). There have been workshops, run jointly by the RCM and the HVA for members of both professions (RCM, 1983).

The opposing view has been put by Jones and Barnes (1985a). They established a training course for health visitors, with tutors who had been themselves trained in group dynamics and counselling. This course was designed specifically for health visitors alone and included exercises and role play. The health visitors who have attended the course have felt it was of great value to them. Following the success of the health visitors course a similar course was put on for midwives (Jones and Barnes, 1985b), again as a single professional group. This separate training for the different professional groups was seen to be important as the authors believed that the participants felt more at ease, and that this facilitated learning. This point could be argued and joint training, as noted above, is presented to the professions.

2.2 Antenatal classes.

2.2.1 The history of antenatal education.

Antenatal education has developed from two traditions, both with separate aims. The hygiene tradition grew from the Ladies Health Society of Manchester, the forerunners of health visitors, who started going from house to house to advise on feeding and baby care (Williams and Booth, 1974). The high perinatal and infant mortality of the time (140 infant deaths per thousand registered live births in 1900, Mayes, 1970) was tackled in many ways, one of which was educating parents about hygiene.

The other tradition focused on methods to alleviate pain in labour. Fairbairn and Randell established a physical routine for mothers at St Thomas's Hospital in 1912 (Williams and Booth, 1974). The natural childbirth movement was started by Dick-Read in the 1930s (Heardman, 1982) Other methods, such as hypnosis, were used in Russia in the 1940s. Psychoprophylaxis based on the Pavlovian response to stimuli, was also started in Russia. It was used extensively in France in the 1950s by Lamaze (Williams and Booth, 1974) and spread to the USA, where it is still very popular. Variations on these methods have been used by the NCT in the UK (Kitzinger, 1972). Hypnosis has some advocates for control of labour pain (Williamson, 1975). In the 1980s acupuncture also has been used (Skelton, 1984).

The importance of antenatal care was recognised during World War II. Mothercraft classes, organised by health visitors, were possible throughout the country following the establishment of the NHS in 1948. The expansion of the health visitors' role to care for other age groups, involved midwives in antenatal classes both in hospital and the community (Williams and Booth, 1974). The two different traditions are reflected in the variety of names given to antenatal education: mothercraft and parentcraft (hygiene tradition); relaxation and exercises (natural childbirth tradition) and more recently, Ready for Baby groups (Rees, 1982b)

Provision of classes, however, appears patchy. A survey of all maternity hospitals, maternity units and Local Authorities was undertaken in England and Wales in 1961 and 1962. Of the replies from 528 hospitals, 44.5% provided classes. Reasons for not providing were lack of accommodation, shortage of staff or that planning for classes was under way. There was 92.1% provision by the 139 Local Authorities who responded to the survey (RCM, 1966). A survey of 60 Health Disticts in England and Wales in 1979 questioned midwives about the availablity of antenatal classes. There were 88.7% who said classes were provided in their hospitals. Of the community midwives, 73.6% took part in antenatal classes (Robinson et al, 1983). In a smaller study of two urban and one rural setting, 70.5% of the midwives and 51.6% of health visitors were involved in antenatal classes (McCabe et al, 1984).

2.2.2 Value of antenatal clssses.

The focus of early research was to investigate the effectiveness of physical preparation for childbirth and this has continued, producing conflicting results. Although some benefits were demonstrated (such as less use of analgesic drugs, Roberts et al, 1953) antenatal education has little influence on the course or the outcome of labour (Rodway, 1947; Burnett, 1956; Mandelstram, 1971). These results may be attributable to the problems of assessing labour (Huntingford, 1965). More recently, it was reported that relaxation and breathing exercises alone could not result in painless childbirth (McKenna, 1976) although class attenders might be more self-reliant and confident (Rathbone, 1973). Taylor (1985) reports a significant difference in mothers who attended classes. They found breathing and relaxation exercises the most effective form of pain relief but this group excluded mothers who had epidural anaesthesia. A study providing data on the sub-components of pain experience, sensory, affective and evaluative, assessed by the McGill Pain Questionnaire demonstrated differences between those who had and had not attended classes. Attendance was associated with significantly lower levels of pain on the affective component of pain only (Niven, 1984). Michel Odent in Pithivers does not train mothers to cope with labour, nor does he allow analgesia in labour (Katona, 1981).

Other benefits of class attendance have been more difficult to measure. As the confidence reported in class attenders by Rathbone (1973) did not always last throughout labour, the influence of the classes could not be described as wholly beneficial. The reduction of anxiety and increased knowledge after attending classes is small (Hibbard et al, 1979). Ball (1981) who examined the effects of present patterns of maternity care on the emotional needs of mothers, identified a 'distressed' group of mothers and reported that 62.2% of them had attended classes compared with 37.2% of those mothers who were in the 'high satisfaction' group. It might be argued that those who were more likely to be distressed, would choose to attend classes, and those who would be satisfied with their childbirth experience might chose not to attend. A difference in the mothers may also expain Orr's (1978) demonstration of a significant relationship between those not attending classes and subsequent under untilization of well baby clinics. Husband (1983) showed that clients' educational attainment at the time of booking is a better predictor of attendance at classes than social class.

When the hygiene tradition is examined, the higher standards of living and improved social conditions of today could appear to obviate the need for this teaching. The craft title of some classes, however, implies a perceived need to teach skills. Many women, who have not handled a baby before, appreciate the opportunity of learning, for example, how to bath a baby (Taylor 1985). Those devising

guidelines for antenatal classes see such skills teaching as a necessary component (Craven et al, 1975).

Various researchers have shown that there is much mothers do not know about pregnancy and childcare (RCM,1966; Watson and Morrison, 1979; Morgan, 1984; Griffiths and Jenner, 1985). Bourne (1982) in the preface to the largest national survey of the consumers' view of maternity services (Boyd and Sellars, 1982) says the survey

> "highlights the inadequate educational preparation with which most women and men face their first and even subsequent pregnancies."

One third of mothers were ignorant about the growth and birth of a baby before their pregnancies (RCM, 1966). Watson and Morrison's survey of 153 women at the beginning of their pregnancies, demonstrated that a large proportion of them were totally unaware of the differences between the modified, partially modified and unmodified baby milk brands. Baseline knowledge of dental health was 'patchy' but evaluation of two forms of intervention showed little improvement (Griffiths and Jenner, 1985). Antenatal classes did not provide sufficient information to avoid obesity in children in a self selected, middle classes, well educated group of mothers (Morgan 1984).

Many researchers have tried to assess if the mothers had learnt anything from attendance at classes. Again, the findings do not support each other. The mothers who needed educating, did not always get the information they required (RCM, 1966). One study reported that 31.8% could not remember anything they had learnt in classes (Adams, 1982).

Two groups of primigravidae who were sent different booklets about pregnancy and child care at the beginning of pregnancy were significantly more knowledgable than a group who were not sent any information. It was appreciated that these groups may have perceived that a book sent to them, was more important than the available literature in the clinic (Owen et al, 1984). Chamberlain (1975) and Perkins (1978c) noted that the information wanted was not covered, while others have reported that mothers do find classes helpful and increased their understanding of events (Gillett, 1976; Boyd and Sellars, 1982; Husband, 1983). There were problems with research design in some studies. The Boyd and Sellars survey was from a self-selected group, and in Gillett's study the questions were framed to invite a positive response. More than half a group of mothers who had attended classes, did not feel they had received realistic preparation to care for a newborn baby (Draper et al, 1982). The benefits of classes have been reported as the social contact with other pregnant women and learning relaxation rather than the educational content (Adams, 1982), while others feel that the preparation is for childbirth rather than parenthood (Taylor, 1985).

Norman (1980) claims it is good to encourage parents to attend classes, although the benefits she reports, appear to concentrate on the husband who will be able to give his wife support and prevent her from worrying. The purpose of antenatal education has been questioned by Walker (1976) who feels that it is geared as much to teaching people to be

good patients as much as good parents. Webber and Janzen (1982) interviewed a small sample of mothers and concluded that antenatal education was obviously affected by the general antenatal care a woman received. Lack of continuity and an impersonal service resulted in inadequate antenatal education. Snell (1983) has recognised this need for continuity and allocates one midwife to a group of mothers for teaching during a 9 week period.

2.2.3 Attendance at classes.

Attendance has never been high, with only about half the parents going to classes (eg. Burnett,1956; RCM, 1966; Laughran, 1973; Craig, 1981). A clear social class trend, independent of parity, showed that attendance varied from 49% for social class I to 11% in social class V in a study which interviewed a large random sample (O'Brien and Smith, 1981). A similar pattern was reported by Newson and Newson (1965), and among fathers attending classes (Taylor 1985). Conversely, a retrospective study demonstrated no social class difference between attenders and non attenders but those less likely to attend were the younger, single mothers, living a distance from the hospital (Boswell, 1979).

Poor attendance has been attributed to a variety of factors. Although there were some mothers who did not want to go to antenatal classes or felt confident without attending, there were others who did not know that classes were provided; some were prevented from attending because of

cost, timing or transport problems, while the multigravid mother had either attended in a previous pregnancy or there was no provision for her children. (RCM, 1966; Gillett, 1976; Perkins, 1978a; Homans, 1980; Boyd and Sellars, 1982; McCabe et al, 1984). Two national surveys (RCM, 1966; and Boyed and Sellars, 1982), published 16 years apart, reflect the same patterns as local surveys.

It has been suggested that, as the audience has to be attracted, classes should be advertised more widely (RCM,1966; Perkins, 1978a, 1978c). One suggestion to make antenatal education more attractive was to incorporate it into 'bingo' or 'one armed bandits' machines in the antenatal clinic (Hibbard et al, 1979). New posters and leaflets which stressed the informal approach, were featured in a campaign in South Glamorgan (Rees, 1982b). Greenwood (1983) has suggested advertising in the local press, using different languages if appropriate. Another recommendation was that the mothers should be told of all classes in the locality and should receive written invitations to attend (RCM, 1966; Perkins, 1978b). Thomson (1980) suggests that if a woman will not attend antenatal classes:

> "she must be taught when she's captive - at the clinic." p71

Provision of classes aimed at special groups is limited. A very small number of the midwives and health visitors in the study by McCabe et al (1984) were able to provide for working women although classes are available in some workplaces (Beckett, 1978). Lockhart (1982) recommends

special classes for adoptive parents to reflect their individual needs, while Fiddes (1980) reports that an adoptive mother attended the ordinary classes. Provision for other groups has been suggested with programmes for teenage or handicapped mothers, or those who have had a previous stillbirth or neonatal death. Classes for those whose first language is not English has been proposed to help these mothers to learn English as well as about childcare (Greenwood 1983).

Taylor (1985) reports that inconvenient timing of classes was the second most important reason for not attending. Rees (1982a) suggests classes need to be planned to suit local demand. Evening classes were recommended which would allow working mothers to attend and encourage their partners to accompany them (Gillett,1976; Breese, 1976; Perkins, 1978b). An anecdotecal account, however, from one of the centres in this study, shows the difficulties of trying to suit local needs: evening classes which were held for a year had to be discontinued through lack of support. This illustrates the point that neither the large national surveys nor those from another locality are always applicable to the small geographical areas where the fieldworkers may be looking for improvement.

While few mothers attended classes even fewer completed the course, whether hospital or community based (Breese, 1976; Perkins, 1979d). Aware of this problem, the RCM (1966) recommended that classes should be held more frequently towards the end of pregnancy. Perkins, (1978b)

reported that the mothers were booked in too late in pregnancy to complete the courses; for some, attendance has not been possible because they were hospital in-patients or the class had coincided with a clinic appointment.

Suggestions for ways of overcoming these problems have included planning to complete the course by 38 weeks gestation and to have nearby courses with staggered starting dates. Alternatively, some of the classes could be held at the beginning of pregnancy (Perkins, 1978b; Rees, 1982b; Taylor 1985)). This arrangement would also help to reduce the dissatisfaction caused by inappropriate timing of topics, such as advice on diet in pregnancy given too late to influence the mother's actions or choices (Lilley, 1974; Adams, 1982). Other topics, for example, family planning, presented to mothers whose main concern is labour and coping with the baby in the immediate neonatal period (Perkins 1980a), should be reconsidered.

2.2.4 Involvement of fathers.

Originally, antenatal education was aimed only at mothers but now it is frequently referred to as parentcraft. Brant (1978) considers that women and their husbands are keen for active participation in antenatal education and it has been advocated by professionals (Ritchie, 1970; Adams 1982). There may be many fathers who would like to attend with their partners, yet fathers were offered only 1 or 2 classes or special fathers' evenings (McCabe et al, 1984; Taylor, 1985). Orr (1980) notes that fathers did not

participate in any of the antenatal facilities offered by health visitors but recommends active involvement in the antenatal period as well as after birth.

It has been observed, however, that fathers are welcome in the labour ward (Perkins, 1980b) and that in labour a greater number of class attenders were accompanied by their partners than non-attenders (Gillett, 1976). Fathers themselves said they were dependent on television for factual information about birth (McKee 1980). Perkins (1980b) felt that there was a limit to what the father could learn in advance of labour and suggested that they could be provided with details of hospital facilities and organisation as well as practical skills to aid their partner's comfort during labour; but fathers may well want more information than this. The RCM (1966) noted that only 10% of fathers were invited to attend antenatal classes, but later research (Boyd and Sellars, 1982) showed a much improved figure of 69%. The results of this survey, however, should be treated with some caution. Although a large number responded, it may only reflect the articulate parents, since the questionnaire was distributed to those who asked for it following a television programme.

2.2.5 The need for individualised care.

One of the complaints about the maternity services in the late 1970s and 1980s is the failure to treat each mother as an individual. With crowded antenatal clinics and long delays, the mother has little contact with the medical

staff, who do not have time to reduce her fears and anxieties. Mothers have been reported as seeing the antenatal classes as a place to supply the answer to the questions they were unable or unwilling to ask in the clinic (Perkins, 1978c). Despite this finding, the number of mothers who did not ask any questions was disturbingly high (RCM, 1966; Chamberlain and Chave, 1977). It may be that primigravidae were unaware of what they need to ask, so that the deficiencies of teaching or unasked questions only became obvious postnatally. Questioned about her satisfaction with antenatal classes, a mother who responded favourably before the birth might be more critical after she has had to cope with a fretful baby. The questions the mother does not know she needs to ask (Perkins 1979d) must be anticipated (Rees, 1982a). The mothers who attended classes (RCM, 1966) were all invited to ask questions, but less than half made use of this opportunity and less than one third had help with their worries and fears. As these respondents tended to be the educated, older mothers from socio-economic groups I and II, there is obviously an enormous problem at the other end of socio-ecomonic scale.

Mothers may be encouraged to voice their concerns if they feel the teachers treat them as individuals. One way of providing this is to use the different lifestyles of the mothers as a basis for discussion of the options of baby care and the organisation (or lack of it) of a routine within the family. Emotional relationships within the family could be treated as a separate topic rather than

mentioned as part of other topics (Perkins, 1979b). In another paper, Perkins (1979a) noted that the antenatal teacher concentrated on teaching a skill but also tried to include guidance on emotional aspects of care. The mothers, however, were unable to absorb the emotional aspects because they were concentrating on the practical details to remember. Little attention has been paid to parental styles in traditional classes although a comparison was made of some classes where couples and their babies were invited. The teachers were able to provide a balance by referring to other ways of dealing with a particular situation (Perkins 1979b).

There is a need to review the ability of teachers to encourage and answer questions from mothers. Chamberlain and Chave (1977) thought the answer was to employ an extra midwife in the antenatal clinic whose sole function would be to answer questions. It might be a better solution to look carefully at the training of those professionals in the antenatal clinic, so that the mothers' needs are properly assessed and met. A specialist to answer questions might fragment care and might be less successful than a printed information sheet.

Jamieson (1981) has stressed that teaching should assess the needs of mothers by identifying the different levels of knowledge of mothers. Michie (1980), in one of the few publications by a midwife to acknowledge the existence of the nursing process, feels that the nursing process is as applicable to antenatal education as elsewhere. Methven

(1982) has made the case for the individualised assessment in the booking clinic. If this approach was used, there could be identification of a mother's educational needs. An assessment of systematic, individualised care in midwifery practice has been reported (Adams et al 1981; Bryar and Strong 1983; Bryar, 1984). These approaches to caring are being introduced in some maternity hospitals. The importance of using open questions to obtain information for a care plan is being recognised (Bryans, 1985). If established, the benefits should also be evident in antenatal education. The long term use of the nursing process itself, however, does not mean antenatal education will be perfect.

2.2.6 Prenatal education in North America.

Although the system of maternity care in the USA is different to that in the UK, some of the difficulties seen here are also found in America. One report of a hospital in New Jersey, describes the 'conventional prenatal class' which responds to the British parentcraft or mothercraft classes, although one difference is that relaxation and exercises are only offered as one optional session. The prepared childbirth classes (PCC) appear to correspond to the NCT classes in the UK and are seen as an addition to the hospital classes. As with the NCT in the UK, the parents attending the PCC were better educated and had a higher socio-economic status, they were older, more likely to be nulliparas and intending to breastfeed than those attending the prenatal classes. Demand for the classes was high as it was a requirement for husbands if they wanted to be with

their wives during labour and delivery (Whitley 1979). Brown (1982) states that one of the reasons for providing prenatal education is the increased public awareness of the importance of health education.

Enkin, (1982) reviewing the medical literature from North America, concluded that the impact of childbirth education is not the effect on the individual mother but that the availability of such education will

> "engender significant changes in the ambience in which childbearing women give birth."

He feels that attendance rates between a third and a half of expectant mothers raises group consciousness so that the well informed consumers influence childbirth practices. Educationalists also arguing for prenatal education see evaluation in terms of effect on maternal and infant mortality and morbidity rates (Greenberg and Sullivan, 1977). Genest (1981) reports the benefits of preparation for childbirth are the positive feelings of the parents about childbirth.

Some of the research has been focused on the effectiveness of the psychoprophylaxis. Neuromuscular release and practice of breathing techniques were associated with less pain during the active phase in labour (Cogan, 1978). Worthington et al (1982) examined the effectiveness of active pain control techniques for coping strategies. Techniques were compared, with immersion of hands in ice water, length of tolerance and self-reported pain used as

measures of effectiveness. Structured breathing was more effective than normal breathing; effleurage was not helpful; a combination of structured breathing and attention focal points was more effective than normal breathing. The most effective technique was the combination of structured breathing, attention focal points and coaching. Mothers who were trained for labour, were longer in labour but had less medication than the untrained (Zax et al, 1975). A significant reduction in the length of labour was demonstrated in small group of prepared mothers (n=52) compared with a non-prepared group of 16 mothers (Kuczynski, 1984). The reports of pain experienced during labour relate to the mothers' confidence in her preparation as well as support of her husband. Although much of this confidence may stem from learning skills and attitudes, it is suggested that the social-emotional aspects of classes may be of greater importance (Cogan et al, 1976).

The American studies indicated that aspects of prenatal education are effective in labour. Cogan (1978) and Worthington et al (1982) give a detailed account of the training of the mothers, which is more explicit than the British reports of muscular relaxation (Rodway, 1947); relaxation and controlled breathing (Roberts et al, 1953) to which Burnett (1956) also adds exercise of the muscles which will be used in labour. None of these British studies reported a reduction in the length of labour as did Kuczynski (1984), indeed Burnett (1956) noted that labour was longer in the exercised mothers. It is to be regretted that Kuczynski's study was retrospective with little detail

of the classes which were successful. A subsequent prospective study examined 15 matched pairs of mothers who had and had not attended Lamaze classes. This showed a decrease in anxiety in the prepared group of mothers (Kuczynski and Thompson, 1985) which the authors conclude results in prepared patients requiring less of the nurses' time in labour and delivery, which in turn reduces hospital stay and costs.

As a measure, satisfaction with prenatal classes in the US does not appear to suffer from the conflicting results found in the British reports. This review of the American literature is limited and may not present the full picture. Willmuth et al (1978) demonstrated that for mothers who attended a course for the preparation for childbirth, internal locus of control was related to satisfaction with the experience of childbirth. Class attendance alone did not distinguish the subjects with respect to satisfaction. The small number of subjects who completed childbirth education classes had significantly more positive attitudes than those who had only attended one class (Zacharias, 1981). Without giving any justification for her statement, Whitley (1979) claims classes are a source of satisfaction to everyone. Giefer and Nelson (1981) report a study of teaching fathers which they acknowledge has the limitations of not being controlled, but say that the fathers indicated the classes were effective.

As in the UK the debate about the approach to teaching is a cause for concern. For instance, Carey (1981) and Roberts (1976) feel teaching should be on a one-to-one

basis. Alternatively, participation in prenatal classes is reported as a key factor (Bonovich, 1981) in the learning process and that it can be incoporated into classes without disrupting the system or taking up more of the nurses' time. Discussion, role-playing, encounter groups and transactional analysis are recommended in classes described as the psychoprophylactic method (Jiminez 1980). Structured training sessions were favoured to unstructured discussions when teaching expectant fathers, but were not evaluated (Campbell and Worthington, 1982).

A further similarity to the British situation is the lack of guidelines about who should teach prenatal classes and the standard they should reach. This is further complicated by the greater variety of those involved in maternity care such as maternity nurses, certified nurse midwives, lay midwives and public health nurses. Sasmor and Grossman (1981) report that prior to 1978 there was no systematic identification of who taught childbirth education or of the preparation for this role. A subsequent survey revealed a wide diversity of preparation from 1-4 day workshops to part of a Master's Degree . The purposes of the courses were vague such as

> "making childbirth more enjoyable; better experience for mother and partner; more understanding and knowledge" p157

The majority used some form of end of course evaluation. In general, the service tends to reach the well educated middle class consumers and does not provide for special interest groups or lower socio-economic groups.

2.2.7 The antenatal teacher.

Williams and Booth (1974) state the aims of antenatal education within the NHS:

> "1. To give a woman more confidence;
> 2. to help her to have a healthy happy pregnancy and speedy rehabilitation afterwards;
> 3. to prepare her for the reality of labour;
> 4. to integrate her into a group having similar problems to her own;
> 5. to begin to prepare her to care for her baby."

Kitzinger (1977) writing for a wider audience, feels:

> "the atmosphere of a class is set more by the teacher than the physical surroundings ... Preparation for childbirth must take account of the differences between women and their varying needs, and as a teacher you should at least allow time for your pupils to talk - talk together with one another and talk privately with you if they want." p10

There is a difference in the approach to the two forms of educations evident in these two quotes. This not accounted for by the difference in the original traditions of antenatal education. Antenatal education over the past twenty years has merged these traditions as most classes do try to prepare the mother for labour as well infant care. Other differences between NHS and NCT classes are that the former do not charge a fee while the latter do. As such, the NCT attracts middle class mothers, although Roberts (1986) reports an increase in the number of working class mothers attending their classes.

Some of the problems which have been identified in teaching in the NHS classes (there are not many reports of NCT classes) have included too much emphasis on imparting

information and not enough opportunity for mothers to discuss issues which may worry them.

As long ago as 1966, the RCM stressed that everyone involved with preparation for parenthood should learn about the emotional needs of parents, yet Perkins (1980a) noted that neither the midwifery tradition (preparation for labour and delivery) nor the health visiting tradition (hygiene and child care) allow for this element. There is little evidence, furthermore, to suggest that the teachers recognise these emotional needs.

Perkins (1979b) has identified common elements in antenatal teaching, which she argues, is independent of an individual style. Many topics still have a high skill component with little stress on the emotional aspects. Although the teachers allowed for variation in babies, it was assumed that the mothers would have very similar life styles and that their choices after birth would be the same. What recognition there was of individual variation was that professionals would give different advice rather than mothers making choices. The small amount of attention in classes given to the emotional aspects were negative or prescriptive. The strains of coping with the demands of a baby were not disussed in the classes observed. There was a high degree of control by the teachers as the sessions were predictable with set skills being taught. Perkins (1979b) concluded that preparation for parenthood is parentcraft as there is so much emphasis on teaching skills. She argues for a shift in emphasis so that skills are taught after

birth when they are relevant and can be practised.

In another paper, Perkins and Morris (1979) argue for education in pregnancy, which could concentrate on the principles of feeding, experience and choices. The skills of feeding, they suggest, could be left until the postnatal period, with the process of feeding featured in the antenatal period. The principles of breast feeding, milk production and how a baby sucks could be discussed. Instead of demonstrating how to mix a bottle feed, teaching could focus on the reasons for sterilization, strengths of feeds and distinctions between modified and cows' milk, the need for which has been demonstrated (Watson and Morrison, 1979; Rajan, 1986). As many first time parents have had little contact with babies, Perkins and Morris (1979) would encourage the inclusion of parents with babies in classes. This would help with providing role models. In addition, these parents could help with the discussions of choices. Exploration of different ways of coping with a baby's day, how routines can be adapted or abandoned, how to deal with non-stop crying, may be much more useful than some of the topics, such as layette, which many antenatal teachers feel are mandatory.

The teaching abilities of midwives and health visitors have been investigated in recent years. Criticism of classes has included poor preparation; giving conflicting advice; not being realistic enough about the burdens of, or giving the wrong impression of parenthood (Breeze, 1976; Perkins, 1979a; Homans, 1980; Oakley, 1981a; Rees, 1982b;

Draper et al, 1982 and Taylor 1985). Perhaps the following consumer's comment sums up the situation:

> "Use professional teachers...or at least people who know how to go about imparting information." Taylor (1985) p80.

Antenatal teachers themselves have expressed dissatisfaction. The list of complaints have included: a) the classes are too formal and geared to the middle class attenders; b) are offered too late in pregnancy; c) communication between midwives and health visitors is poor; d) health visitors especially have complained that their involvement in classes is too sporadic (Rees, 1982b). Other complaints have been made about the poor class venues, suitability of accommodatation, rigidity of management structures which prevents innovation and a failure to attract parents from all social backgrounds (McCabe et al, 1984)

Perkins (1981a) felt a major problem of parentcraft teaching lay in the didactic style employed. Limitations included inadequate identification of the needs of the group; control of the topics taught; ineffective teaching; poor staff relationships and lack of flexibility. While management may contribute indirectly, by prescribing a rigid syllabus (for instance, Craven et al, 1975) and not allowing time for preparation or continuity of contact, without training in teaching and group work skills, improvement may be beyond their professional capacities. Group teaching requires a different set of skills (Anderson et al 1980; Luker, 1985) and some members of the professions are aware

of the needs. Jamieson (1981; 1982; 1986) has been pleading for team teaching, learning by discussion of emotional aspects, assessment, flexibility within antenatal classes and evaluation at the end of a course.

Perkins and Morris (1979) defined 3 sets of abilities for antenatal teaching:

1. understanding of human development
2. teaching skills
3. the ability to gather and keep a group together.

Perhaps in view of the evidence, a fourth requirement should now be added, ie assessment skills. Although professional training may provide the first of these, up till now training for the other skills has consisted of little more than 'sitting next to Nelly' or their own experience of learning. Assessment skills have had little emphasis, although it has been recommended that nurses at both basic and post basic level should be taught to assess their patients (Faulkner 1984a).

An authoritarian approach with dictatorial attitidues leads to insufficient appreciation of the social and emotional aspects of a mother's family life. Advice, it was felt many years ago, should be proffered with no obligation of acceptance (RCM, 1960). The didactic teaching experienced by most antenatal teachers during their own education, and possibly by the mothers during their education, may put the teacher in an authoritarian position. This results in teaching initiated by the teacher (Flanders 1970). The problem of class attenders not receiving the

information they need might be overcome with a less didactic approach to teaching (Adams, 1982). Within an adult group of mixed needs and abilities, involving emotional and life changing events, initiation by the group members is required to meet their needs and expectations. McCabe et al (1984) feel there is a need for:

> "the development of interactive styles of communication with pregnant women which take a positive account of their knowledge and lay beliefs on health."p150

They go on to recommend training programmes for GPs as well as midwives and health visitors which might improve the status of antenatal education.

2.2.8 Preparation for teaching.

All nurses have a teaching role but they have been expected in the past to carry it out with little or no training. Ward sisters lack confidence in their ability to teach (Runciman,1983). Expository, didactic teaching typifies the traditional nurse education (Hurst 1985) which is also dominated by the medical model. It is suggested that the two are interdependent. Marson (1984) has recommended that the teaching of nurses should be learner centered, and this may result in they themselves teaching patient centered health education. Training for teaching is seen to be part of the continuing education of the nurse to develop her skills (Crotty 1984).

Antenatal teaching should be primarily based on discussion to determine the mother's needs (Adams 1982). To improve both one to one and group education, antenatal

teachers require training in teaching techniques and communication skills (Adams 1982). The NCT classes have been seen as better than NHS classes because they are less intimidating and encourage informal discussion and participation. Fathers are fully involved with a positive attitude to pregnancy and labour (Kippax, 1980). Reviewing teaching plans and not maintaining the status quo should be a regular part of a teacher's approach to her classes (Hyde 1981). An informal support group for parentcraft educators has been established recently in London and its aims are to help the teachers to provide a flexible approach to teaching. This group includes midwives, health visitors, physiotherapists and members of the NCT and active birth movement (Deane Gray 1985).

A. Midwives.

Despite offical sanction of the midwife as an antenatal teacher (CMB, 1962, DHSS, 1976; Royal Commission on the NHS, 1979; CMB 1980, CMB 1983), she has had little preparation for this role (Brammer, 1977). Dissatisfaction has been expressed within the profession (Ashton, 1977; Sayle, 1979), which contradicts the confident and persistent textbook statement that midwives

> "expert knowledge of midwifery and vast experience of dealing with women during pregnancy and labour qualify them as unrivalled teachers of expectant mothers' (Myles, 1975 and 1985).

The report on the role and responsibilities of the midwife (Robinson et al, 1983) noted that 90% of nearly 3000

hospital midwives and 48% of over 1100 community midwives had no training for their teaching role in antenatal education. Community midwives have had an increased health education role since the reduction in the number of births at home (ENB, 1983). The 18 month training of midwives, started in 1981, may improve the training for teaching. The most recent midwifery syllabus includes the principles and methods of teaching health care as well as the maintenance of psychological and emotional wellbeing and the preparation for childbirth and parenthood (ENB 1983). Robinson (1986) compared two large groups of midwives who qualified in 1979 (the 12 month course) and 1983 (the 18 month course). Of those who had undertaken the extended training, there were 23% who felt they were less than adequately prepared for group teaching in parentcraft compared with 33% who had the shorter training. Although an improvement, this still leaves those who qualified before 1983, without training for this part of their professional role. Anderson et al (1980) feel there is an urgent need for inservice training programmes in group work skills as most midwives have no such training.

Jamieson (1981) states:

> "...utopia would be that all who wish to teach parentcraft could be trained in the skill of teaching." p263

Yet the midwifery profession does not know the most effective method of presenting information to prospective parents (Auld (1980). Both James (1981) and Sweet (1984) consider all midwives need to teach but the latter comments that few have had sufficient training or education to fulfil this role with confidence. Stewart (1981) reported a King's

fund symposium which identified missing factors in the training of midwives, one of which was a lack of instruction and experience in teaching.

If teaching is to be one of the midwife's skills, then adequate training is required (Brammer, 1977; Craig, 1981). The training provided is varied. The non statutory courses for preparation for parenthood provided by the RCM encourage participation by the midwives and focus on the needs of parents, overall planning of a course and an individual session. These courses involve discussion of methods of teaching, principles of communication and learning and provide workshop experience (Ashton and Crowe 1979). The RCM in Scotland put on statutory refresher courses to serve the antenatal teacher (RCM Scottish Board, 1986). Some Health Authorities provide in-service training, either specifically for antenatal preparation or for teaching in clinical practice (Sweet, 1984). Hawkes (1981) reports on the clinical teaching course for midwives, which she hopes would be included in the extended 18 month training of midwives. Haggerty and Kidzma (1980) describe how American nursing students follow a couple through their prenatal education course: maybe this idea could be included in the extended training of 18 months and be linked with the case studies prepared by student midwives. One innovation in the extended training is 'flexible allocation' which for some included an opportunity to gain further experience in antenatal education (Bennett and Grant 1984).

Other efforts to improve training for teaching have been made. Jamieson (1982) recommends that when a student attends a class, she is introduced to the group and is required to make an appraisal of the learning rather than being 'shoved into a class as an afterthought.' One method of training for their teaching role was a 'project on mothercraft' carried out by student midwives in Blackburn which identified for them some of the many problems in antenatal education (Bury et al, 1976).

Turner (1980) considers that the midwife still carries the major role as educator for parenthood. She goes on to wonder if midwives are moving into an age of super specialists and if one of them will be an antenatal expert who is a health educator. This was the case in one centre in Denmark (Newson, 1981). Webber and Janzen (1982) reported that the responsibilty of the midwife for antenatal education was diminishing and attributed it to lack of use of teaching skills which leads to reduced competence and confidence.

Although there are post basic courses, and teaching is featured in basic midwifery training, others would prefer to see it at a different level. In an article arguing for the need for a Master's degree in midwifery, Ward and Adams (1979) state the broad based education would make the midwife :

> "more able to carry out her role as a health educator.... At present the majority of midwives who take part in parentcraft have had no basic training for teaching. Health visitors on the other hand, have special preparation for this role.."p37

B. Health visitors

The Council for the Education and Training of Health Visitors report health teaching as one of the aims of the health visitor (CETHV, 1967; Scottish HVA, 1982) and health education as an essential and integral part of their work (ENB, 1985a). The Report of the Royal Commission on the National Health Service (1979) sees health visitors as key workers in the promotion of health and prevention of ill health through giving education, advice and support. Others have also accepted this educative role of health visitors (Crouch, 1977; Sachs, 1982).

Health visitors may be in a better position than midwives as their training, in contrast to that of nurses, emphasises the health rather than the sickness model, including guidance on health education (Crouch 1977; O'Connell, 1978). They also have experience of group work. Many health visitors help with other forms of self help groups (RCN 1983). Assessment of the total needs, including antenatal education, of the pregnant women is seen one of the aims of antenatal care by health visitors (Scottish HVA, 1982). Randell and Farmer (1976) surveyed students attending the Certificate in Health Education course in 1973-4. Of the students who replied, 46% were health visitors and there were no community midwives among the respondents.

Basic health visitor training, however, provides only a grounding in teaching groups (Anderson et al 1980) and the development of inservice training in group teaching is recommended. The inclusion of social skills training should be part of the health visitor training (Orr, 1980). A recent report showed that 25% of health visitors have no midwifery training (Robinson, et al, 1983) and such health visitors should not be expected to teach about antenatal care, childbirth and early infant care (Hyde 1981). Health visitors lacked understanding of teaching in physical preparation of childbirth and awareness of current hospital practice (Perkins 1978a) while weakness in their knowledge of dental decay in pregnancy has been demonstrated by Williams and Fairpo, (1984). One of the problems may be lack of time for teaching (Dunnell and Dobbs 1982). Older health visitors, qualified before 1960, dominated interviews with clients more than a group who had qualified more recently (Clark 1973).

One of the health visitors strengths', While (1983) asserts, is their ability to assess. This can include the mother's level of education; psychological and emotional dependence or maturity; strength or weakness of lay support; as well as advice and support or lack of it from her partner.

> "Without this basic knowledge any health teaching will be of limited value, since it will fail to provide for the individual needs of a particular parent". While 1983

2.2.9 The position of antenatal education.

To summarise the position of antenatal education in Britain it would seem to reach less than half of the relevant population, to offer little for the relief of pain in labour, does not provide the information the parents want and is poorly taught. There are major difficulties associated with research to discover if antenatal classes 'work' (Perkins 1987a). Those who attend are self selected, their assessment of classes before and after birth may be different. Each class is different even if research has not been focused on the impact of different programmes, methods of teaching, size and setting of classes. There is, however, a dichotomy between the results of research and attitudes to antenatal education.

Budd (1982) tried to assess the:

"desirability of antenatal health education" p6.

She sees the offical statements as within a medical framework so that the risks to society of handicapped children will be reduced if women comply with conventional medical wisdom. Mothers are encouraged to attend classes, not only when they visit clinics but in the books distributed free (Morris, 1980; Newbourne Publications, 1908; Kohner, 1984) and those for sale (Kitzinger 1972; Phillips and Rakusen, 1978).

Antenatal education is seen to be necessary, is encouraged and approved of at an official level. The numerous reports which support this part of midwives' and

health visitors' role stress the importance of the provision of antenatal education. A paper published by the DHSS (1974a) reflected on the impact of the family on society and argued that the good functioning of the family unit was essential to the well-being of society. This paper also outlined a cycle of deprivation in those families whose poor parenting was repeated through the generations. Education was seen as a means of affecting change in that parents would learn to understand their child's needs. The mobility of the nuclear family has isolated women and broken down the informal networks which served to communicate the experience of childbirth (Enkin, 1982).

Parents may learn one pattern of child rearing from their own parents (DHSS, 1974a) but there are many circumstances where this experience may no longer apply. A deprived childhood, the changes brought about by the break up of the extended family, the smaller number of children in families, poor social or economic conditions, the influence of a multicultural society where traditional patterns are questioned, may all serve to confuse parents in their expected role. These changes enhance the need for support and education for parents, so that they can meet the needs of their child. Although each pregnancy produces a change in the family relationships, the first pregnancy marks a particular transition that makes it a suitable time for providing information and education (DHSS, 1974b). If the experience of childhood itself is not sufficient to teach all that is needed, then there has to be some other provision (Kellmer Pringle, 1975).

Pugh (1980) noted that it was difficult to obtain an overall picture of what education is available, what the aims are and what has been achieved. The concerns expressed in two major papers from the Government, the Court Report (Committee on Child Health Services, 1976) and the Short Report (Social Services Committee, 1980) have already been discussed. Both reports expressed the view that antenatal education was generally seen as being beneficial for parents but that there was little evidence to support this opinion. The Maternity Services Advisory Committee (1982), set up in response to the Short report, has issued a series of documents which included guidelines for Health Authorities. The statement on the educational preparation of women stated:

> "Classes should be arranged at time and in places which are convenient for as many as possible, but for group of a size which permits discussion and participation by all present. The content and method of presentation should be reviewed regularly by midwives and health visitors together, taking into account the contribution that other professionals might make, so that the maximum benefit is obtained for local needs." p17

Russell (1982) expresses doubt about the value of Government funding of the

> "medical interventions or on an individualistic orientation (such as health education for pregnant women)" p312

in the attempts to reduce perinatal mortality and morbidity as recommended in the Short Report (Social Services Committee, 1980). She argues that the root cause is the socio-economic conditions, a point has also been made in the Black report (Working group on Inequality in Health, 1980).

Russell goes on

> "such educational strategies represent a clear shift towards notions of individual responsibilty for health care." p315

Three reasons are given for this shift:

a) it is cheap:

b) it obscures the more important structural causes of perinatal death:

c) the major cause of perinatal mortality can be seen as not in poor socio-economic conditions but in inadequate or ignorant mothering (Russell, 1982).

Yet Chalmers et al (1980) maintain that the behaviour of women is often determined by the social and economic conditions over which they have little control. This final point has also been made by Oakley (1981b) as well as Graham (1976) with reference to smoking in pregnancy. Kenner (1985) demonstrates how the health education messages are aimed at women. All aspects, from her husband's arteries to her own cervix, are her responsibility to keep healthy for the good of the family or, could it be argued, for the good of society?

Despite this argument, and despite the reasons for financial support for both health and antenatal education, there is still a need to help those who are worried by pregnancy, unsure of what childbirth entails and unaware of the demands of parenthood (Perkins, 1979b). The benefits of antenatal education Perkins (1979b) argues is the help in adjustment to pregnancy and parenthood, how to use the services of professional staff, how to cope with labour and

learn the practical skills of baby care. Antenatal education could be seen as the 'shop window' not only of the maternity but other services as well. For the young girl, whose first independant contact with officialdom is during her first pregnancy, this is a vital contact. If this contact is a good one, and if subsequent contacts reinforce that the welfare services do, in fact, have her welfare at heart, then she may be in a position to seek help before reaching breaking point - the breaking point which may end in the non-accidental injury or death of her child.

On this basis it is worth the effort to produce effective changes in antenatal education. These changes will have to concentrate on making existing provision better known, to improve attendance; as the audience need to be attracted, the 'school' image should be replaced by a more informal one; the needs of parents have to be met, and this may involve many variations within one geographical area. The changes in society will have to be reflected to allow for the many lifestyles imposed by our multicultural population. A more individual and flexible approach is required (Draper et al, 1982). Teaching needs to be pitched at a level which will not discourage those who attend but will encourage them to discuss aspects of parenthood which are uppermost in their minds. To achieve this, the teachers need to be confident in their teaching skills and abilities to establish and keep a group together. Communication is a vital part of both these skills.

2.3 Communication.

2.3.1 The role of communication.

Criticism of the maternity services during the 1970s and 1980s have included aspects of communication (Bourne 1982). Two specific complaints are that advice is conflicting and there is insufficient information given to mothers about what is happening to them (Oakley 1981b).

Communication is an essential part of all health care, perhaps more so within nursing and midwifery which involve intimate care, day and night. Macleod Clark (1981a) notes that interaction between patient and nurse always involves some communication, and that non-verbal communication may say as much, or more, to the patient than words. None of this should be taken for granted. Altschul (1983) comments that nurses are aware of the need for good communication but have not learnt how to encourage patients to talk.

Faulkner (1981a) gives three reasons why good communication skills are necessary to nurses:

a) to help patients to understand their disease and treatment;

b) to allay fears where possible;

c) to communicate her observations to others in the ward team.

The skills nurses need are initiation, encouragement and maintenance of conversation. How well an individual nurse will be able to meet patient's needs will depend on her level of experience and skill (Macleod Clark 1981a).

Ability to communicate with a patient openly will increase knowledge of the individual and that should place the relationship on a more equal basis. This, however, will make the nurse more vulnerable (Faulkner, 1981b). A patient centred approach to care also increases a nurse's knowledge of her patient. Although this increased knowledge may aid communication, the nursing process, with its emphasis on assessment requires considerable communication skills. Nurses need to be able to use understandable language at an appropriate level to assess the patient's needs. They should be good listeners, to understand these needs (Faulkner (1981a). Although nurses consider communication and building relationships as important, Altschul (1979) notes they admit they are not good at it through lack of training and time.

Communication is also essential to teaching. Thomson and Bridge (1981) have shown that some feel nursing can be 'taught, handed down, studied or learnt.' Perhaps this demonstrates there are still teachers who consider that the communication stems from the teacher and should be received by the student. There is a move towards student centred learning which should imply an increase in assessment of the student (Alexander, 1983; Hurst 1985).

2.3.2 Lack of communication skills.

There has been a considerable increase in the amount of research focusing on communication, both in nursing and the maternity services in recent years. Some of the relevant literatures are discussed in the next section.

A. Nursing

Cronk (1971) feels some of the problems nurses have with communication are due to imitating a medical model as doctors seem unwilling to communicate. It is hoped that the introduction of the nursing process will stimulate the nursing profession to think of caring within a nursing rather than medical model.

Student nurses do not have a clear idea of their role in giving information (Faulkner 1980). They gave less information than they could, did not know how to answer difficult questions and because of this, they were embarrassed and unhappy. This resulted in avoidance behaviour (Faulkner, 1980). Communication between nurse and patient focuses on tasks (Faulkner 1979) or treatment and care (Macleod Clark, 1981b). Macleod Clark (1983) examined nurse-patient conversations on a surgical ward. Her findings suggest that both quantity and quality were limited. Although the nurses were able to use skills to discourage communication, there was little evidence of those which encourage interaction. The only factor to increase the length of conversations was the presence of screens around the bed (Macleod Clark, 1981b).

Both the frequency and duration of interactions between nurses and psychiatric patients were examined by Altschul (1972). She noted that, in her sample, the number and length of interaction was increased with patients suffering from organic mental disorders; with those who were

physically ill; with those under 25 and over 60 years of age and that there were a greater number of patient initiated interactions in the female wards. The factors associated with reduced interaction included those patients who were depressed and neurotic, the physically well, and between ages 25 and 60. Interaction decreased the longer the patient was in hospital. The female qualified nurses had a lower interaction than the male nurses, but the reverse was true of student nurses.

One means of improving communication is the skilled use of questions. Registered nurses should be able to ask open, closed and exploratory questions (Macleod Clark 1981a) and adapt them to particular patients or circumstances (Faulkner 1981b). Macleod Clark (1981b) classified communication techniques as:

a) encouraging or reinforcing

b) discouraging or blocking.

Open questions and appropriate closed questions encourage while some closed or leading questions can be discouraging. Although nurses asked few direct questions there were many which were indirect or implied. Nurses discouraged questions by maintaining control of the conversation, or ignoring the questions that were asked (Faulkner 1979). Perkins (1979b) observed a similar situation in antenatal classes and reported that the mothers could only ask factual questions rather than raising topics to which there are no easy answers. Unhelpful answers were given to questions asked in antenatal clinics (Moore, 1984). Melia (1982) has suggested that nurses learn to evade questions while they

are students when they do not know the answer. Yet in a psychiatric unit it was the most highly qualified staff who were blocking patients' queries (Macilwaine 1983). Similarly, Altschul (1972) reported student nurses interacted with patients more frequently and for longer than the trained psychiatric nurses. Some general nursing students, as they progressed through training, followed the patterns of communication they saw in the qualified staff (Faulkner, 1984b).

Kirkham (1983) examined the strategies used by mothers in labour. They were more likely to ask questions if the member of staff:

1. appeared to have time;
2. was sitting near rather than standing far away;
3. was not speaking;
4. was looking at the patient rather than the notes, fetal monitor or colleague;
5. was not causing pain or discomfort at the time.

These criteria were least likely to be met by those making decisions. Junior staff were more approachable but less likely to know the answers. Some mothers use statements or jokes in order to get a response but these tactics were not always successful. Eavesdroppping, Kirkham (1983) reports, was one of the ways of getting information.

Giving information to patients has been demonstrated to have positive benefits in surgical patients (Hayward, 1975) and preparing children for blood tests (Rodin, 1983). Inadequate communication may have physiological consequences

in the critically ill (Ashworth, 1984). It has been suggested that there is a need for further research to understand how the communication abilities of nurses affect the delivery of nursing care (Kasch, 1984). The need for training in communication skills has been stressed (Macleod Clark 1981b; Faulkner 1984c).

B. Maternity services

Communication, Taylor and Copstick, (1985) argue is needed more in obstetrics than other areas of medicine. Feedback about the condition of the baby (such as fetal movements) is vital from the mother yet is only possible where two way channels of communication are open. A report of the conference on human relationships in the care of mother and baby (RCM, 1960) recommend talking to mothers as:

> "Time given to this, far from being wasted, is of the greatest therapeutic and instructive value." p7.

This report went on to state that the way information is communicated is as important as the fact it is communicated. Anderson et al (1980) have recommended research to identify the factors which inhibit communication between patient and midwife. The communication difficulties identified within the health service generally appear to be as bad, if not worse, for maternity patients.

Cartwright (1964) demonstrated that a greater number of maternity than medical or surgical patients said that doctors were not helpful in supplying information and that they had to rely on the nursing staff for information.

Boyd and Sellars (1982) report a slightly better picture with 51% responding to a survey saying that they felt they could ask questions 'freely' of the doctors. Boyd and Sellars (1982) did not ask if mothers felt they could ask questions of midwives (which may in itself say something about midwives' ability to communicate their role as health educators) but 73% of the mothers replied that community midwives were helpful and sympathetic and 61% gave a similar response about hospital midwives. Of the mothers in Perkins (1978c) study 43% wanted specific issues explaining and 45% said no explanations were given.

Macintyre (1982) feels that the subject of communication is particularly pertinent to the maternity services. She interviewed primigravidae three times during pregnancy and asked what information they had been given about their progress (Table 2.1).

TABLE 2.1

To show the precentage of primigavidae reporting various levels of information.

	Gestation (weeks)		
	c.14	c.24	c.34
Told nothing	50	24	14
General reassurance	29	44	72
Specific Information	20	22	14

Source: Macintyre 1982 p388.

If the booking clinic is as important as the hospital staff claim, it is rather disquieting that Macintyre (1982) reports 50% of mothers were told nothing about their

condition. Observations of consultations between doctors and patients in an antenatal clinic indicated that there was sufficient evidence to confirm the womens' criticisms. Macintyre (1982) also observed that the midwife played a mediating role between patient and doctor and commented that, within this setting, midwives were skilled and experienced in the communication and interpretation required. Methven (1982), interviewing mothers in the booking clinic, discovered not only was there information which the mothers should have given the midwife, but there were further questions which the mothers would have liked to ask.

Midwives were less effective on the postnatal wards than the antenatal clinic. Macintyre (1982) goes on to report conflicting advice, poor communication between hospital staff and uncertainty about who should be giving information. There are three reasons that Macintyre (1982) considers explain why problems are greater in the maternity services:

1. There is much routine work. Because of the homogenous population there is basic similarity in the procedures, so it is easier to develop standardised rules and routines. This is further complicated as the care is fragmented and task orientated. The midwife who is 'doing the urines' may be explaining about a midstream specimen for the 50th time that morning, and will probably have no other contact with the individual. Many mothers have complained of the 'conveyor belt' system, or 'sausage machine' in the last few years. Many rules and

routines appear mystifying in antenatal clinics and postnatal wards but the situation is better in antenatal and labour wards (Macintrye, 1982).

2. Mothers are not ill but many communication patterns used by doctors and the nurse-trained-midwives may have developed while caring for the ill. Marteau (1981) has pointed out that the nurse in hospital may take over a 'mother' role which may be appropriate for the sick but confusing for the healthy woman who is preparing to take on the mothering role herself. Macintyre (1982) has noted that patronising communication is less frequent in the commmunity and women may desire this form of care because they are not treated like children. The difference in the midwives' approaches may be because community work attracts midwives who prefer more individualised, continuous care or because they are aware they are the guests of the mother in her own home. Perhaps some of the communication problems in hospital would be overcome if there was a greater awareness of the patient as a guest, with the staff there to serve her.

3. The final reasons Macintyre (1982) gives is the gap between mothers' expectations and the reality they encounter. Expectations of hospital care can be raised by the media. For instance the HEC Pregnancy book says:

"you will probably want to ask a lot of questions about yourself ..... Write down the things you want to ask." p28 (Kohner, 1984)

Support for this suggestion has also come from obstetricians (Young, 1977) yet Macintyre (1982) feels

that anyone who takes a list of questions to clinic may be viewed as obsessional or trouble making.

Kirkham (1983) observed women in labour. Women who are in a single room, undergoing an experience which may be new and will certainly be infrequent, do not have other women to learn from and are dependent on staff for information. Mothers want to know both what is happening to themselves and what will happen as a result of being in hospital. Kirkham observed that the mothers learnt from the actions and cues given by the staff; if they were told nothing, they felt they should not ask and that the lower social class mothers had greater difficulty in getting the information.

When Kirkham (1983) interviewed the midwives they stressed the importance of giving explanations for each action. She noticed circumstances which constrained the midwives explanations, such as the presence of senior staff. Both Macintyre (1982) and Kirkham (1983) observed midwives giving reassurance if they were unable to give information or giving routine 'packages' of information. Macintyre (1982) had also added that midwives think lower class women

a) do not want information or explanations

b) do not understand technical terms.

For mothers no news is bad news, whereas the staff tend to think the reverse.

2.3.3 Efforts to improve communication.

The bleak picture of nurses' and midwives' communication skills is somewhat alleviated by the efforts to improve the situation.

Teachers of nursing have not always appreciated the need for specific training in communications skills. Faulkner et al (1983) report that 50% of the directors of nurse education surveyed held the opinion that the ability to communicate is inherent in the personality. This statement can be questioned in the light of the research reported in the last section.

It has been demonstrated that interviewing skills can be improved. Maguire et al (1978), teaching medical students, investigated four methods of training in interviewing skills:

a) individual videotape feedback;

b) audiotape feedback;

c) feedback from an instructor who had watched a videotape of the interview;

d) the traditional training by apprenticeship.

Feedback from the instructor and the traditional methods were not as effective as the methods involving videotape or audiotape. The latter two methods improved the students' ability to obtain more accurate and relevant information.

Maguire (1984), having trained medical students in interviewing skills, asked them to rate their own interviews

with a rating scale. The tapes of the interviews were discussed so that all students were involved in it. In a 4 week period each student was given feedback on two of his interviews. If there were particular difficulties, students were given the opportunity to role play the situation. Students who lack basic communication skills (about one student in 10) require more help. Students who tried to teach themselves by using handouts, rating scales and watching replays of their interviews, failed to improve after initial improvements. Maguire concludes that a teacher is essential.

Tomlinson et al (1984a) consider the teacher's influence as a role model should not be underestimated. One of the the explanations of antenatal teachers' authoritarian, didactic style was that they have used their own experience of teaching as a role model. Faulkner and Maguire (1984a) have indicated that assessment skills can be taught to nurses, including the use of relevant interviewing techniques and identification of problems. Ward nurses were trained to assess psychological and physical adjustment following mastectomy. They used a standard assessment form, practice interviews and audiotape feedback with positive reinforcement. All the nurses improved from the original taped interview and also reported greater job satisfaction.

As Faulkner et al (1983) reported that most schools of nursing in England are equipped with video-recording facilities, there would appear to be the possibility of using similar techniques to those discussed with medical

students and nurses. Tomlinson et al (1984a) advocate the use of role play in teaching communication skills but remark later (Tomlinson et al 1984b) that nurse educators are not experienced in the use of role play and recommend that colleges should train teachers in its use. The Communication in Nurse Education project is examining methods of teaching in basic nurse education (Faulkner, 1984c). While improvement at basic level should eventually reach those who will work as midwives and health visitors, there are many who are practising now and have not had the opportunity to learn these skills.

Work is being done at a post basic level to train health visitors in communication skills. Tittmar et al (1978) developed social skills training, which included questioning skills for inclusion in health visitors' training. Another course (Lythgoe, 1983) consisted of a series of sessions with opportunities to practise newly acquired communication skills. This included role play and some sessions were video taped to increase self awareness. Despite the conviction that students were better communicators at the end of the course, Lythgoe (1983) questioned how communication skills should be assessed. Although she had taped the students the tapes were seen as teaching aids rather than a tool to rate the students' skills.

A self instructional module was designed to teach questioning skills to nursing instructors, using a classification adapted from Bloom's taxonomy. This was

evaluated to test the percentage of high level questions, which were defined as application, analysis, synthesis and evaluation; skills required for the nursing process. There was a significant increase of high level questions in the experimental compared with the control group (Craig and Page, 1981) Analysis of the instructors' teaching sessions did not include testing of questions from the student to the instructors because the numbers were too small.

Pope (1981) identifies a variety of skills which midwives should have, including the skill of communicating information to others and says it it the most difficult of all. She states, however:

> "Interpretive and communicative skills are best taught indirectly, by example. Neither student nor teacher need necessarily be aware that learning is taking place. It is therefore important to ensure that the examples are good." Pope 1981 p 33

She does not appear to consider what students learn when the examples are not good. Metcalf (1983) reported a significant increase in the communication aspects of work when ward organisation in a maternity hospital was changed from task to patient allocation. This increase, however, was due to a greater percentage of time spent at the ward report or medical ward rounds rather than talking to mothers.

Perkins (1982) has devised a course for experienced antenatal teachers which involves the use of audiotapes. There is a general introduction to the course for a couple of sessions. Each teacher tapes one of her own teaching sessions, and then replays the tape a couple of times. Some

time is needed to let the teacher get accustomed to hearing her own voice, after which she can then begin to hear what she had said. An individual discussion with the tutor helps her to clarify the effects of what has been said. Following this, there are further sessions in which common mistakes made by the teachers are discussed by the group as a whole. None of the tapes are played to the group, nor are any of the examples identified. It is essential for this course, according to Perkins, that the teachers are actively involved in antenatal teaching and that they will be teaching again in the near future. This course has not been evaluated.

The research into communication has demonstrated the need for positive teaching in this skill. Despite the work at basic level, which is still limited to a certain number of schools of nursing, there is a need for similar training for those who are already qualified. 'Teaching is communication' state Williams and Booth (1974) in their book 'Guidelines for antenatal teachers'. While few would dispute the statement, there would appear to be little evidence that the message has been heard.

CHAPTER 3

THE STUDY

3.1 Summary of the literature review and its relevance to the study.

The benefits of and need for health education require a concerted effort by all health care practitioners. Nurses as the single largest group, who are in contact with the public in their homes, hospitals, and in some cases, their work places, have a clear duty to take their health education role seriously. This has been supported by many within the profession and a clear mandate is to be found in the Statutory Instrument for Nurses, Midwives and Health Visitors (1983). Deficiencies in nurses health education abilities have been demonstrated by research. These include lack of understanding of health education and a poor knowledge base (Elkind, 1980); poor communication skills (Syred, 1981); lack of time for teaching (Pohl, 1965); lack of awareness of patients' needs for information (Wilson-Barnett 1983) and an inability to tailor needs to the individual (Jones 1983).

The training of student nurses now includes health education (Slack 1985) and it is advocated for qualified staff (Alexander, 1984). Communication skills are receiving greater emphasis (Faulkner 1984c). There is increased encouragement for nurses in the community to expand their health education role (Jones 1983; Turton, 1983).

All these statements about nurses can be applied to midwives and health visitors. The situation is slightly different as these two groups have had longer acceptance of their health education role, health visitors especially, being seen as providers of advice and education (RCN 1983). Despite debate about their responsibilities within antenatal education, there is some specific, if limited, training for both groups for this role (Jones and Barnes, 1985a; 1985b; RCM Scottish Board, 1986).

Training for their teaching role is needed, especially for midwives, despite the general agreement that midwives should teach (Ashton, 1977, Sweet, 1984). Those who do not have formal training learn by 'sitting next to Nelly' or by basing it on their own experience. As until recently, training at both basic and post basic level, was authoritarian and didactic, this is the only role model the antenatal teachers have. Yet this style of teaching could be intimidating when dealing with emotional topics, and prevent discussion which allows mothers to air their fears and learn from each other. Health visitors are in a slightly better position, but still need training in group work skills (Perkins and Morris, 1979).

Antenatal classes have developed from two separate traditions, preparation for childbirth and hygiene traditions. Attendance remains poor in both traditions (RCM 1966; Boyd and Sellars, 1982); the physical benefits are variable and depend on the training (Roberts et al 1953;

Burnett, 1953); the involvement of fathers is limited (McCabe et al 1984); the classes do not meet the information needs of individuals (Camberlain, 1977) and the teaching is poor (Taylor, 1985). It could be asked if the aims of either tradition are met or if the classes serve any useful purpose. A similar pattern has been found in the USA. Although some of the problems, identified in antenatal education, stem from the organisation of the classes, much rests with the teacher. Teachers should be able to meet the needs of the mothers attending classes, and this may indicate that there is a need for them to shift to learner centered teaching rather than having a set 8 week course with specific information to impart, irrespective of how much the mothers may know already.

Despite the doubt expressed about the value of antenatal education and the reasons for support by the Government there are still compelling reasons for not only continuing with antenatal education but to make it as effective as possible. Problems with communication skills of nurses and within the maternity services have been identified. Possible means of improving antenatal education to make it effective are to improve the teaching, group work and communication skills of the midwives and health visitors who are involved in providing this service. Although there are other courses for prospective parents, such as those provided by the NCT and the active birth movement, these are private and a fee is charged. It is only within the NHS that there is no direct charge and the group in the greatest need of discussing the skills and life style options, are the

socially disadvantaged. Antenatal education should appeal to these parents and it might do if the organisation presented classes as attractive and inviting and if the teaching was stimulating and satisfying.

This study concentrates on the teaching and group work skills of midwives and health visitors. The evaluation of the training course (Perkins and Craig, 1981) discussed in chapter 1, is the purpose of the study. The evaluation used both process and outcome measures. One possible lack in the study is that the focus was not on the views of the mothers attending the classes. Although the research design for such an inclusion would have been complex, the decision to use teaching behaviour as the outcome measure was based on the view that the outcome was of the postbasic training course, rather than the effect on the mothers. It is hoped, nevertheless, that improved teaching will have an impact on the mothers it is designed to serve.

3.2 The research questions.

The purpose of the study is to determine if:

a) the antenatal group work and teaching skills course would meet the needs and expectations of the midwives and health visitors who attended;

b) there would be a post course difference in the interaction between midwives and health visitors and the mothers during antenatal classes compared with pre course observation.

3.2.1 The questionnaire study.

In the questionnaire study the answers to the following research questions were sought:

1. To determine the reasons for attending and expectations of the course;

2. Will there be a difference in the rating and the comments about the course sessions between the subjects from the two centres?

3. Will there be a difference in how the subjects' expectations were met by the course, between the centres?

4. Will the subjects consider that the aims of the courses in each centre were met?

5. Will the subjects be willing and/or able to make changes to their own classes?

6. What are the midwives' and health visitors' preceptions of antenatal education?

3.2.2 The observation study.

In the observation study the answers to the following research questions were sought:

1. Will there be an increase in interaction between teachers and mothers in the classes observed post course compared with those observed pre course?

2. Will there be a difference in the interaction between teachers and mothers when the the following variables are examined:
   the topics taught;
   the environmental conditions
   the addition of babies or fathers to the class?

3. Will the training course change the teachers' use of questions during their classes?

4. Will the training course reduce the incidence of the phrase 'Any questions'?

5. Will the training course change the mothers' use of questions in classes?

CHAPTER 4

RESEARCH DESIGN AND METHODS.

4.1 Evaluation.

This study was concerned with evaluating the process and the outcome of the post basic course for antenatal teachers. To do this two methods were used; questionnaires and a pre test post test observation study which was based in the working environment of the antenatal teachers. Both studies obtained quantitative and qualitative data. It was thought essential that both the process and outcome were assessed so that recommendations could made to midwifery and health visiting staff for training and development (Report to the HEC Output Committee, 1981).

The research methods, which are accepted as valid within natural science research, were used in the early evaluations. As evaluation is used to judge the value of a range of social issues, such as a change of policy, educational system or aspect of health care, it is less amenable to the tightly controlled experiment used, for instance, with crops. This has resulted in a diversity of definitions, methods or developments within methods, which are supported by some and challenged by others.

4.1.1 Definitions of evaluation.

There are many definitions of evaluation which reflect the different schools of thought although the differences are not always clear cut. Some definitions, (for instance Cronbach, 1963; Stufflebeam, 1971; Patton, 1982) focus on gathering information for a decision to be made as a result of the evaluation. While others (such as Tyler, 1950; Wiley, 1970; Reilly, 1975) note the measurement of changes in behaviour or the attainment of behavioural objectives as their definitions, these too can be used for the final decision making. Scriven's (1967) definition combines aspects of both: that evaluation consists in simply gathering and combining performance data with a weighted set of goal scales to yield either comparative or numerical ratings.

Within nursing education, definitions used by some, favour the change in behaviour stance: for instance Alexander, (1983) evaluating a module within the general nurse training, describes evaluation as a value judgement using scientific methods to collect data concerning the degree to which some specified activity achieves some desired effect. Layton Jones et al (1981) recommended for the Joint Board of Nursing Studies that

> "Evaluation should be an integral part of every course and planned from the outset with other parts of the detailed course programme, involving both students and teaching in measuring the effectiveness of the course." p179

4.1.2 Models of and approaches to evaluation.

Various models of evaluation have been classified by House (1978)

1. systems analysis, which is a quantitative measure of programme inputs and outcomes to examine effectiveness and efficiency;
2. a behavioural objectives approach, which puts the focus on clear specific and measurable goals;
3. goal free evaluation, which asks if the clients' needs are being met by the programme;
4. an art criticism approach, which uses the evaluators standards of excellence (expertise derived) against which programmes are judged;
5. an accreditation model, in which external accreditors examine whether it meets professional standards for given type of programmes;
6. an adversary approach, where two teams argue over the summative question of whether a course should be continued;
7. a transaction approach, which concentrates on the process of the programme;
8. a decision making approach, which is structured by the decisions to be made.

Two additional classifications are the CIPP model (context, input, process and product) of Stufflebeam (1971) and the illuminative evaluation of Parlett and Hamiliton, (1977).

Such diversity indicates attempts to overcome some of the difficulties encountered within evaluation. Different

methods have been used to counteract the criticisms that evaluation does not always provide the decision makers with the information which they require (Atkin, 1963; Zusman and Bissonette 1973; Parlett, 1977)

There are a number of approaches to evaluation:

1. The formative and summative, where the formative evaluation is concerned with programme improvements (Stufflebeam, 1971) and occurs throughout the course examining the gap between expressed belief and action (Reilly 1975). Summative evaluation occurs at the end and is concerned with determining the overall programme effectiveness (Stufflebeam, 1971).
2. The structure, process and outcome evaluations which have been described by Donabedian (1969) in relation to health care. Structure is the study of factors in the organisational system such as facilities and equipment available, staffing levels, styles of management and the characteristics of the care givers. Process is the appraisal of the care which health carers give patients/clients in terms of whether the care was appropriate and carried out in the correct way, the emphasis is on what the carer does and also includes decision-making. Outcome refers to the end results of care in terms of its effect upon patient/client, a judgement is made of the patient-orientated objectives with no regard to the reason the outcome occurred.
3. Criteria-referenced and norm-referenced evaluations have been described by Forgan Morle (1984). Student competition is decreased and a student is judged against

specific predetermined objectives in the criterion referenced model. Normative methods determine the performance of an individual in relation to the rest of the group.

The teaching and group work skills course was evaluated by both process and outcome in an attempt to overcome some of the criticisms which have been made of evaluation. It was considered that by using two measures (whether the expectations of the subjects were met and measuring changes in their teaching behaviour) would assist to assess the effectiveness of the course from two different standpoints. Support for using both process and outcome are expressed within education by Rutman (1977) and within nursing care by Bloch (1975).

4.1.3 Developments in evaluation.

The traditional evaluation has employed the research methods of the natural sciences, within the argicultural-botany paradigm which is derived from the Fisherian design. Such design requires tight control of variables, random assignment to treatment groups, testing clearly stated hypotheses, using many variations and repetitions to establish a causal relationship.

Parlett (1977) considers change in evaluation has come about recently for three reasons;

1. the official enthusiasm for increased accountabilty and cost effectiveness;

2. the pace of change which has presented the educationalist with an abundance of innovations;

3. the inadequacy of past evaluations to aid the decision maker, which Parlett thinks is the major one, a point also made by Atkin (1963). Hand in hand with a demand for evaluation is scepticism of what has been done previously (Parlett, 1977; Rutman 1977). Some of this sceptism has been due to the expectations of evaluations and the methods used.

A. Expectations of evaluation.

There are many expectations placed on the evaluator by the decision makers, the funder and the academic community (Cooper, 1976) which may be in conflict. The decision making process is poorly understood, complex, far from rational or open and has to take many considerations into account. Decisions are easier by 'hunch' or 'feel' especially when the decison has to be accountable to variety of groups with different expectations (Tawney, 1976). Those who will make the final decision may also form the funding body and pressures can be placed on the evaluator to speed up the evaluation (Smith 1975). Even when the funding body is separate from those organising the course, Smith (1975) points out there may be conflict between the course tutors and the researcher with a tendency to see the data collection as disruptive, potentially worthless and threatening.

Expectations may also vary, depending on the position of the evaluator within the organisation. Those who are inside

have the advantage of being able to blend their work with the evaluation and development so there is less antagonism and more credibility in the eyes of the developers. Outside evaluators are likely to do the work more seriously if it is their sole responsibility, information is more freely given to outsiders as confidentiality is seen to be more important and the information is more credible when the evaluators are independent (Tawney, 1976).

B. The methods used in evaluation.

Parlett and Hamilton (1977) present two distinct paradigms which are used for evaluation:

1. the classical or agricultural-botany paradigm based on quantitative data; most evaluation studies have been within this system.
2. social anthropology, psychology and participant observation research in sociology using qualitative data; there are a small number of empirical studies in this system.

The adoption of the natural sciences paradigm by the behavioural and social sciences may have added an artificial element to multifacted aspects of education (Watson, 1962). It is difficult to control some or all of the variables, not always possible to assign subjects to different groups randomly nor to conduct a series of experiments which would establish a causal relationship. Even if it is possible to meet some of these conditions, it is argued that the results obtained cannot be applicable to real life situations.

Parlett and Hamilton (1977) criticise the traditional evaluation within the agricultural -botany framework for the following shortcomings:

1. Because of the numerous relevant parameters, large randomised samples are needed which involve extensive data collection; this is expensive in time and resources and implies that the innovation has to be widely applied before it is tested whereas the reverse should be the case. Alternatively the evaluation is very strictly controlled but this is rarely followed as it is:

a) ethically dubious as the controls which would have to be imposed would represent a threat to the freedom of individuals;

b) causes great administrative and personal inconvenience;

c) even where it is done it may be too artifical to be of use as tidy results cannot be generalised to untidy reality.

2. The pre and post test designs assume that there is little or no change in the programme while the evaluation is going on, but this is not always the case. As a consequence the very evaluation may discourage new developments and re-definitions during the development of the course or programme. Longitudinal studies rarely serve an effective formative function.

3. Traditional evaluation imposes artificial and arbitrary restrictions on the scope of the study.

4. If the samples are large enough to allow for statistical generalisation they may be insensitive to

local perturbation and unusual effects.

5. This tradition fails to express the concerns and questions of the participants, sponsors and others.

These criticisms are relevant both in nursing education and the wider educational field. An example of the widespread introduction of an educational innovation was the use of the initial teaching alphabet to teach primary school chldren to read. This was supported enthusiastically for a few years, and then, it would seem, quietly dropped. It might be questioned if this was because it had not been evaluated in advance or because the evaluation of a small controlled group produced different results to those obtained when applied to the whole country.

Parlett and Hamilton (1977) argue that the experimental, longitudinal or survey research methods are usually inappropriate, ineffective or insufficient for programme evaluation purposes as they fall short of their own claims to be controlled, exact and unambiguous.

> "His (the traditional evaluator's) definition of empirical reality is narrow. One effect of this is that it diverts attention away from the question of educational practice towards more centralised bureaucratic concerns." Parlett and Hamilton (1977) p.9

This stance has been supported by Cronbach (1982) who states that the recommendation to prefer true experiments is outmoded and hopelessly ambiguous. Cronbach (1982) traces the insistence for experiment in educational evaluation to the Campbell and Stanley monograph of 1966, with its demands

for internal validity. Although this concern is appropriate where a causal relationship is required, Cronbach (1982) questions if decision makers are interested in causality and claims they need an understanding of "what is associated with what." A controlled experiment may increase what Cronbach refers to as fidelity (the dependability of an answer to a particular question) but at the expense of the bandwidth (the number of questions to which an answer is offered). A balance between focus and diffusion is required especially as doubts about the standardisation of treatment conditions are expressed even by the experimentally minded. Cronbach (1982) goes on to say:

> "At last in 1979 Cook and Campbell did carefully but briefly delimit the value claimed for internal validity, saying that they were assuming that their readers were centrally concerned with causal inference.... Randomization may be achieved at the expense of relevance. But relevance is surely the sine qua non in evaluation. Cook and Campbell (1979 pp344-345) themselves say that in evaluation, random experiments may be inadvisable, not merely hard to arrange."p.114

The educator who wishes to evaluate requires a wide knowledge of research models and tools including those used in social science because the active ingredients are people (Watson 1963). The case for a multidisciplinary approach is made by Atkin (1967) while Reilly (1975) claims a variety of evaluation strategies are needed because of the complexity of human nature, individual differences in learning, and the creative dimension to the evaluation process. Cronbach (1982) states that compressing evaluative data into a single index of benefit or significance test cannot do justice to the reality.

Educational research has moved away from the clean and tidy, strictly controlled research into the more untidy world of the educational scene (Alexander, 1983) which is even more untidy in nursing education as it includes the world of work. Although qualitative evaluation has been used recently, Cronbach (1982) feels that issues need to be defined and clarified as have the quantitative issues. Advice on integrating qualitative methods into plans for programme evaluation can then become more pointed. He also comments that evaluators should not decide which school of thought they 'belong to'. There are advantages to be gained both from the objective, reproducible and concentrated studies as well as those which are more phenomenological, flexible, and broader in coverage. The choices, Cronbach (1982) concludes, should differ from evaluation to evaluation.

To counter the arguments against the traditional evaluation Parlett and Hamilton (1977) recommend an alternative which they call illuminative evaluation. The advantage is that it takes account of the wider contexts. The primary concern is with description and interpretation rather than measurement and prediction. The aims are to study the innovation, how it works, how it is influenced by the various situations to which it is applied, and the advantages and disadvantages seen by those directly concerned. This has been echoed by Cronbach (1982) to whom:

> "Evaluation is an art. There is not a single best plan for an evaluation, not even for an inquiry into a particular program, at a particular time, with a particular budget." p.321.

Zusman and Bissonette (1973) point to what they term "some unpleasant truths" about evaluation as a whole:

1. systematic, large scale, sophisticated evaluation of most human service programmes are too difficult and too expensive to be a realistic goal;
2. good evaluations cannot be done at all and in some cases should not be done of many complex human services programmes;
3. evaluations as currently conducted are likely to be poorly designed, underfunded and forced on people unable or unwilling to implement them;
4. evaluations, regardless of quality, are likely to be rejected, ignored, misinterpreted or simply unnoticed;
5. evaluations, when accepted, are likely to be distorted as findings are incorporated into existing organisational patterns;
6. the design, conduct and use of evaluations are always subject to valuational and political bias;
7. resistance to evaluations will be ever present and multifaceted before, during and after the effort;
8. even if all other obstacles to evaluations were removed, availability of research data will lag behind the exigencies of decision-making.

The realistic guidelines recommended by Zusman and Bissonette (1973) are for the selective use of evaluation, early in the life of an innovation before the vested interests have solidified. An evaluation should not be done at all unless there is a strong likelihood that it can be

done with scientific accuracy. Where an evaluation has been carried out the results should be publicised widely, in concrete, understandable language. These valid criticisms of evaluation are not always supported as the increase in demands for evaluation and the demonstration of cost effectivesness grows. The evaluator is faced with a multiplicity of methods to choose from, with the knowledge that which ever method is chosen, it will be criticised and the results examined with suspicion. Forgan Morle (1984) discussing evaluation in nursing, emphasises that evaluation should not be seen as a specific requirment of a course. The feedback from an evaluation can only be used when the purpose is clear.

4.1.4 Evaluation in nursing

Evaluation in nursing encompasses two aspects, the evaluation of nursing care and the education of nurses. Bergman (1982) suspects that there are many perceptions of evaluation of nursing care. For some it consists of a concrete measurement of nursing tasks; for others, it is a concentration on human relationships and interactions. Luker (1981) has made a case for greater emphasis on the evaluation phase of the nursing process and in addition advocates process-outcome evaluation of nursing care. There is an interchange of evaluation methods between different disciplines eg: Munro (1983) has used a model which was orginally designed for use by educational evaluators for the evaluation of health care delivery programmes. Donebedian's (1969) process-outcome evaluation has also been advocated in

in education by Rutman (1977). Attention is paid here mainly to evaluation in nursing education.

Layton Jones et al (1981) noted that many of the centres seeking approval for the JBCNS courses in 1972 were having difficulty with course evaluation:

> "because there was little, or no, published material on evaluation in nursing education in the United Kingdom which could be used as a resource." p179

Since then there has been an increase in the evaluation studies of nursing education.

Although there is a growing number of evaluations in nursing education Gosnell (1984) suggests the majority lack an identifiable conceptual framework or model. She goes on to suggest a four stage model for the classification of continuing nursing education evaluation. The first stage is the evaluation of the 'perceptions, opinions and attitudes' of the participants about a course. While commenting that such an evaluation has limitations (for instance: subjectivity) Gosnell does recognise that it is the most prevalent form of evaluation and has some value. Measuring the affective, cognitive and psychomotor changes is the second stage. Where resources are limited, she goes on to suggest that the most cost effective evaluation is a combination of stages one and two. Stage three is 'a complex, difficult and challenging type of evaluation' which is to determine if there have been changes in behaviour. The fourth stage determines the overall effectiveness, appropriateness and adequacy of an educational programme.

There are some similarities to Donabedian's (1969) structure - process - outcome in stages 1, 2, and 4 although Gosnell's model is more applicable to education than nursing care. This model has not been used extensively but is recommended as a useful framework.

An alternative four stage model for programme evaluation is the Renzulli key features model which has been described by Munro (1983) in relation to nursing. This model was developed to overcome some of criticisms of behavioural objectives evaluation, as this, with other multiple criteria evaluations, requires investigation of all the factors relevant to the effectiveness of a course. This model consists of three parts, the key features; prime interest groups and time. The key features are those factors or variables which contribute to the programme; the prime interest groups are those individuals with direct or indirect interest in the programme. The final feature, time, is the 'best utilisation of time in the overall functioning of the evaluation system' (p24). Both formative and summative data are gathered throughout the programme's operations. It is recommended that feedback is used to make alterations during the progress of the programme. There are four stages. The first, the front-end analysis, identifies the major concerns (the key features) of each prime interest groups from such sources such as written materials, questionnaires, interviews and observations. The written materials allow for the development of questionnaires. Both of these guide the interview schedules and from all three, the points for observation are noted. This front end analysis in turn guides the second stage which synthesises

the information gathered and then instruments are developed. Following this is the formal data collection and analysis. Munro considers that the time spent in the first two stages saves time and effort at the third stage. Although interim reports are seen to guide the process of change, it is the final report, the fourth stage, which provides a summary of the main findings and the recommendations. The advantages of this system is that a wide range of data is collected from a variety of groups, providing data which is meaningful for the decision makers.

Some evaluations use a single measure, which most commonly is a test of the amount of knowledge a group of students have retained following a lecture, course or whole educational programme. For many years the State examination system has been seen as such, with the success or failure of a three year curriculum based on the one examination (House, 1977a).

Examples of single criteria evaluation range from small parts of a curriculum to the whole of nurse training. For instance, the evaluation of different forms of self instructional units by Ogundeyin (1980); individual lectures (Hopkins and Wright, 1978); continuing education progammes (Pirong and Smith, 1982) and the comparison of teaching American nursing students by means of State examination results (Pensivey, 1977).

Evaluation may be formative or summative or a combination of both. Formative evaluation alone was used

for nursing undergraduates in a pilot study by Logan and Grosvenor, (1972a 1972b). The students were given questionnaires about the three main parts of the undergraduate programme as well as the inital month's experience, and their practical, geriatric and psychiatric experience. Summative evaluation involving a pre test post test design was used with experimental and control groups, to assess the impact of a social skills training module (Davis, 1981). Although the evaluation was at the end of the course, a variety of instruments were employed. These included the videotaping of the nurses interviewing a patient, which were assessed by independent assessors using a behavioural assessment schedule, the administration of two questionnaires to measure attitudes to communication as well as a measure of overt and covert anxiety.

Evaluations of more than one criterion may use a combination of formative and summative evaluation which has aspects of the Stages 2 and 4 in the conceptual model discussed by Gosnell (1984). Huckaby (1978) demonstrated the effects on learning when a group of students were taught by formative evaluation which they preferred to the lecture discussion methods. These methods were evaluated by post test cognitive and affective instruments. In another paper, Huckaby (1980) recommends nurses teaching patients identify both formative and summative objectives. Small tests at the end of each learning unit allows for adaptations of the units as teaching progresses whereas the summative evaluation contributes to the planning of the course as a whole, before repeating it with another group of patients.

Layton Jones et al (1981) recommend both formative and summative evaluation for the JBCNS courses. The continuous evaluation involves both students and tutors who complete a range of evaluation instruments. The summative aspects included both evaluation of the course by the planning team and by the course members. Other criticisms were expressed by the JBCNS course tutors who found the evaluation package "very, very time consuming" and that it was useful was mainly that it confirmed the existing judgements held by the teachers (Layton Jones et al 1981).

Alternatively a combination of structure, process and/or outcome measures may be used, for example, Narayanasamy (1985) used both process and outcome measures to evaluate the training of nursing assistants Harrison et al (1977) examined the strucutre and outcome in a scheme involving a change of basic nurse education. The effects of this change on ward staffing levels were examined and showed little evidence of change in the peaks and troughs. Interviews with a small number of the students provided statements which were used in questionnaires to examine the student attitudes.

Evaluations from a broader base, using multiple criteria are expensive and time consuming and require resources beyond the majority of nurse teachers or schools of nursing. Such evaluations are usually funded from an outside source. An example of such an evaluation is that reported by House (1977a and b). She had criticised evaluation in nursing

education and expressed the concern that courses for the State registration of nurses are evaluated too readily in terms of single criterion measures and argued (House 1977a) for the use of multiple criteria. A number of experimental schemes of nurse training were evaluated from the introductory course through each year of training, using tests, questionnaires and discussions with students (House, 1977b). The evaluation included examination of attitudes, background factors, interim and final student questionnaires, achievement motivation, pratical nursing experience, progress in the first year, and career expectations. Although not specifically mentioned by House, there are elements in this evaluation which would fit with the Parlett and Hamilton (1977) description of illuminitive evaluation.

Despite the considerable demands of multiple criteria evaluation, such an approach has been used within an American school of nursing (Clark et al 1983) using Stufflebeam's (1971) model to evaluate curriculum change. Evaluation of context, input, process and product took six years but the authors felt it was effective in providing a framework for the evaluation. The difficulties included the impracticality of a large group working on the implementation of the evaluation; the extensive time commitment; lack of demographic and academic data on the students which had to be collected; the lack of a uniform course evaluation tool. For this evaluation to be effective the entire faculty and its administration had to be commited to the implementation of the process.

Meta-evaluation, the evaluation of evaluations, which is in its infancy in education (Smith, 1981) has an example in nursing (Wilson-Barnett and Osborne, 1983).

Within midwifery, the amount and standard of research has lagged a few years behind the developments within nursing and the same is true of midwifery education. The position is now changing as midwives start to examine their practice as well as training and statutory refresher courses. A comparison of their views of the adequacy of the training of newly qualified midwives who have undergone the 12 and 18 months training has been reported by Robinson (1986). Mander (1986) has questioned if the best use is made of statutory refresher courses which all midwives attend every 5 years.

The evaluation of the teaching and group skills course in this study combines the moves towards reality based evaluations seen in the nursing and educational disciplines. Although seen as a process-outcome evaluation, there are some similarities with stages 1 and 3 of Gosnell's model. Stage one examines the perceptions and opinions of the participants about a course (the questionnaire study) and stage three which determines the change in behaviour (the observation study). The process-outcome evaluation used employed a variety of methods, collecting both quantitative and qualitative data. There have had to be compromises. These are inevitable in a study in which the control over

the subjects' attendance was outwith the project (see 4.6.1) as well as the wide variety of field settings. In summary: "...the problem defines the methods used, not vice versa" p13 (Parlett and Hamilton, 1977).

4.2 The research design

4.2.1 Pre experimental, quasi-experimental and experimental research designs.

To answer the research question (see 3.2) a research design was sought which would determine the expectations of the subjects, how these were met, and to provide data on the teaching behaviour of the midwives and health visitors. Before, during and after the course, a series of questionnaires, designed to evaluate the subjects' expectations of the training course, were administered. A pre test post test design was chosen to evaluate the teaching behaviour in the observation study.

The reasons for choosing a pre experimental design rather than a pure experiment, with control of all the variables, were threefold:

a) it was a 'real life' approach which allowed the observation to take place in the situations where the teachers normally held their classes;

b) it allowed for observation to be undertaken in 23 different sites.

c) it was impossible to use a pure experimental design.

This approach

> "...the messy, idosyncratic real world of the wards and community and not some artificial approximation to them" p 80

is advocated by Greenwood (1984)

Meyers and Grossen (1974) advise the use of subjects as their own controls so that the performance under the experimental treatment is compared to the performance under the control conditions. The advantages of this, they argue, is that there is precision in the control of the subject variables as they are constant and there is more information of how the treatment variable affects the dependent variable. Matching of the environmental conditions of the teaching sites, the previous experience of each individual, the differences between the training for each occupational group, and the differences between the training courses in each centre was not possible but as each would be acting as her own control, this is not as important as in a pure experimental design.

The independent variable in this study would be the training in teaching and group work skills. The dependent variable would be the amount of interaction between subjects and mothers during antenatal classes.

Campbell and Stanley (1966) examine pre experimental, quasi-experimental and experimental research designs. They define an experiment as

> "that portion of research in which variables are manipulated and their effects on other variables observed" (p.1).

In this study, the training course was the manipulation and the effects of this on the teaching behaviour of the midwives and health visitors would be observed. The concern of Campbell and Stanley, (1966) with the problems of

experimentation in education led them to examine the imperfections of different experimental designs. Campbell and Stanley, (1966) list eight threats to internal validity. Those numbered 1,2,3,4 and 8 in the list below 'have definite weaknesses' and 5 has 'a possible source of concern' in the one group pre test post test design (Campbell and Stanley, 1966, p8). These criticisms are examined in the light of the present study.

1. History - the events which occur between the pre and post test which may offer an alternative explanation of the results. None of the subjects in this study attended any other teaching course between the pre and post test periods.

2. Maturation - the process within the individuals tested which is a feature of the passage of time, growth, fatigue etc. The time period between pre and post test ranged between 4 and 10 months. Maturation was not seen to be a variable which required controlling as there is evidence from the research of others in a variety of places (Perkins 1978a; Perkins 1979b; Perkins and Morris 1979; Homans 1980; McCabe et al 1984) which demonstrate the didactic, non interactive teaching styles with a high degree of control by the teachers is widespread.

3. Testing - the effect of taking a test on the scores of a second test. This variable would not present a problem in this study as it was behaviour

which was being observed rather than asking a subject to answer similar questions. The subjects, although aware of the observation, would not know exactly what was being measured.

4. Instrumentation - changes in the calibration of the measuring instrument, the observer or scorers which may give false results. As it would not be possible to obtain regular inter observer reliablity tests throughout the period of the study, this would be a possible weakness of the study.

5. Statisitical regression - occurs when the respondents have been selected on the basis of their extreme scores. No observations would be made before random selection of the subsample to be included in the observation study, so there was no knowledge of extreme scores.

6. Biases resulting from a differential selection of comparison groups. Such bias is not possible in a one group pre test post test design.

7. Experimental mortality - the differential loss of respondents from the comparison groups. Although seen as a factor which could be controlled in the pre test post test design, experimental mortality remained a possibility, in the loss of subjects between the pre test period and the post test period.

8. Selection-maturation interaction - which may be mistaken for the effect of the experimental variable in the multiple groups quasi-experimental designs.

In a later paper (Campbell 1973) the following was added:

instability - unreliability of measures or fluctuations in the sampling persons or components - the only threat to which statistical tests of significance are relevant.

The threats to external validity or representativeness were listed in Campbell and Stanley, (1966) as:

1. Interaction effects of testing - the effect of a pretest in increasing or decreasing the respondent's sensitivity or responsiveness to the experimental variable.

2. Interaction of selection and experimental treatments - unrepresentative responsiveness of the treated population.

3. Reactive effects of the experimental arrangements - this would prevent generalisation of the experimental effects to those not exposed to the experimental conditions.

4. Multiple treatment interference - where multiple treatments are jointly applied and the effects of

the prior treatments cannot be removed.

Campbell (1973) added two further threats

1. Irrelevant responsiveness of measures - all measures are complex and include irrelevant components which may produce apparent effects.

2. Irrelevant replicability of treatment: treatments are complex and replications of them may fail to include those components actually responsible for the effects.

Campbell and Stanley, (1966) comment that while the selection of designs which are strong in both types of validity are the ideal, the question of external validity is never completely answered and as such generalisation of any research results have to be treated with caution.

Despite the negative aspects of the one group pre test post test design, it was accepted as the most applicable for this study. Bandura et al (1973) discuss the difficulties of the true experimental procedures in the social sciences. The reasons why experiments are not always achieved, they argue, are ethical considerations, difficulty in manipulating the experimental variables, and the inability to control the assignment of subjects to experimental and non-experimental groups. These factors may make experiments either too costly to carry out or impossible. Cronbach (1982) encourages evaluations to examine the events in the sites where the course will be held. He also modifies the

emphasis that Campbell and Stanley (1966) put on experimental design and states that

> "a randomised design in a field study is likely to produce no more than an approximation to a true experiment because of attrition and other departures from the plan." p30.

Evaluation with the single group design can provide useful knowledge of the impact of the course (Rossi and Freeman 1982).

4.2.2 The use of quantitative and qualitative data collection methods.

In this study both quantitative and qualitative methods of data collection will be used.

Research in nursing developed in a diversified manner (Hockey, 1977) and Johnson (1983) comments that new disciplines, and he includes nursing, are often preparadigmatic so that no dominant theory or methodology has yet emerged to direct research. Although much research in nursing has been quantitative there has been an increase in studies which have used qualitative methods, with the case for the latter being made by Melia (1982). Goodwin and Goodwin (1984) discussing the quantitative and qualitative debate note that the differences lie in the data collection and methods rather than in the philosophy of life. Using both approaches has been recommended in nursing research (Duffy, 1985). Many projects combine methods with a qualitative exploration followed by quantitative

development of verification (Johnson, 1983). Diers and Leonard (1966) argue for a careful selection of both the problems to be studied and the methods used so that they are relevant to nursing. Much of nursing is a social process and they went on to advocate the use of relevant social science theory and research methodology. A research based practice needs to test those components of an interaction which have an effect on the patient.

Although social science has used qualitative methods, Miles and Huberman (1984) report that researchers who had been using quantitative data have shifted to a more qualitative paradigm and give examples which include both education and programme evaluation. They state that the attractions of qualitative methods include the well grounded, rich descriptions and the explanation of processes occuring in local contexts. It is a method which preserves the chronological flow, and it is possible to assess local causality.

The demands of qualitative data collection are considerable. It is labour intensive and the amount of field notes collected can cause data overload. A change suggested to overcome some of these problems include a multicentre and multimethod approach so that teams of researchers are involved in the collection of both qualitative and quantitative data (Miles and Huberman 1984). This would cope with some of the criticisms which have been levelled against the qualitative methods in the past.

For instance, the number of cases studied tends to be small (eg: Runciman, 1983 who studied 9 ward sisters) which raises questions about generalisation from such a small part to a large whole. Another means of overcoming this problem is to combine quantitative with qualitative data collection, which may reduce the need for teams of researchers.

Helmstadter (1970) distinguishes between quantitative and qualitative data as those observations which describe objects or persons on a numerical scale and those which do not. The difference is dependent on the use of symbols or categories. If the symbols distinguish among different categories then the data are qualitative, if, however, the symbols distinguish not merely between categories but infer a relationship of order, the data are quantitative.

Oppenheim (1966) points out that at the analysis stage, quantitative data can be turned into qualitative data but with the loss of some information. He continues:

> "However, qualitative data cannot be turned into quantitative data, except in a very few instances." p255

This statement could be argued with a number of examples to demonstrate the point. For instance, both tape recordings of interviews and written answers to open ended questions may be preserved as qualitative data and presented as such or both could be subject to a content analysis which is amenable to further quantitative analysis. There are 3 concurrent flows of activity in the analysis of qualitative data; data reduction; data display and conclusion drawing / verification which is unlike quantitative research where the

activities tend to divide into discrete segments (Miles and Huberman, 1984).

The questionnaire and observation studies in this evaluation will employ both quantitative and qualitative methods. This combination will overcome some of the deficiencies of both methods so that the results will provide more information than either one alone. This use of different points from which to collect data has been referred to as triangulation by Denzin (1970). An example of how this combination of methods provides more information is in the course questionnaire. A quantitative rating scale allows for comparison of each session while the qualitative comments provide a fuller explanation of how the subjects arrived at these scores.

4.2.3 The teaching and group work skills course.

The training course which the midwives and health visitors would attend was one which had been devised by Perkins and Craig (1981). A training manual had been prepared but its circulation has been restricted until after evaluation.

Following application to the HEC by the centres for assistance to improve their provision of antenatal education, it was suggested that the two study centres should use the Perkins and Craig, (1981) training course and the HEC would fund the evaluation of the course. The training course was started in 1982 in Centre A and was planned to run twice a year. Centre B started the course in

1981 and after the experience of the first year, the organisers decided to put on the course four times a year. The courses which were evaluated for this study were two from Centre A (because of the smaller numbers) and one from Centre B. These were the second (A1) and third (A2) courses in Centre A and the third course in Centre B.

The spirit of the Perkins and Craig, (1981) training course was to encourage meeting the needs of the women attending antenatal classes. On this basis, both the participating centres adapted the original course to meet the needs of their own staff.

The original Perkins and Craig course was to be taught half a day a week for five consecutive weeks. The organisers in both study centres decided to expand the course so that it would last for five whole days, during one week. The material which was common to both centres were sessions on teaching, and group work skills. The additional material in both centres consisted of further aspects of teaching theory, communications and reports of local research in the centres. Each of the centres had a section which was particular to them - in Centre A there were sessions on how to teach relaxation and exercises and in Centre B, sessions which gave their staff an update on midwifery. The decisions to include these sessions were made as the field workers in each centre indicated that they needed this material.

The material on group work skills emphasised means of making antenatal classes informal and welcoming so that the women attending would feel that they could particpate and be encouraged to talk about their concerns. Much of the training course was experiential so that the midwives and health visitors would know how it felt to join a group as well as learning practical ways of making group 'gel'. Much of the time in both centres was spent with the midwives and health visitors in small groups where they discussed issues, tried out techniques which they had just learnt and contributed to the course from their own individual experience. Details such as using first names, seating arrangements, provision of a cup of tea, and wearing uniform were discussed and, where appropriate, tried out. Both centres had a session with mothers attending, near the end of the course, so that the midwives and health visitors could use techniques of teaching and questioning which they had learnt during the course.

Particular attention was paid to the use of questions in both centres. The techniques of how to ask questions of the antenatal mothers and how to encourage mothers to ask questions were discussed, illustrated and tried out in group situation. One aspect which was emphasised was the use of the phrase 'any questions?' and it was illustrated that this phrase may not stimulate questions from the mothers.

4.2.4 The overall plan of the study.

The study was commenced in 1982. Figure 4.1 shows the plan and timescale of the study.

1982	
January)	
February)	
March)	Planning
April)	
May	Observation of Centre A course
May	Pilot course
June)	
July)	Feasability study
August)	
September	Observation of Centre B course
October	Questionnaire study - Centre A1 course
November)	
December)	Initial analysis and organisation
1983)	
January)	
February)	Post course observation of Centre A1
March)	Pre course observation of Centres A2+B
April)	
April	Questionnaire study Centres A2+B
May)	
June)	Post course observation Centre A1 subjects
July)	
August)	
September)	Post course observation Centres A2+B
November)	
December)	

Figure 4.1 To show the plan and timescale of the study.

4.3 The questionnaire study.

4.3.1 The rationale for the questionnaires.

The questionnaire study consisted of seven questionnaires:

1. A pre course questionnaire administered at the beginning of the course;
2. Course questionnaires administered on each of 5 days;
3. A post course questionnaire sent to the attenders six weeks after the course.

A. Advantages and disadvantages of questionnaires.

Questionnaires have been defined as self administered interviews (Smith, 1975) and share some of the methodological advantages and disadvantages of interviews.

Moser and Kalton (1971) outline the advantages of questionnaires: they are cheaper than interviews, can be distributed to a large sample, which may have a wide geographic spread; and respondents may be more willing to answer personal or embarrassing questions. Questionnaires may provide data which cannot be obtained in any other form; (for instance, behaviour which occured irregularly, privately or in the past) and allows the study of motives, values, beliefs and attitudes (Smith, 1975).

In discussing the disadvantages of the questionnaire method, Smith (1975) noted the greatest is inaccuracy of reports. This increases according to the length of time which has elapsed since the event; especially if it is one which occurs infrequently and is unimportant. Accuracy is also influenced by the impact of the question on an individual's self esteem and amount of accessibility to relevant data. Bias in the questionnaire may distort the data either in the wording or such aspects as length of the questionnaire. The motivation of the subject and their ability to respond will similarly affect the results. The exclusion of the illiterate may significantly alter the end result, for instance 22% of a small sample in Methven's study (1982) were unable to read.

The length of a questionnaire may also determine the response rate, some postal questionnaires being excessive both in length and complexity. For example, the questionnaire for the British Way of Birth survey (Boyd and Sellars, 1982), distributed to a self selected sample, had a response rate of 60% which may be attributed to the length - 111 questions on 29 pages. Moser and Kalton (1971) warn against the demoralizing effect of a lengthy questionnaire. Short questionnaires, however, cannot probe a topic in depth. It is not possible to follow up or discover the reasons for questions left unanswered, or questionnaires unreturned. Bias can be introduced if the items are misunderstood or if forced choice questions do not reflect the subject's attitudes or feelings. It can be difficult

and expensive to send a reminder letter to all respondents in an anonymous questionnaire to increase the response rate; in a large study, even the initial questionnaire can be time consuming and costly to post.

B. Questionnaire design.

Oppenheim (1966) discusses some of the problems which may be encountered with questionnaire design. Prior to formulating the questionnaires, he comments that the following should be considered: the sample size; the type of person who will respond (adult or child etc); whether it is a short factual inquiry or research of attitudes; whether or not seasonal fluctuations change the type of responses, especially if the same sample has to be approached more than once.

The following decisions should be made before the questionnaire is drafted (Oppenheim, 1966):

1. The main methods of data collection, whether the study will involve postal questionnaires, observation, or interviews;
2. The selection and sampling of respondents, how they will be approached;
3. Considerations of anonymity, confidentiality and how much of the research purpose is to be disclosed;
4. The use of techniques within the questionnaires, such as the introduction to the questionnaire and the order of questions;
5. Within each variable, the order of the question sequence, whether the opening should be factual or

attitudinal;

6. The use of closed and/or open-ended questions (Oppenheim, 1966).

C. Types of questions.

Questionnaires should be designed for each study to suit both the aims and the nature of the respondents (Hoinville et al, 1977). This choice is usually between closed and open-ended questions.

The considerations proposed by Cannell and Kahn (1965) for the choice between open or closed questions are:

1. the objectives of the interview;
2. the level of information of the respondent;
3. the structure of the respondent's opinion;
4. the respondent's motivation to communicate
5. the knowledge of the respondents and their characteristics before the administration of the questionnaire.

The majority of questionnaires will require a combination of both types of questions, with a variety of considerations at each point. (Smith 1975.)

1) Closed or fixed alternative questions.

Oppenheim (1966) lists closed questions which includes:

1. simple alternatives (yes/no; male/female) or a variety (such as a range of ages,) for factual data;
2. checklists which may allow for opinions to be expressed on a variety of topics (eg: "Why did she not attend classes?" with 7 options plus 'don't

know' and 'other, please state' (Perkins, 1978b, appendix 1a, p2)

3. rating scales which give a numerical value to a judgement;

4. ranking - the arranging in order; inventories which may investigate a wide variety of topics. Rees (1981) looked at the the provision of information about topics in antenatal classes with an inventory (appendix 1, p4)

Opinions may vary when the respondent is asked to recall, organise or evaluate experience in the open question. The closed questions may allow the respondent to opt for an easy choice. In addition the respondent who does not 'fit' any of the categories in a forced choice, may be antagonised by a limited option (Smith, 1975). Answers to one part of the questionnaire may be cross checked by asking a different question on the same topic in a different part of the questionnaire. This also recommended by Cannell and Kahn (1968) for reasons of reliability and validity.

For any closed questions there must be enough realistic alternatives for the subject, without the possibilities being too numerous. Hoinville et al (1977) warn against the dangers of the leading questions which may influence the reply, as does Smith (1975). An example of a question inviting a positive reply is "Are you glad you came to preparation for childbirth classes?" (Gillett, 1976, p45). Closed questions usually require nothing more than a mark on the page so that it speeds up the rate of reply; coding and

computing are relatvely simple, even with a large number.

Closed questions may invite a 'blind' response to overcome the appearance of ignorance, so if the level of information is unknown or the issues may be outside the experience of the respondent, an open-ended question would be more appropriate.

In the pre course questionnaire closed questions were used to seek profile data about the subjects. These included questions about their occupation; length in present post without a break in service; previous training in and experience of antenatal or other teaching.

2. Open-ended or free answer questions

Open-ended questions are more appropriate where the objectives of the research are seeking information about the respondents level of knowledge, frame of reference or opinion. If the classification of attitudes or behaviour of an individual is required, closed questions may be used. Although a battery of closed questions may replace the open-ended question, the overall length of the questionnaire has to be taken into consideration (Moser and Kalton, 1971). The motivation of the respondents may also influence the choice between open and closed questions as the former requires a greater effort on their part.

The open-ended question allows the repondents to use their own words to questions which may ask "how do you feel...; please comment on...; what is your opinion...;

give reasons for...;". Advantages of this form of question is that the 'guess work' is removed when the answer is not supplied so is useful for investigating respondents knowledge, in-depth explorations or seeking opinions. The open questions uses the respondents' own language, rather than the expressions or phrases of those who designed the questionnaire (Smith 1975). Such questions may be broad or narrow, for instance "Can you name the books you have read?" and "Which of these did you find most useful?" (Rees, 1981,appendix 1,p3). Oppenheim (1966) comments that the amount of space provided will indicate to the subject the length of the answer. Some respondents, however, are not restrained by this and continue on additional sheets of paper. Although open questions are easy to ask, they may be difficult to answer and will present more problems in coding, classification and computing than those from closed questions.

In this study, open-ended questions were used in the pre course questionnaire to elicit reasons for attending and expectations of the course. An additional open question asked for details of qualifications, post basic and further education courses attended since leaving school. The purpose of this was to examine the amount of training, including teaching, they had before attending the course which was being evaluated.

Two approaches were employed in the course questionnaires, to obtain the reactions of the attenders to

the sessions held each day. The first section consisted of a Likert-type scale and the second, an open-ended question to ask the attenders to give their comment to each section. Likert scales allow the subjects to choose between several response categories, which are assigned a score (Moser and Kalton, 1971). Various scale sizes have been used and Moser and Kalton, (1971) recommend a 5 point scale. Osgood et al (1957), however, have shown that 7 point scales are effective for adults while 5 point scales may be better for children. A review of 500 published studies which show that students' ratings of professional teaching are stable, especially if a 7 point scale is used (Bell et al, 1984). A total score can be obtained by the summation of the ratings (Helmstadter, 1970).

Six weeks after the course, a postal questionnaire was sent to each of the subjects. As with the pre course questionnaire, a mixture of closed and open-ended questions were utilized. Closed questions and a seven point Likert-type scale inquired about the organisation of the course (travel directions, pre course information, the setting, parking facilities; the rooms used for lectures and eating arrangements). The Likert-type scales were followed by an uncued open question for further comments.

The aims of the course, which had been detailed on the course programme received by each course attender, were listed in the questionnaire. For each of the aims, the subjects were asked to score, on a Likert-type scale, how well the course had fulfilled the aims. As the aims for

each course had been expressed differently, these were listed separately for the subjects from each centre, but the format was the same in both cases.

All the sessions which had taken place during the course were listed with title, the day and time each occurred. The subjects were asked to choose the 5 which were the most useful and rank them from 1 to 5. Oppenheim (1966) recommends caution with the use of such ranking tasks. There should not be more than 10 objects and this method should not be used if there is a scale interval available. The use of ranking of, for instance, the prestige of jobs, he gives as an example of a first step prior to a question probing further information. This was the format followed in this study as the subjects were then asked to give their reasons for the session they had ranked as number 1, or the most useful.

The next question was a closed one, asking if the subjects had given a report on return to work, to whom it was given or reasons for not giving a report.

The reasons for attending the course had been asked in the pre course questionnaire and this was repeated. In the post course questionnaire this question was modified by asking the subjects to list their reasons for attendance in order of importance and then to assign a score from a seven point scale. In addition, an open-ended question requested further comments about the reason each had given as the most important.

If the subjects had taught antenatal classes since their return to work, they were asked if they had made any changes in their classes; if so they were asked to list them and if not, were asked give the reasons.

Another open-ended question divided the subjects into their occupational groups; each were asked to define both her own role and the role of the other occupation in antenatal education.

The final questions were designed to elicit any comments on the written material distributed; to give an overall comment on the course and whether or not they would recommend the course to a friend or colleague.

4.4 The pilot questionnaires.

4.4.1.The function of a pilot study.

A pilot study is a means of discovering the problems of the research methods and instruments within the study. Abdellah and Levine (1965) discuss the importance of a pilot study and note that it allows to pretest the adequacy of the data collection instrument, the methods of analysis and the validity and reliability of the instrument. All aspects of a survey should be pretested ranging from the wording of questionnaires; the ordinal responses in multiple choice questions, the timing within the questionnaire to the letter of introduction (Oppenheim, 1966).

Both the testing of the instruments and the process of the study should be carried out in advance of the main study with sufficient time to allow for analysis of the pilot data so that all aspects of the study have been subject to a testing period. In a large survey, the pilot stage could be very lengthy and at some point it has to stop (Oppenheim (1966).

The instrument should be tested on a group as like as possible to the subjects. The practice of testing instuments on university students, who are frequently the most readily available group of subjects, and have the advantage of not contaminating the main study, is deplored as Oppenheim (1966) points out that they may have a very

different understanding of the wording of a question, if they are markedly different in education and literacy to the subjects to be studied.

The site of the pilot study may also need consideration, especially if the main study will take place in centres which are not near to the study base or have two centres which are geographically separate. Understanding of questions, and the attitudes to them and their content may also be influenced by the part of the country from which the subjects come. Where possible the group who participate in the pilot study should be part of the group from whom the study subjects will be taken, yet at the same time, especially in an experimental study, it may be important to prevent 'contamination' about the research methods and purpose, by the pilot subjects to the sample of the main study.

4.4.2 Development of the questionnaires.

The questionnaires were revised twice, once after the pilot study and again after its administration in Centre A1.

A. The pre course questionnaire.

Details of changes made to the precourse questionnaire are given in appendix A, together with the original and revised versions.

B. The development of the course questionnaires.

The questionnaires to assess the subjects' reaction to the content of the course underwent considerable

modification in the light of experience and consisted of three separate formats. These are detailed in appendix B, together the reasons for these changes.

During the pilot study a questionnaire was administered to each subject after each session. The decision to use this format was based on the successful use of a simliar questionnaire (Rees 1982c). This format and administration of the questionnaire was revised in three ways; the reason for each change is given below:

1. It was administered on a daily basis as opposed to a sessional basis.

   The respondents in the pilot study made it very clear that they found having to complete a questionnaire after each session a considerable burden during a week of intensive learning. This was both expressed verbally and by the low level of response after the first day, see figure 4.2

   On the first and second day the subjects were asked to help themselves to a questionnaire at the end of each session, and were given time to complete it. As this had produced such a poor response on day 2, a different method was tried. On day 3 they were encouraged to complete the questionnaires as well as having sufficient forms for all the sessions on their chairs at the beginning of the day. This appeared to be a better method of distribution during the day but did not help with the response rate for the final session of that day. This may have been due to the time of the session (late

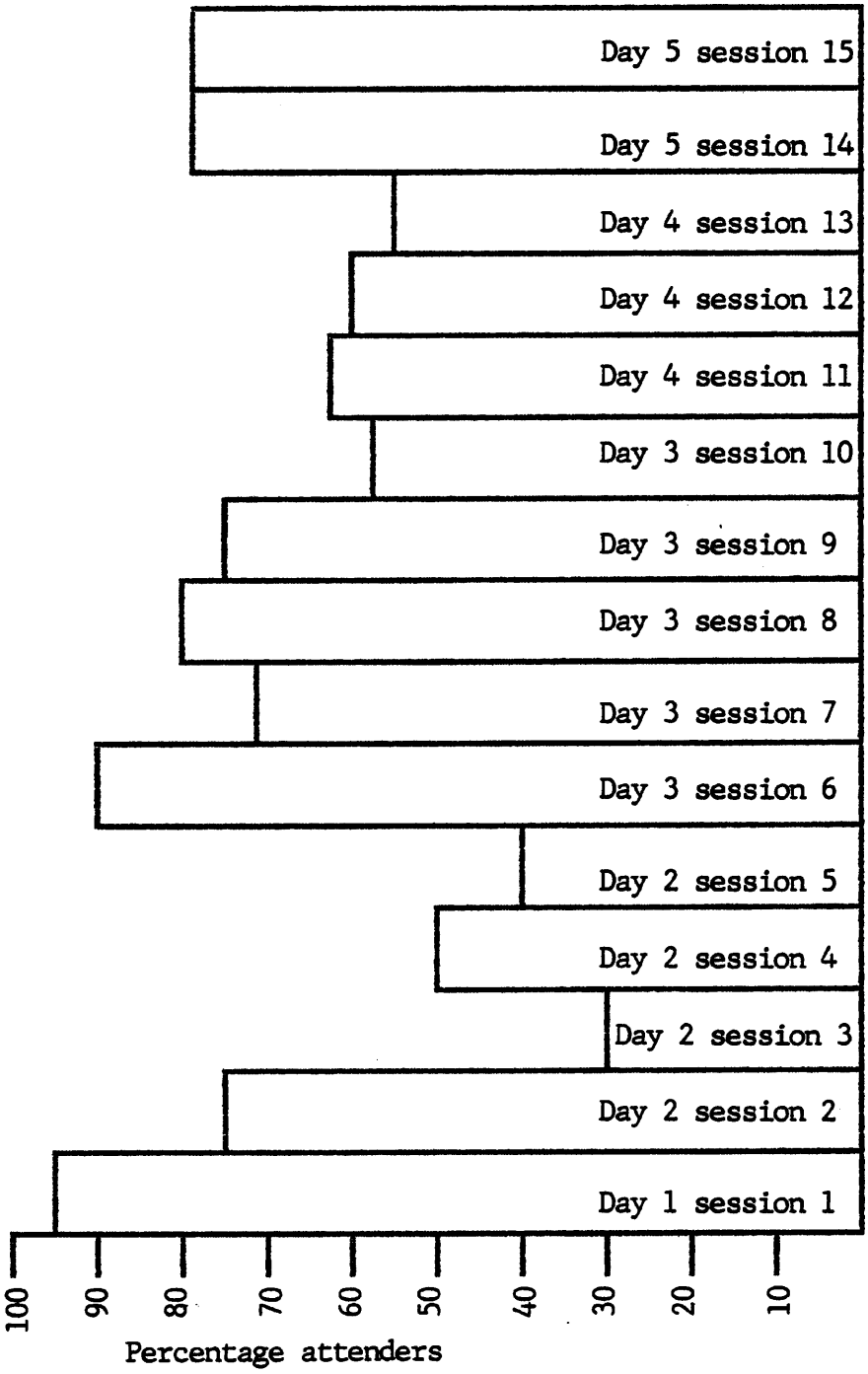


FIGURE 4.2 To show the percentage of attenders (n=33) who completed the session questionnaires during the pilot study.

evening) as the questionnaires which were returned, reflected the fatigue expressed by other members verbally.

2. The modification of the rating system.

The seven point scoring system was retained for the second version as it was the part of the pilot questionnaire which caused the least problems. One small adaptation was made which put the question "Did you learn something" before the questions which referred to the group work. Some of the subjects in the pilot had replied to the group work questions in the 3 sessions which did not have group work. In addition, this aspect was clarified by giving the section a heading of 'Group Work '.

When the seven point scoring system was applied to the whole day, however, the subjects found it difficult to quantify all the sessions under one score; some of them 'spoilt' their responses by giving two different scores for morning or afternoon, or specifying which of the sessions warranted a particularly high or low score. As a result this section was further adapted in the third version. This listed opposing statements maintaining the 6 themes mentioned for the pilot questionnaire; for example:

most interesting	least interesting:
most practical	least practical.

For each double statement, the subjects were asked to name the session which fitted under each heading. This

also caused problems. The subjects were reluctant to specify a session in the 'least' category of each theme. The rate of response from Centre B varied, but there were some of the categories which had less than a 50% response rate. A third of the respondents in Centre A2 did not complete the categories on the first day and their verbal response indicated their unease at completing this section. For the following days they refused to complete the 'least' category.

One reason which may have contributed to this was that the course tutors, some of whom were also their service managers, were present while they were completing these questionnaires. The subjects had been assured that the questionnaires would be returned only to the evaluator and not to the managers.

3. The removal of three questions asking for examples of new information, updated information and skills which would be used in class.

The information provided by the pilot study subjects demonstrated their difficulties in distinguishing between these three questions. They were asked for examples of:

a) information or skills which had been learnt,

b) which were updating knowledge they already had

c) which would be used in their classes.

Some responses were incorrect. The list given in the first questions was repeated in the second question, which should have been mutually exclusive. In addition, there were questions which were only partially answered (ie, only one

or two of the three questions) and there were some questionnaires returned blank, see table 4.1.

TABLE 4.1
To show types of response to three of the questions in the session questionnaire used in the pilot study. (15 sessions and 33 subjects, maximum possible = 495)

	No.	%
Correctly answered	86	25.8
Only partially answered	133	39.8
Incorrectly answered	49	14.7
Left blank	66	19.7
Total number returned	334	100

These three questions also increased the amount of work expected of the subjects and the response rate varied from 75.7% (day 3, session 1) to 9.0% (day 2, session 2). These questions, however, indicated the answers which might be obtained from open questions and this provided guidance for the coding frames of the main study. The three questions asking for examples were removed following the pilot study and the second and third versions both asked for the subjects' comments on each individual session.

C. Development of the post course questionnaire.

Of the three types of questionnaire, the post course questionnaire underwent the least change. This may have been due to the lack of verbal response about the questionnaire itself, as it was postal. The pilot study post course questionnaire was only sent to those who provided their addresses and indicated that they were willing to return it (17, 51.5%). Of these 10 (30.3%) were returned. The questionnaire, with modifications, is in appendix C.

4.4.3 Analysis of the pilot questionnaires.

The pilot study questionnaires were analysed to test the proposed method of analysis, to test the open-ended questions and guide statistical analysis for the main study.

A. Pre course questionnaires.

The closed questions of the pre course questionnaire have been presented in the results section (appendix D) as frequencies as this a single occupational group. It was apparent, however, that Chi Square tests would be suitable when there were two independent samples. The use of Chi Square is explained in appendix E.

The open-ended questions, exploring the expectations of the attenders, provided a coding frame from which the subsequent coding for the main study was developed. Broad categories were defined but the detail was not completed at this stage as the differences between the pilot study and the main study (for instance, the different occupations and the local basis of the main study courses) might result in producing a coding frame which would not reflect the responses obtained (Oppenheim, 1966)

B. Course questionnaires.

The analysis of the session questionnaires presented considerable problems. For the first section, which asked for scores, a Friedman two way analysis of variance was attempted but could not be used as there were insufficient number of cases within each score for the 15 sessions. Measures of central tendency (mean and median) of the scores are presented below and were used for the main study.

The section which asked for examples of skills a) learnt,

b) updated and c) to be used in class, produced the following difficulties:

1. repetition of the same examples in what should have been mutually exclusive categories, a) and b).
2. large number of categories with small frequencies,
3. the erratic level of response (table 4.1).

As a change of the format because of the poor response had been considered, the dificulties with analysis gave added support to this decision.

The final section of uncued comments was retained and the same principle of coding as discussed for the pre course questionnaries applied.

C. The post course questionnaire.

The response to the post course questionnaire was so small (10, 30.3%) that they were analysed by hand. The framework for the analysis was produced and was used for the results (appendix D) and main study.

D. Value of the pilot study.

As the pilot study provided pre testing of the questions as well as a trial run of the administration of the questionnaires, it provided useful information to guide the conduct of the main study. The reactions of the subjects to the session questionnaires were different to those experienced elsewhere (Rees, 1982c). This may have been because the evaluators in Rees' study were the course organisers, who were able to ensure the questionnaires were completed. One possible disadvantage of the pilot study was that the subjects were a single occupational group, which meant that the friction between the midwives and health visitors were only revealed during the first of the courses to be evaluated.

4.5 The observation study.

4.5.1 Observation: uses and types.

The second part of the main study involved the non-participant observation of a subset of the subjects, teaching in their normal surroundings, using Flanders Interaction Analysis Categories (FIAC) (Flanders, 1970) to quantify their teaching behaviour.

A. The advantages and disadvantages of observation.

Weick (1968) gives a literal definition of observation as the:

> "planned, methodological watching that involves constraints to improve accuracy". p.558.

Weick, (1968) goes on to define 'observational methods' more precisely which he asserts extends the use of observation beyond the contruction of category and rating scales and observer training to:

> "the selection, provocation, recording and encoding of that set of behaviors and settings concerning organisms 'in situ' which is consistent with empirical aims." Weick, 1968, p360.

The advantages and disadvantages both influence the choice of method. Some of the advantages include the increased clarity which can be obtained from structured observations and the fact that the form of the observation itself can encourage the reconsideration of a theory or the development of others. It acts as supplement to the recall of events etc, to questionnaires which may be unreliable. Adaptable to many different research settings, observation

produces evidence of behaviour that people may be unable (such as children) or unwilling, to discuss during an interview (Smith 1975).

Observational studies, however, involve fewer controls than experiments. In these type of studies, what controls there are, tend to be of the observer rather than the setting, the task or the subjects. The behaviour observed is more diffuse, more variable, than measures which would be made in the laboratory (Weick, 1968).

B. Classification of observation.

Smith (1975) distinguishes between everyday observation and structured observation as the latter is specific in what is to be observed, ignored and recorded as well as utilising techniques of measurement which are not part of everyday behaviour. Macilwaine (1983) discusses the observation tradition and highlights three types of studies:

1. direct unstructured observation
2. measuring staff and patient behaviour on a variety of scales
3. direct structured observation.

She goes on to note that direct unstructured observation can also be classified as participant.

Other classifications involve the division of non-participant and participant observation by whether or not those observed have knowledge of and/or given permission for the observation to take place.

1. The complete participants are in the group to study their roles.

2. The participants as observers are divided into two: those who gather data without the group knowing and those who have asked permission; both of these are legimate members of the groups: an example of the latter is the study of mothers in labour by Kirkham (1983). Altschul (1972) noted, however, that a participant in a hospital situation has a choice between participating as a patient or a nurse. Kirkham (1983), although declaring her cultural context of mother and midwife, avoids the question of which group she identified with as she maintained her observations were dependent on what the mothers and the midwives demonstrated were important in the situation. Kapelli (1984) by contrast placed herself very firmly in the role of nurse while using participant observation.

3. The observers as participants do not take part in the group but collect data without the knowledge of the group.

4. The complete observers collect data with the permission of the participants and without taking part in the group. This situation has been used within nursing/midwifery and two examples are Metcalf (1982) who studied the work of the midwives and their interaction with the mothers; and Runciman (1983) who studied the

work of ward sisters.

5. An additional classification is the 'lurkers' who observe with or without permission and do not appear in the group, usually from behind one way vision windows. This usually requires laboratory conditions, for instance, those described by Bales (1958).

The form of observation will also vary according to the study, and will be decided by such considerations as the research question, the venue, the time and resources available for the study. Within nursing Crow (1984) argues that

> "...quantification in observational nursing research features less often and yet, potentially, can offer a further valuable source of material from which understanding of basic scientific principles fundamental to nursing practice can be gained."
> Crow, 1984 p.90.

C. The recording of data.

Observations recorded may consist of the "form, duration, frequency antecedents and consequences" discussed by Smith (1975). The form may involve a scientific validation (such as eye-blink rates in anxiety measurement) or observations which appear more sensible to the lay man, such as the various interaction analysis scales (for instance, Bales, 1950 or Flanders, 1970). Although duration may be relevant for the observation of irregular occurring behaviours, some, for instance, teaching has the duration defined by the action. The action may also change according to the stages of development of the person observed.

The frequency of the observed units is the number of times it occured within a given period. The antecedents and consequences precede and follow the behaviour under observation, for instance, Crow and Wright (1976) examined the behaviour of babies while feeding, to see how the babies regulate their intake.

Observation can employ qualitative or quantitative scales. Qualitative scales involve the estimation of a variable and if this requires a value judgement, it may pose problems when more than one observer is used. Quantitative scales, according to Crow (1984) consist of

1. molecular codings:

"descriptions relate closely to actual behaviour" P.92.

These include facial expressions, body postures or positions and gestures.

2. molar codings:

"abstract aspects of a class of responses, grouped together because they are considered to share a common function, target or goal" P.92.

Included here are the perceived outcomes inferred from a group of responses, such as social interaction.

Two methods of scoring both these types of coding are:

1. Continuous realtime measurement which records the frequency, position and order of occurrence but does not measure duration. Complex situations requiring many measures, may need some form of mechanical recorder, such as a portable electronic digital keyboard.

Runciman (1983) who wished to record the pattern and the fragmentation of ward sisters' activities, used continuous observation. The fatigue of the observer has to be taken into consideration with continuous observation as the noting of an activity, assigning it the correct code and writing it down require considerable concentration, especially if the observation intervals are small.

2. Modified frequency coding, or activity sampling, records only one occurrence of each behaviour during the time interval used to divide up the period of observation. The advantages are that it is less demanding on the observer, and it is easier to get high inter-rater reliability. The disadvantages include the possibility that the infrequently occurring responses are missed; there is no discrimination of moderately and frequently occurring responses; and no measure of the sequence or duration of activities or behaviour. For example, Hawthorn (1974) and Howarth, (1976) both used activity sampling, the former in children's wards and the later examining the work carried out at ward and departmental level for all grades of staff.
Sign systems are used more frequently for activity sampling and category systems are more likely to be used for continuous coding (Rosenshine and Furst, 1973).

With both of these methods, activity sampling and continuous coding, Crow, (1984) recommends consideration of the length of the observation period, as the frequencies of behaviour can not be directly compared between different

sessions if the sessions are of unequal length. Rosenshine and Furst, (1973) caution that

> "All observational systems distort actual events. Even category systems create distortions through their unit of measure. When time is the unit, as it is in most category systems, the interval can misrepresent the frequency of continuing events which occur longer than the time interval, such as teacher lecturing or student talk." p.136

D. Validity, reliability and bias.

Data obtained by observation are only as good as the method of observation. Testing for validity and reliablity involve both the use of mechanical devices as well as the trained observers. Mechanical devices, which may include audio and/or visual recorders, or equipment to record the frequency and duration of a specified activity, need to be tested both for the validity (it must measure accurately what it is designed to measure) and reliability (that the same accurate measurements can be repeated over time and in different circumstances to produce consistent results). The same is true of the observer using a scale to measure interactions, behaviours or activities.

The behavioural definitions need to be clarified objectively, as the precision and stability of the instrument are dependent on the ability to define and reproduce the same recordings for each set of behaviours. (Crow, 1984).

Smith (1975) lists four sources of invalidity in observational data:

1. inadequate sampling of content where different observers sample different aspects of behaviour; this is especially true where there is a complex situation.

2. chance response tendencies due to imprecise or poor understanding of categories; or training in the definitions of behaviour;

3. changes in the environment

4. changes in the persons observed - in these last two the subtle changes may not appear in the earlier recordings - however, with a reliability check at a later date, give the impressions of unreliability.

The effect of the presence of an observer on those observed has been noted extensively since the work of Roethlisberger and Dickson, (1966) which demonstrate that the presence of the observers improved the performance of the workers, rather than the variations in the working conditions. This is known as the Hawthorne effect. The non-participant observer role is one that does not occur naturally in society (Smith, 1975), so that such an observer is always conspicuous. The interaction between observer and subject, such as personality, age, and sex; the manner of dress and status; the presentation of the nature and purpose of the study are influences on the observer role and the results obtained (Crow, 1984).

When there are two or more observers, the training of all must be similar. Observers can be trained effectively especially if they have formal rules for their roles as non-participant observers (Smith, 1975). Unless the definitions of coding or categories are clear and unambiguous the observers may learn the same mistakes or be subject to the same subjective influences (Crow, 1984). Flanders (1967) describes the problem of observer training as

> "...first, converting men into machines and second keeping them in that condition while they are observing." p 158

Flanders (1970) gives detailed and precise instructions for each step of learning to use the FIAC system, with the recommendation that the best place to develop the use of the system, after initial learning, is in the classroom.

Recording errors of commission, omission, or noting what the observer expects, the 'fixed pattern of response' noted by Roth, (1970) may produce bias within a sample observed. There needs to be regular testing throughout the observation period that they are recording to the agreed level of accuracy and still interpreting the same activities with the same codes.

Smith (1975) adds satiation and boredom as further contributions to observer unreliability and recommends time interval observation samples, although the example he gives to demonstrate this, of Flanders, with 3 second intervals would appear to be nearer to continuous than discrete.

The use of mechanical devices for recording has the advantage of providing a permanent record, which can be transcribed, or coded away from the observation site. In addition, they can be coded by different people. However

> "It is always important to remember that a permanent record of behaviour does not obviate the need to develop a system for quantifying the pre-coded behaviour. Nor should it be forgotten that transcribing permanent records for subsequent analysis can be very time-consuming, and that the effort entailed is not necessarily counterbalanced by a gain in the information obtained over scoring live observation.... Therefore, it is useful to compare the potential contibution of live and recorded observations before money and resources are invested in expensive technical equipment."
> (Crow, 1984, p94-95)

4.5.2 The observation methods used.

(Subject in this section refers to the antenatal teachers (midwives or health visitors) who were observed while teaching and formed a subset of all the subjects.)

The non-participant observation involved the antenatal teachers in their own classes, before and after they attended the training course. The observations recorded were:

a) interaction analysis:

the live recording of the verbal aspects of teaching behaviour, using an adaptation of Flanders (1970) categories for interaction analysis.

b) checklist:

the recording of environmental and physical aspects of the class, including those which could be and could not

be altered by the teacher; this was completed before and after the class, some of it with the assistance of the antenatal teacher.

c) description:

a subjective description of the class, which noted the behaviour of all those present in the class and any features which could have an influence on the class. This was completed as soon as possible after the class had finished and in all cases within 24 hours.

A. Interaction analysis.

Social interaction has been described as an action by one person responded to by another person, when each person is aware of the other and of the action in question (Dyck, 1963). Diers and Leonard (1966) define interaction analysis as

> "interaction analysis, the description of the content and structure of communication between people, provides the means of specifying, quantifying and hence communicating to others the components of different kinds of nursing process (p226).

Interaction analysis has been used for observation since the 1940s. Its development has included use by social scientists, educationalists, nurses and midwives.

1) Social Science.

Some of the interaction analysis systems are described as topic-free which are suitable for application in a variety of social situations (Weick, 1968).

Three examples are:

1. Interaction Process Analysis (IPA) of Bales (1950) which is the system referred to most frequently. Although it has been used by a wide range of disciplines, Weick (1968) criticised it for blurring too many distinctions and lumping too many modalities into a single category.

2. The Borgatta Interaction Process Scores (IPS) is a refinement of IPA which expands it from 12 to 18 categories (Borgatta, 1963). This allows for more sensitive coding, which Weick (1968) reports is consistent with research of peer ratings and distinguishes among tasks and different role play assignments.

3. Member leader analysis derived from long term, self analytic groups less centred on a single task. This is encoded either from tapes or transcripts and effectively traces group development. Although the stress is on the verbal behaviour, it is specifically seeking those remarks which reflect leadership (Mann et al, 1970).

2) Nursing and midwifery.

Various interaction analysis systems have been used in nursing. Conant (1965) used the Bales' IPA to analyse the transcripts of recordings made during home visits between public health nurses and their patients. The IPA has been used to determine if the theoretical propositions of Bales' (1950) were to be found in nurse groups in their natural

work settings (Jacobs, 1979). Both Behymer (1953) and Johnson (1964) developed their own classifications. Behymer's (1953) was based on the nursing question of her project and had 9 broad categories. She was criticised by Diers and Leonard (1966) for the vagueness of the report of the methodological details. Sixteen categories were used by Johnson (1964) to explore the verbal patterns employed by student nurse therapists with patients. Similarily, Kerrigan (1957) analysed conversations of students and patients using Bugental's scales of levels of responding.

The early studies were mainly focused on psychiatric nurses, a trend pursued by Altschul (1972) when she recorded the length of the interaction betweeen nurse and patient, who initiated them and assigned a score. A 16 point scale was devised by Reynolds and Cormack (1985) as part of an analysis of group dynamics to describe the frequency and content of individual contributions. Kishi (1983) and Vehvilainen (1984) have used Flanders' (1970) categories in maternity care. Kishi (1983) studied the communication patterns between health-care providers and clients at a well baby clinic and Vehvilainen (1984) observed the interaction between midwives and mothers in labour.

3) Education.

There are 79 observational systems listed by Simon and Boyer, (1970a; 1970b) of which 66 have been used in classroom or similar settings. The differences between the systems have been defined by Rosenshine and Furst (1973)

1. recording procedures:

a) category systems where events are recorded each time they occur;

b) sign systems recording the events only once during specified periods, usually with a rating on a 5 or 7 point scale.

2. difference in items:

a) broad rating requiring considerable inference;

b) more specific systems which give a descriptive quality to the category systems.

3. differences in format:

a) single coding where each event has only one category;

b) multiple coding where each event may have a number of codes.

Category systems, specifically designed as classroom observational instruments have been classified in 4 ways by Rosenshine and Furst (1973):

1. instruments with an explicit theoretical or empirical base with the variables from established theory or research;

2. instruments with implicit theoretical or empirical base but the research base has not been stated, this includes FIAC;

3. modification or synthesis of existing category

systems, for instance there are 9 modifications of FIAC, and 10 who have used FIAC as part of their synthesis;

4. author-orginated category systems using the variables the author believed to be important but with no origin specified.

There has been a different classification of educational interaction analysis in Britain (Eggleston et al, 1975). This puts interaction analysis into 5 major categories:

1. inductive - where every aspect of the classroom and behaviour is observed and recorded objectively; they tend to be exploratory and rarely measure student growth;

2. prescriptive - involved in the task of supervising teachers, especially student teachers, (eg. FIAC);

3. reflective - to detect disparity between the way teachers may think they teach, or want to teach and the actual classroom performance;

4. matching - following the growth of the use of behavioural objectives, these studies observe behaviour to see if it is consistent with the attainment of behavioural objectives.

5. process-product - usually investigations which are related to evaluation of curriculum developments. FIAC also has been included within this classification.

Observational instruments have also been classified as having four purposes (Eggleston et al, 1975):

1. to describe current classroom practice;
2. to train teachers;
3. to monitor instructional systems;
4. to investigate relationships between classroom activities and student growth.

The Flanders system has been used for all four purposes. A criticism is that most of these instruments have been used only by the author and there is little evidence of replication (Rosenshine and Furst, 1973). FIAC is one of six systems which have been used by other investigators.

The use of interaction analysis.

Gallagher and Aschner, (1963) noted that much evaluation focused on the product and that the educational administrator must make his decision based on this result. This, they felt, had limitations and advocated the use of interaction analysis to identify and describe both the fruitful and fruitless teaching procedures. The limits that a category system imposes, concentrates the observation on one segment or aspect of behaviour (Medley and Mitzel, 1963). In support of interaction analysis, Peck and Tucker (1973) stated that it demonstrates whether the teacher has acted in ways that specifically allow and encourage pupil initiative or if not, then this behaviour has not occurred. Flanders' (1970) category system was designed to measure the interaction between teacher and pupil by examining the initiation and response of each.

Flanders Interaction Analysis Categories (FIAC).

FIAC was devised

> "to develop more objective techniques for analyzing interaction, techniques which not only provide evidence of change, but also become stepping stones to a systematic inquiry into ... teaching behavior." (p.vi)

It is not always possible to measure teacher behaviour by pupil achievement (McNeil and Popham, 1973) as there may be a wide range of pupil attitudes. FIAC, however, is a means of describing the interaction between the teacher and the class.

The 10 categories described by Flanders (1970) consist of 7 to measure teacher initiation and response, 2 for pupil initiation and response, with one for silence and confusion. FIAC measures a specific chain of events, which can be analysed to demonstrate which patterns are associated with effective teaching.

Theoretical development.

The research which led to the development of FIAC included the assessment of integration and domination by Anderson (1967). Lewin et al (1967) describe the autocratic-democratic dichotomy which was another precursor of Flanders' concepts. Although Amidon and Hough (1967) note that interaction analysis measures the quantitative and qualitative dimensions of teacher verbal behaviour, they point out that it does not capture every event which occurs in the classroom. The focus of FIAC is the social-emotional

climate of the classroom. Flanders (1967) has described this as the

> "...generalised attitudes toward the teacher and the class that the pupils share in common despite individual differences. The development of these attitudes is an outgrowth of classroom social interaction. As a result of participating in classroom activities, pupils will soon develop shared expectation about how the teacher will act, what kind of person he is and how they will like their class." (p.103)

The technique to measure the social-emotional climate was developed out of social psychological theory and designed to test the effect of this climate on student attitudes and learning. One of the early researchers to investigate this was Withall, (1967) who noted that the techniques of categorising teacher statements were objective, reliable and valid. Medley and Mitzel (1963) maintain that Flanders has developed the most sophisticated technique for observing climate in the classroom. FIAC is unique in that it preserves a certain amount of information regarding the sequence of behaviour. Bidewell (1973) notes that the studies of classroom climates, using FIAC show an association between co-operative, in contrast to competitive or aggressive, activity by students and the degree which the teacher tends to support rather than to dominate the task centred activities of the student members.

Flanders in 1970 affirmed that:

> "Teaching behavior, by its very nature exists in a context of social interaction. The acts of teaching lead to reciprocal contacts between the teacher and the pupils, and the interchange itself is called teaching." (P.1)

Flanders (1970) gave two reasons for examining classroom interaction:

1. to identify patterns of teaching;
2. to gain knowledge of the differences in educational outcomes associated with teaching.

The focus is on teaching behaviour and its relationship to classroom interaction.

Flanders went on to comment:

1. what the teacher does, influences the educational development of the pupils
2. the most salient activities are direct person to person contact and indirect teacher to class contacts.
3. interaction analysis reports what does occur - not what the teacher thought occurred.
4. the most important concepts in a field of education are those which are descriptive of the interactive contacts.

While supporting the need for criticism of teaching, Flanders (1970) noted:

> "...teaching is inadequate because there is too much emphasis on conditional admonitions and too little attention to an analysis of the behaviour associated with these intentions." (p.5)

The concepts used by Flanders (1970) which underpin the development of interaction analysis categories are:

"1. classroom interaction refers to a chain of events which occurs one after the other, each occupying only a segment of time;

2. teaching behaviour has been defined as acts by the teacher which occur in the context of classroom

interaction.

3. an event is the shortest possible act that a trained observer can identify and record.

4. a pattern is a short chain of events that can be identified, occurs frequently enough to be of interest, and can be given a label." (P3-4)

B. The use of FIAC.

The basic categories described by Flanders are:

"TEACHER TALK - RESPONSE
1. Accepts feeling. Accepts and clarifies an attitude or the feeling tone of a pupil in a non-threatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included.

2. Praises or encourages. Praises or encourages pupil action or behavior. Jokes that release tension, but not at the expense of another individual; nodding head, or saying 'umhm' or 'go on' are included.

3. Accepts or uses ideas of pupil. Clarify, building or developing ideas suggested by a pupil. Teacher extensions of pupil ideas are included but as the teacher brings more of his own ideas into play shift to category five.

4. Asks questions. Asking a question about content or procedure, based on teacher ideas, with the intent that a pupil will answer.

TEACHER TALK - INITIATION
5. Lecturing. Giving facts or opinions about content or procedures; expressing his own ideas, giving his own explanation, or citing an authority other than the pupil

6. Giving directions. Directions, commands, or orders to which a pupil is expected to comply.

7. Criticizing or justifiying authority. Statements intended to change pupil behavior from non-acceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.

PUPIL TALK
8. Pupil-talk: response. Talk by pupils in response to teacher. Teacher initiates the contact or solicits pupil statements or structures the situation. Freedom to express own ideas is limited.

9. Pupil-talk: initiation. Talk by pupils which they initiate. Expressing own ideas; initiating a new topic; freedom to develop opinions and a line of thought, like asking thoughtful questions, going beyond the existing structure.

SILENCE.
10. Silence or confusion. Pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer."
Flanders, 1970. p 34.

Flanders, (1970) goes on to note that there is no scale implied by these numbers. Each number designates a particular kind of communication event. The categories themselves are mutually exclusive and are not measuring an underlying concept.

The major feature of this category system is in the analysis of initiative and response. Simon and Boyer (1970a) note that the focus is on the the teacher behaviours which encourage or discourage student freedom. This was one of the reasons for choice of the system for this study as the aim of the training course was to encourage the antenatal teachers to use the ideas and feelings which come from the mothers in the class. Student teachers who had been trained using the FIAC system demonstrated significantly more pupil-centred teaching behaviour (Wagner, 1973).

It might be argued that the IPA categories of Bales (1950) would be more appropriate as the training course had such emphasis on group work skills. This system, however, was developed within a laboratory situation, where the subjects were a peer group of students and they were given a standard task to discuss. The subjects in this study were to be observed both before and after attending the training course and previous research (for example Perkins, 1981a; McCabe et al 1984) had demonstrated a didactic style of teaching was used by antenatal teachers generally where the professionals decided on the topics to be discussed. This meant that an interaction analysis system designed for group work would not be so appropriate.

In addition, two other educational interaction analysis systems were tried during the feasibility study, the BIAS system devised by Brown (1975) and the VICS system (Amidon and Hunter, 1967) neither of which had any advantages over the Flanders' categories.

The initial design of FIAC was as a research tool but it was later used as a means of training of student teachers both by Flanders (1970) and others, for instance Wragg, (1970) and of trained teachers, for instance, Smiddy (1981). Others have used it (as in this study) just for observation (Grimes et al 1975; Hayes and Patterson, 1975, Smith, 1977). Although designed for use in schools, it has been used in the teaching of adults (Smith, 1977) to observe medical

students (Grimes et al, 1975); a multidisciplinary group which included nurses (Heyes and Patterson, 1975) in a well baby clinic (Kishi, 1983) and to observe interaction between midwives and mothers (Vehvilainen, 1984)

The FIAC system has been criticised when used with primary school children as the categories do not show up the informal interaction between the teacher and one child (Walker and Adelman, 1975) although Wragg (1970) had earlier devised a limited solution to this problem.

C. The adaptation of FIAC.

The FIAC system was adapted for this study. This is one of the advantages which Flanders (1970) claims for his system and it has been modified by others, for instance Amidon and Giammatto, (1967); Wragg (1970); Wragg, (1972) Grimes et al (1975); Heyes and Patterson, (1975) and Smith, (1977). Anderson (1966) observing the classroom instruction of medical students, expanded the 10 categories, developing 13 major and 17 sub categories. Other adaptions have included reducing the frequency of recording from 20 times to twice a minute. This was still effective in demonstrating to trained teachers how they could improve their practice (Smiddy, 1981). The FIAC system has been modified or synthesised by 19 other researchers (Rosenshine and Furst, 1973).

The events to be coded were according to Flanders:

"... a feature of behavior which is selected by the

observer, according to a set of conventions, during a relatively constant time interval....which permits coding to occur as rapidly as possible." p155.

The adaptation of FIAC for this study was as follows: The category 10 was changed to 00 and the other codes given two digits (ie, 1 become 10). The other codes were developed as logically as possible.

ADAPTATION OF FIAC FOR ANTENATAL CLASSES
00 silence
01 mother talks to baby
02 teacher talks to baby
05 pause, refers to notes
06 demonstrates in silence
08 observer talk - teaching, comments etc
09 all talk together

TEACHER TALK
10 accepts feeling, refers to or uses feeling from mother

20 pauses, encourages, 'umhm', jokes
22 not heard

30 accepts or uses ideas of mother
31 non-sequitur, steers away from or avoids answering questions
33 story, anecdote
35 responds to an individual question, not of much interest to others.
37 gives advice to an individual mother but could be applied to others

40 asks specific questions
43 questions recall
44 'do you want to ask any questions?' 'any questions?'

50 lectures, teaches own ideas, facts, opinions, re content or procedure.
52 tells class what will be happening in forthcoming sessions
53 recalls what was said last week
54 new ideas introduced at this point

60 giving directions - to the mothers
64 introduces new idea while demonstrating
66 giving directions and demonstrating at the same time

(70 criticism - not used)
77 interruption - nothing to do with the class

MOTHER TALK
80 talk by mother in response to teachers - comment
81 nod in agreement - no talk
82 giggle in response to joke or comment by teacher - no other talk
83 shake head - no talk
84 responds by asking question but not introducing new idea
85 doing exercises in response to instruction
86 carrying out instruction in response to 60
87 different mother starts to speak - not a new idea
88 response, comment by other class member - father, relation
89 postnatal mother responds to a specific question to her

90 initiation, own ideas, new topic from antenatal mother
91 initiation, own ideas, new topic from postnatal mother
92 contribution to class by the observer in response to direct question from teacher
94 mother introduces new idea by questioning
95 postnatal mother discusses topic
97 different mother starts to speak - with new idea, topic etc
98 new idea, topic introduced by other class member, fathers, relations etc
99 mother talks to mother, chit chat, asides, difficult to isolate.

The rationale for the adaptations were as follows:

1. Circumstances particular to antenatal classes:

The following codes came into this category:

01, 02, 08, 64, 66, 85, 95.

Some of the codes particular to the antenatal classes are self explanatory, such as talking to a baby (01, 02), while others were related to those classes which involved demonstration (64, 66). In some classes the subjects combined the discussion aspects of the session, with a demonstration of exercises. If the mothers were asked to do the exercises, code 85 was used while they did them. For the

majority of the sessions, the exercises were a separate part of the session and were not included in the interaction analysis.

Where there was an observer present, for instance, a student midwife whose contribution to the session might only consist of 6-10 tallies of 7-800, she was coded as 08.

Where the contribution of the postnatal mothers, was a major part of the class it was coded as 95.

2. Codes developed in response to particular emphasis placed on item in training course:

The following codes came into this category:

40, 43, 44, 52, 53.

40 was changed to asking a specific question, while 44 was asking for questions from the class 'do you want to ask any questions?' or'any questions?' Although this distinction is similar to that used in the VICS system (Amidon and Hunter, 1967) between narrow and broad questions, this particular difference was coded as such for two reasons -

1. the feasibility study had demonstrated the teachers commonly asked for 'any questions'
2. this was a point which was stressed in the training course as a form of questioning to avoid, as it rarely produced a useful answer. The subjects were encouraged to ask specific questions. The codes to isolate the questions by the mothers, either in response or as initiation, (84 and 94) were so that this could be analysed, which will be discussed later.

The expansion of 50 to include 54 identified when the teacher changed the topics she was discussing. Codes 52 and 53 were developed as the subjects were encouraged to link each class with the one which had preceded it and the one which would follow. Code 43, questioning recall was linked to this.

3. Use of Flanders' codes and expansion of those ideas to reflect greater variety within the classroom situation

The following codes came into this category:

00, 05, 06, 09, 99; 10; 20;

30, 31, 33, 35, 37; 50, 54; 60;

80, 81, 82, 83, 84, 86, 87, 88, 89;

90, 91, 94, 97, 98.

Flanders (1970) discusses expansion or subscripting the codes which he felt was a natural state of development in the quantification of dimensions of teaching. The advantages of subscripts are:

1. it increases the range of problems which can be studied;
2. it helps to match the requirement of a particular situation.

The categories can be collapsed back into the original 10 for analysis and the advantages of this are:

1. to compare the present sample with others;
2. to replicate data relationships with others
3. to provide data for others for future comparisons and possible replications (Flanders, 1970)

a) Silence or confusion

The expansion of the code for silence or confusion was pragmatic;

00 silence
01 mother talks to baby
02 teacher talks to baby
05 pause, refers to notes
06 demonstrates in silence
08 observer talk - teaching, comments
09 all talk together

It was easier to code what was happening as it kept up the pace and sequence of the coding. Weick (1968) discusses the rhythm of coding and notes that observers watch for the prescribed time interval with little variance.

b) Teacher's response to mothers' feelings
30 accepts or uses ideas of mother
31 non-sequitur; steers away from or avoids answering questions
33 story, anecdote
35 responds to an individual question, not of much interest to others.
37 gives advice to an individual mother but could be applied to others

The expansions of code 30 ie 31, 33, 35, and 37, were to investigate the level of the teachers response to the feelings of the mothers. While this was not emphasised as a specific point during the course, as was the questioning technique, the subjects were encouraged to persuade the mothers to talk and to use their ideas. The differences between codes 35 and 37 were as follows

Code 35 would be used if the mother asked a question about something which would only apply to her. For instance, if she was the only member of the class whose baby was presenting by the breech, the response to a

question about breech deliveries would be coded as 35. Code 37 was used where the question could possibly apply to all the members - for instance a question about induction of labour.

c) Mother talk
80 talk by mother in response to teachers - comment
81 nod in agreement - no talk
82 giggle in response to joke or comment by teacher - no other talk
83 shake head - no talk
84 responds by asking question but not introducing new idea
85 doing exercises in response to instruction
86 carries out instruction in response to 60
87 different mother starts to speak - not a new idea
88 response, comment by other class member - father, relation
89 postnatal mother responds to a specific question to her

90 initiation, own ideas, new topic from antenatal mother
91 initiation, own ideas, new topic from postnatal mother
92 contribution to class by the observer in response to direct question from teacher
94 mother introduces new idea by questioning
95 postnatal mother discusses topic
97 different mother starts to speak - with new idea, topic etc
98 new idea, topic introduced by other class member, fathers, relations etc
99 mother talks to mother, chit chat, asides, difficult to isolate.

The expansion of categories 80 and 90 were to pick up as much as the response and initiation by the mothers and other class members as possible.

4. Emergency codes - to cope with situations which occurred: codes 77, 92, 22

The 'emergency' codes were used as little as possible but again were used to maintain the pace and sequence. 77 was interruption such as a clerk giving a phone message or

the chasing out of a stray cat; 22 was used when some speech had occurred but was inaudible; 92 was only used on a couple of occasions when a subject addressed a specific question to the observer which could not be ignored without causing offence.

Although code 70, the original 7 of the Flanders codes for criticism, was retained, it was, in fact, never needed.

D. Observer training.

Flanders (1970) gives detailed instructions for observer training. He suggests the initial learning of the categories and then using them with three sample scripts provided. The first attempt to code the three samples produced correct coding for 98% of the tallies. The coding of specific instances where the unskilled observer may be uncertain (for instance, deciding between code 3 and code 5) are discussed after the three scripts have been coded. It was not possible to carry out the next step of the instructions, which involved coding from audio or audio visual tapes which had been coded by an experienced observer, as none were available for antenatal classes.

Flanders then recommends trying the categories in the classroom. During visits to the antenatal classes, events were coded at ten second intervals, rather than the three second intervals recommended by Flanders. In addition, the codes were subscripted with notes made of the events which were not fully reflected by the 10 original categories. The speed of coding was then increased to 5 second intervals.

With the expanded categories translation of an event into the correct code became more fluent. Finally, the increase of speed to 3 second intervals occurred because the situation demanded it rather than as decision to change to 3 seconds at a specific class. Wragg (1972) used similar methods to train his six observers.

The codes were recorded directly onto the coding sheet from which the data would be punched for computing (appendix G) These sheets were ruled into 20 sections in advance. The subject number, date and time were also recorded. Apart from the starting and finishing time, these three recordings were completed after the class since there was not time to write the date and time for each minute as well as keep up the coding. The observation was made from a point just outside the group, close enough to hear what was being said. A clip board supported the coding sheets, and the codes were recorded by pencil. Timing was maintained with a digital watch. Flanders (1970) does note that it is not necessary to code strictly every three seconds but to code events as they occur and maintain a steady pace of coding. This approximates to 20 observations a minute. Wragg (1972) criticised this as he felt it detracted from the time differences which should be maintained. The three second intervals were maintained during this study.

The classes which were observed were the discussion part of two hour classes which also included relaxation and exercises for the pregnant women. The relaxation and exercises were not part of the recording although there were

a few classes where the subject would introduce an exercise during the disussion, demonstrate it and ask the mothers to try it.

The possibility of tape recording the classes and coding later either from the tape or a transcript was considered. This does have the advantage of providing a permanent record but the venues of the classes varied considerably, some taking place in rooms which were not ideal for recording purposes. Recording was tried during the initial visits to the antenatal classes but the quality was so poor that the tapes provided very little information.

Wragg (1972) described a similar situation and also noted that there was considerable loss when coding from tapes, as a certain amount is provided by the visual cues. Some of the expanded codes required visual cues. He also noted that the advantage of the live observer who is recording systematically means the classes do not require coding later.

Flanders (1970) discusses other methods of coding including mechanical recorders, and direct online reording to a computer. The reasons for not using these methods were that they would involve bringing the subjects and the mothers they taught to a specially equipped room. Not only would that have been difficult and too expensive, in centres which involved 23 different locations and were 240 miles apart, but also it would have added considerably to the observer effect.

It was inevitable that the presence of the observer would have some effect during the classes. This may possibly have been lessened by two factors:

1. the antenatal teachers were told that they themselves were not being 'tested' but that it was the course which they attended.
2. the teachers were used to observers as they all had given classes when student nurses, midwives and health visitors were in attendance. Apart from the observer for this study, 48.7% of the classes had students attending as observers.

Wragg, (1972) discussed this point. As he had a team of six observers, there was the possibility of having a proportion of the classes observed by more than one observer. He decided to keep the number of classes observed to the minimum required for reliability testing, because of the observer effect.

4.5.3 The checklist.

The checklist was a data collection instrument to record the data required for analysis. It was developed during the initial visits to the antenatal classes (see appendix H).

The data recorded details in three categories: the class itself; the subjects and the class attenders.

The class data included:

where it was held;

when;

the topic of the class;

the sequence within the course;

the use of films, audio visual and other equipment;

the type, size, noise, and seating arrangements of the room used.

Data about the subjects (teachers) included whether they were:

teaching pre or post course;

their occupation,

whether they wore uniform (it was suggested during the course that not wearing uniform could help to contribute to the informality of the class);

their use of notes and knowledge of the mothers;

whether there were additional teachers or observers present.

The data about the mothers included:

the number in the class,

whether they attended more than one class;

if they dropped out, the reason, where known;

the parity of the attenders;

and whether postnatal mothers and babies, fathers or relations attended.

These data were collected immediately before and after the class, mostly by observation but some of it by informal

questioning of the subject (for instance, in some cases, she knew why a mother did not attend a class).

4.5.4 The description of the classes.

The descriptions of the classes were recorded on the back of the checklist, a practice also used by the observers in Wragg's study (1972) as a subjective account of what went on during the class. It helped to expand and complete the information collected by the interaction analysis. This included details of any unusual events during the class, matters which could explain teaching problems (for example, the subject who tried to carry on her class despite the disruption of the room by painters) as well as details of the behaviour and records of conversations where remembered. A diagram of the room and the position of different members of the group was included.

This description was completed as soon as possible after the class, and always within 24 hours.

An example of a description of a class is:

"General organisation - large class so split in two - physio. took half for relaxation and exercises while the midwife did the 'talk' with other half. This midwife only does the feeding and bathing classes.

Checked names from register - rather formal voice - apologised for this part. Then more relaxed. Did ask who wanted to breast feed - all but 2 - she expressed pleasure. Then went on to talk about bottle feeding but didn't explain until the very end that the breast feeding mothers, even if fully breast feeding, might need to give a bottle of water. Explained in detail the hospital routine for bottle feeding, ie. who gave out bottles, feed charts etc and that the mothers were expected to cope for themselves as much as possible but to ask for help when needed. Somewhat congratulatory of her hospital ie 'here we pride ourselves' etc but from what she said the routine seems fairly liberal.

Also proud of her job - 'since I came 5 years ago we have changed'.

Bottle feeding section lasted for about 20 minutes. Then she showed a tape slide presentation, on a video machine, of how to breast feed. It was made in ..... and one of the best I have seen so far. Gave accurate advice (or possibly advice I agreed with!) but stressed that the mother would be able to build up her own knowledge and confidence. One criticism - picture rather small and one or two diagrams difficult to see but I was a good bit further back than the mothers.

Then a discussion on how to breast feed based on question from the mothers. The questions stimulated her to cover other aspects not mentioned in the video.

The midwife either stood behind the table while demonstrating or else stood in front of it. The mothers were in a semi circle on hard chairs.

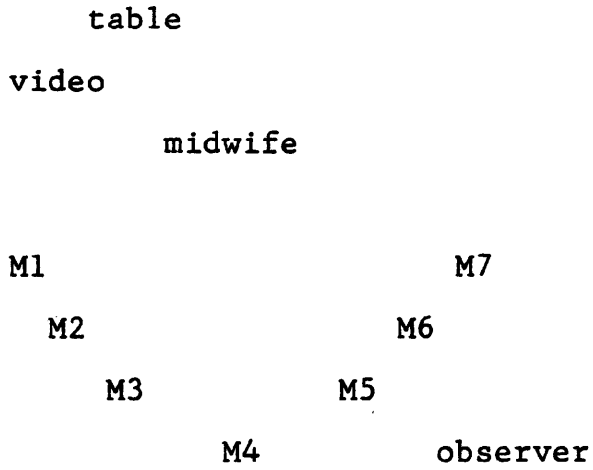


FIGURE 4.3 Diagram of seating plan in class (M = a mother)

Eye contact was mainly with M3, M4 and M5 especially M4, who never spoke. The midwife had eye contact with the mother who asked a question but then looked at M4 again.

The midwife commented afterwards that she was surprised how nervous she was beacuse of my presence - she had "not expected that." First visit.

4.5.5 The feasibility study.

There was not a formal pilot for the observation study. The period of pretesting was in the form of a feasibility study which consisted of 2 areas:

A. Observation of the courses:
Centre A and Centre B

B. Observation of antenatal classes:
i) development of the data collection checklist;
ii) development of skills to use FIAC
iii) initial anaylsis of FIAC

A. The observation of the courses.

One training course in each centre was attended for all five days of the course, during the planning phase of the study. During these periods of observation, note was taken of as many aspects of the course as possible, without any limitations or structure to this observation. It was from this observation that the format of the questionnaires was developed. The content of each class was noted and contributed to the development of the checklist during observation, for instance, the subjects were encouraged not to wear uniforms while teaching and the seating arrangements within a class were discussed to identify those which would assist mothers to take part in the class. During this period it was also decided to focus on the verbal behaviour of the antenatal teachers and their interaction with the mothers.

B. Observation of antenatal classes:

Before the initial trials with FIAC, a few antenatal classes were observed to provide 'the feel' of the classes to judge what methods of observation would be suitable and how the data could be collected.

i) development of the data collection checklist;

During the early visits to the antenatal classes notes were made of the events taking place during the class and were added to the information gathered by observation of the training course to develop the data collection checklist.

ii) development of skills to use FIAC

The development of the skills to use the FIAC have already been described in the section on observer training.

iii) initial anaylsis of FIAC

The initial analysis of FIAC was crude merely consisting of the first three stages suggested by Flanders (1970) that is, the percentages of teacher talk, mother talk and silence. This revealed that the FIAC system could differentiate between classes, for instance, they identifed difference between the topics of the classes and the whether a baby was present or not.

4.6 Access and sample

4.6.1. Obtaining access.

A. General aspects.

The initial approach for this evaluation had been made by the course organisers to the funding body. They requested help with their antenatal education services and included a request for evaluation by an independent research officer. The Health Authorities had granted permission for the research in principle before the project had started.

In both centres the main contact was with the team who organised the course. In Centre A, this team consisted of midwifery and health visiting managers with the health education officer (HEO) as the co-ordinator whereas the team in Centre B consisted of the HEOs of the four Health Authorities.

B. Centre A

Liaison with Centre A was the easier of the two, as it was a single Health Authority and the managers of the subjects were the members of the organising team. It was possible to attend the planning meetings and permission was given immediately to attend the first course as a non-participant observer (in May 1982).

The following two courses (October, 1982 and April 1983) formed part of the main study. The evaluation was explained

to all the subjects at the beginning of each course, both by the evaluator when the pre course questionnaires were distributed as well as by the course tutor. In addition there was a letter accompanying the pre course questionnaires (appendix I).

The subjects attending the October 1982 course (Centre A1) had questionnaires distributed to them and a sample of them were observed post course. Those attending the May 1983 course (Centre A2) were to be observed pre and post course as well as completing questionnaires. Access to the A2 subjects was granted by their managers before the courses. As soon as the individuals were nominated for the course, those of Centre A2 who were to form the sample for observation were approached individually by phone. They were given an account of the evaluation and asked if they would allow observation of their teaching. All were told that their managers had given permission but it was stressed that they could agree or refuse to be observed. The observation sample from Centre A1, who were observed post course only, were asked after the course and all agreed to the observation. There was one who refused to be observed from Centre A2, this difference may have been due to not knowing the observer. None of the subset in Centre A2 had met the observer before the initial contact by phone.

C. Centre B

The main differences in obtaining access in Centre B were due to the number of organisers of the course. The course in Centre B was attended by staff from four Health

Authorities and was organised by HEOs from each of the authorities.

There was a failure in communication in the early stages of the project. It was understood at beginning of the project (January 1982) that the next training course to be held would be observed and the arrangements would be made as soon as the date was known. The evaluator, however, heard by chance during the pilot study (May, 1982) that there had been a course held in Centre B during April. This matter was raised with the organiser in Centre B who maintained he had attempted to get in touch by phone but had been unsuccessful. Although this difficulty was eventually resolved it added considerable delay to the project, especially as the timing of the courses was out of the control of the evaluator. The preliminary observation of the Centre B course took place during September 1982.

The next course in Centre B (April 1983) was included in the main study. For this, the midwifery and health visiting managers of four Health Authorities were asked for permission to a) administer questionnaires and b) observe their staff. Meetings with these managers in each Health Authority was arranged through the course organiser. In two of the Health Authorities these meetings took place in the offices of the relevant managers, accompanied by the course organiser. In the other Health Authorities, the relevant HEOs organised meetings in the Health Education Unit and the managers had the opportunity to ask about the research and what form the observation would take.

Some concern was expressed about the use of equipment; for instance, observation had taken place previously using a three second bleeper to indentify the observation intervals. Although designed to be heard only by the observer, there had been instances where the managers understood that this bleep was audible to the teachers, who found them irritating. There was some initial hostility to the idea of observation until they were assured that it would only involve paper and pencil, and there would not be any equipment used.

Once these aspects were discussed, the managers in the four Health Authorities gave complete access to the midwives and health visitors, and to all the venues where antenatal teaching took place. It was requested that once the sample for observation was chosen that the relevant nursing officer (NO) (that is, the subject's line manager) should be contacted before the midwife or health visitor was approached. In all cases, the NO was happy with the arrangement and contributed information for contacting the subject herself. The health visiting and midwifery managers and their staff were most helpful in the organisational details and gave the project their complete support.

The approach to the observation sample in Centre B was the same as in Centre A2, except for the timing which is described more fully in the choice of the sample.

D. The administration of the questionnaires; both centres.

The pre course questionnaire was administered on the first morning of the courses and was explained by letter as well as verbal explanation at the beginning of the course.

The course questionnaires were distributed to each subject at the end of each day and time was allowed in the timetable for completion of the questionnaires.

The post course questionnaire was sent to each subject six weeks after the course, together with a letter (appendix J) and a stamped addressed envelope was included for the return of the questionnaire. A reminder letter was sent after 6 weeks to those who had not returned the questionnaires.

4.6.2 The selection of the sample.

A. The questionnaire study.

One of the features of evaluation is that the person undertaking the research may have little or no control over the subjects, (Rossi and Freeman, 1982) which was true in this study. The subjects to whom the questionnaires were administered were those who were nominated and attended at the choice of their managers, who knew of the evaluation. This may have influenced their choice of staff.

The choice was made, theoretically, from all the staff in their Health Authorities who were already or would be involved in antenatal education. There were some exclusions from the possible pool of subjects. In both centres, there

had been one or more previous courses. The staff who had attended the previous courses would not be chosen, neither would any who had given notice of their resignation, impending maternity leave nor those who had booked holidays during the relevant week. Although all these factors were probably relevant to the choice of subjects, none of this was known absolutely to the evaluator. The sample of subjects for the questionnaire study was a sample of convenience (Sellitz et al, 1963).

B. The observation study.

The research design required that a third of the subjects who attended the courses would be observed while teaching. This subset was to be chosen randomly, once geographical (Centre A; each of the Health Authorities from Centre B) and occupational (midwives and health visitors) stratification had taken place.

There were two problems with the designed randomisation, both outside the control of the evaluator.

1. The nomination of the subjects.

In Centre A2 and Centre B where the subset were to be observed pre and post course, the names of the staff had to be available in advance to allow time for observation. The managers were requested to nominate their staff in January 1983, so that the subset could be chosen, contacted and dates for observation arranged between the beginning of February and the middle of April 1983.

All the names were available from Centre A in January and they were divided into their occupational groups. Each member of these groups were assigned random numbers (taken from Smith, 1975) and a third were chosen as the subset for Centre A.

Three of the Health Authorities in Centre B submitted nominations in January, although one was towards the end of the month. One Health Authority, however, did not submit the names until the third week of the first month of observation, ie February. As the observation period was short (11 weeks) the logistics of observing 16 teachers, 7 of whom taught on a Wednesday, with locations which were 240 miles apart, were considerable. Those who were nominated late had to be fitted into an already crowded timetable; as a consequence the teachers from this Health Authority were only observed once.

2. No teaching to observe.

Once the sample had been chosen and the individuals asked if they would agree to be observed, another problem was discovered. Some of those chosen from Centre A (5 of 16) had no previous teaching experience and would not be teaching It was not possible to observe them before the course. They were attending the course to learn teaching skills before their active involvement in antenatal education. Therefore the 'random sample' of the 16 attenders from Centre A had to be made once these five had been excluded.

Although there were some subjects from Centre B who did not have previous teaching experience, this was not revealed until the course began, as none of them had been chosen for the sample.

There was an additional group in Centre B who were nominated to attend the course during the week before the course; these could not be included in the initial sampling.

3. Sample loss.

There was one subject from Centre A who refused to be observed and the subject with the next lowest number was chosen as a replacement. Although there was one from Centre B who refused, she rang up the next day to ask if she could change her mind and be included in the observation. There were two other subjects from Centre B who had been chosen for the course but were withdrawn by the time their NO was approached, one as she had resigned her post and one as she was going on maternity leave. As both of these were replaced, the replacements were those who were observed.

During the post course observation, there were 7 of the pre test sample who could not be followed up, 3 from Centre A and 4 from Centre B. The reasons were:

long term sick leave	2
were not teaching	4
refused to be observed	1

Of those with no teaching experience prior to the course, three from Centre A and one from Centre B were observed post course.

Although the subjects attending the course were undoubtedly a sample of convenience, the design did attempt randomisation of the subset for observation. The limitations in practice compromised this radomisation so that the subset also has to be described as a convenience sample. This will considered when the results are discussed.

4.7 Description of the sample.

4.7.1 Profile of the subjects in the questionnaire study.

The following data provides a profile of the subjects of the courses in centres A and B. Two courses had been evaluated in Centre A to increase the numbers, (12 in A1; and 16 in A2). Initial analysis of the profile data of the subjects from each centre demonstrated there were no statistical differences by the Chi Square test between A1 and A2, so they were combined for comparison with Centre B.

These data refer to the 62 (94.4%) subjects who returned the pre course questionnaire from the 65 distributed. Chi Square tests, utilising Cochran's relaxed rule, where appropriate, (for a full explanation of the statistical tests used see appendix E) demonstrated no statistically significant differences between both the centres (A and B) and the occupational groups (midwives and health visitors) for the variables discussed below. The occupations, length of service and teaching exprience before the course, are shown in table 4.2.

TABLE 4.2.
To show the profile of the subjects in each Centre.

Centre	A	B	Total (%)
N	26	36	62 (100)
Midwives	11	16	27 (43.5)
Health visitors	15	20	35 (56.5)
LENGTH OF SERVICE			
not answered	1	4	5 (8.1)
1 - 5 years	19	21	40 (64.5)
6 - 10 years	3	7	10 (16.1)
11+ years	3	4	7 (11.3)
PREVIOUS TEACHING EXPERIENCE			
yes	20	31	51 (82.3)
no	6	5	11 (17.7)

The majority (40.3%) had started antenatal teaching since 1979, although 6 did not give any information. Of the 9 who had been teaching since 1973, there were twice as many in Centre B as Centre A and twice as many health visitors as midwives.

None of the subjects taught antenatal classes full time; for 50% it was part of their regular duties; and 25.8% (16) taught occasional sessions. One midwife and one health visitor, both from Centre B were no longer directly involved with antenatal classes.

The two factors which had differences at a level which was possibly significant were:

1. the incidence of previous training in teaching skills; see figure 4.4

2. the decision making process for attending the course; figure 4.5

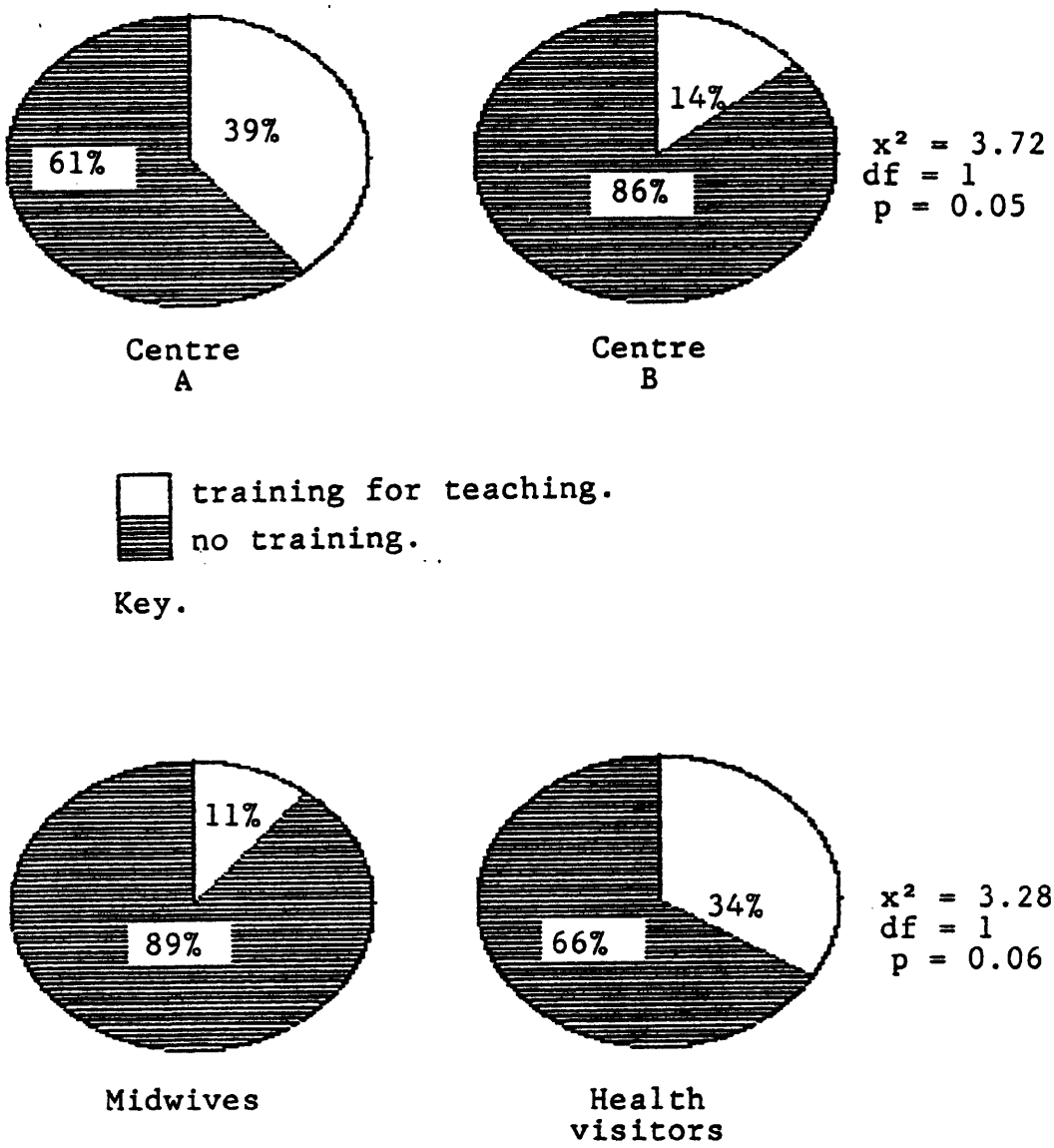


FIGURE 4.4 To show the incidence of previous training for teaching in the centres and occupations.

There were 15 subjects (24.2%) who had some training which was relevant to antenatal education. There were twice as many from Centre A (10) as from Centre B; this difference

was significant at the p = 0.05 level. Only three of 27 midwives had had a relevant training for their teaching role compared with over a third of the health visitors; these differences were possibly significant (p = 0.06), see figure 4.4 Table 4.3 lists the training courses which the respondents had attended.

TABLE 4.3
To show the teacher training undergone before this course, cross tabulated by centre. (Some subjects had more than 1)

CENTRE	A.	B.	TOTAL
*F.E.T.C. (C&G 730)	3	2	5
non nursing teaching certificate	2	0	2
HV Field Work Teachers	2	1	3
HV Tutors Cert	0	1	1
Midwife Tutors Diploma	0	1	1
Health Education Cert	1	1	2
Ebner relaxation	1	0	1
Audio visual aids	2	0	2
+RCM Parentcraft	0	1	1
total	11	7	18

(*FETC (C&G730)= Further Education Teachers Certificate, City and Guilds course 730
+ RCM Parentcraft = Royal College of Midwives course 'Training for the preparation for parenthood'.)

The Health Education Certificate is included as it has a strong teaching component; the Ebner relaxation course was a training in the relaxation methods devised by Helen Heardman and taught by Maria Ebner (Heardman,1982).

Information about the decision to attend the course was sought by a closed question with the following options given to the subjects:

a) it was suggested by a senior member of staff;

b) you asked to be sent

c) you decided yourself.

Those who answered b) or c) or a combination of b) and c) were included in the category 'self selected'. Centre B had significantly more ($p = 0.004$) who said that this decision had been made at the suggestion of a senior member of staff. This difference was not apparent between the occupations, see figure 4.5.

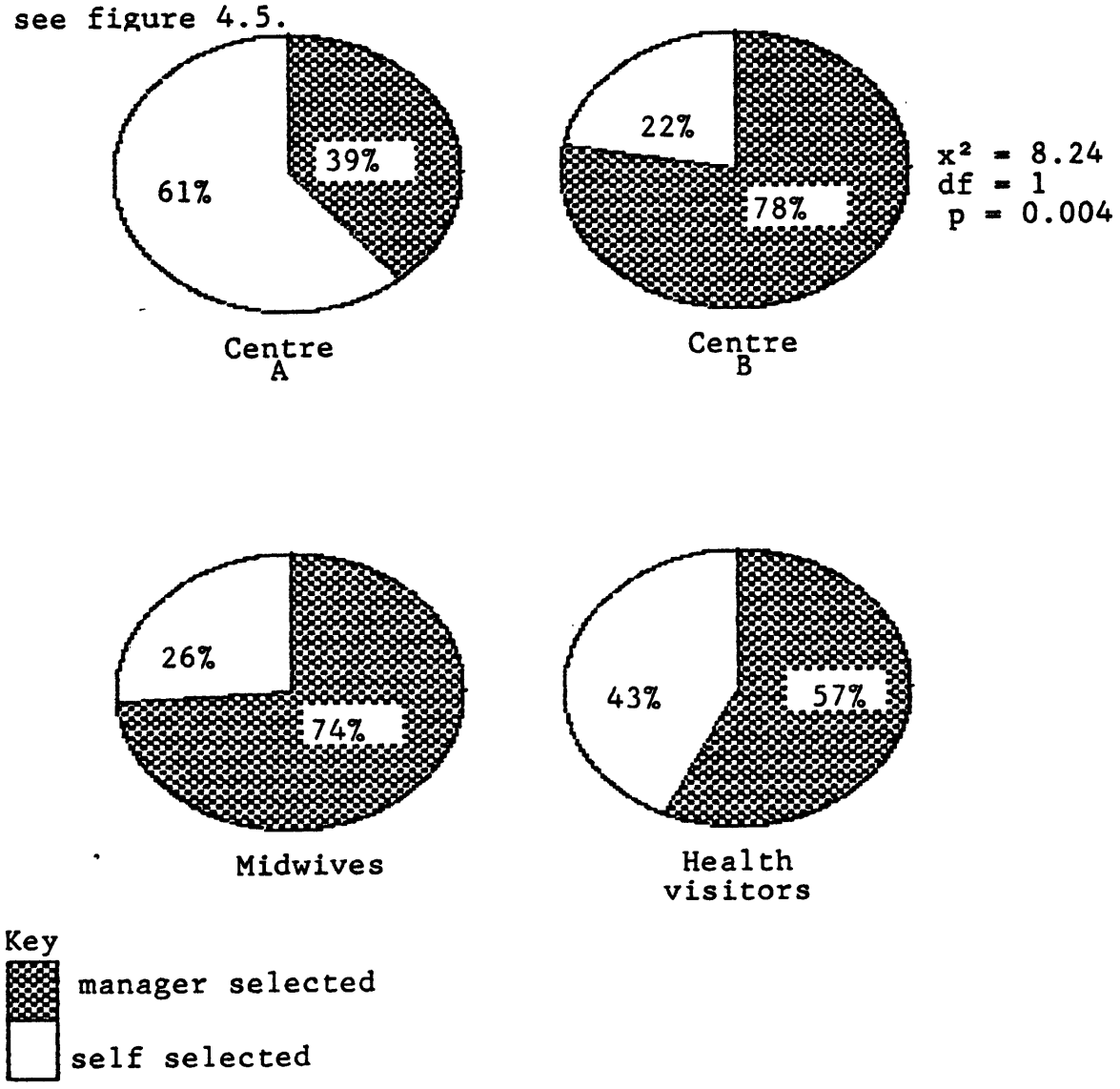


FIGURE 4.5 To show the decision making process for attending the course: centres and occupations.

93.5% of the attenders had qualified as State Registered Nurses. There were 3 direct entry midwives, with SCM as their only statutory qualification, although one had trained as a teacher before joining the health service. This proportion of direct entry midwives (11.1%) is high. The national study in England and Wales had 4.3% direct entry midwives (Robinson et al, 1983). There were 18 health visitors, (51.4%) who had trained as midwives and 3 completed the CMB Part 1 training (a total of 60%) prior to their health visitor training. Robinson et al (1983) reported that 25.7% of 1177 health visitors had no midwifery qualifications. One of the midwives had qualified as a health visitor. There were 24 midwives and 18 health visitors who had two statutory qualifications, 21 from both centres. The other qualifications were SEN (3, all midwives) RMNS (1) RMN (1) both health visitors, and RSCN (1) a midwife.

The attenders were asked to list the courses they had attended since leaving school. There were 5 from each centre who had one or more further education qualification. These were predominately health visitors and this difference was statistically significant at the $p = 0.02$ level, see figure 4.6.

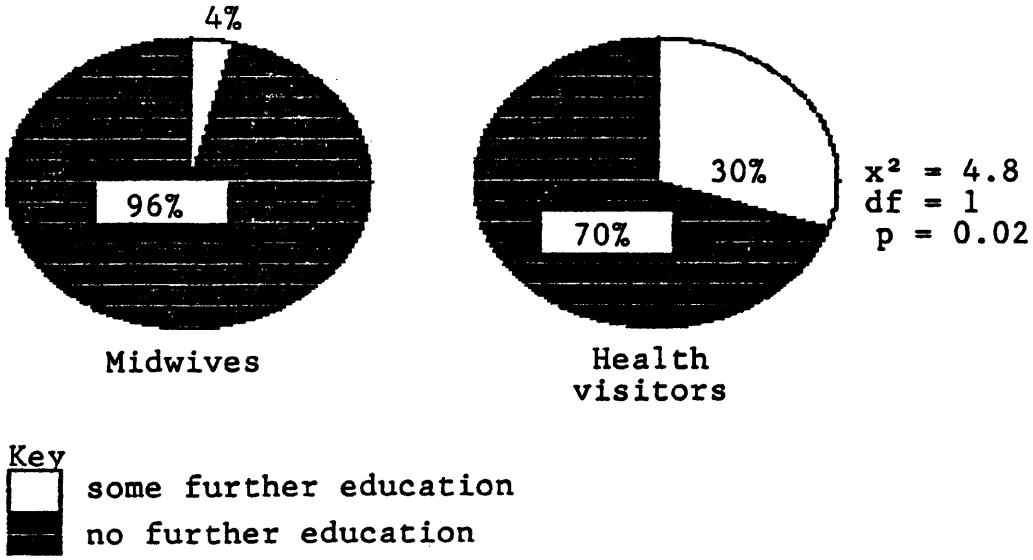


FIGURE 4.6 To show the incidence of further education between the occupations

The qualifications obtained are listed in table 4.4 and 4.5

TABLE 4.4

To show the academic or non-nursing qualifications of the attenders, obtained since leaving school, cross tabulated by centre (multiple response).

CENTRE	A.	B.	TOTAL
number returned	26	36	62
none	19	31	50
No. of 'O' levels: 1	2	2	4
2	2	0	2
6	1	0	1
9	0	1	1
No. of 'A' levels: 1	2	1	3
City and Guilds 730	4	1	5
Teaching cert. (not nursing)	0	2	2
No. of *O.U. modules: 1	1	0	1
2	0	1	1
3	1	0	1
non nursing degree	0	1	1
TOTAL	13	9	22

*OU = Open University

TABLE 4.5
To show the academic or non-nursing qualifications of the attenders, obtained since leaving school, cross tabulated by occupation (multiple response).

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	25	37	62
none	24	26	50
No. of 'O' levels: 1	0	4	4
2	1	1	2
6	0	1	1
9	0	1	1
No. of 'A' levels: 1	3	0	3
City and Guilds 730	1	4	5
Teaching cert. (not nursing)	1	1	2
No. of *O.U. modules: 1	0	1	1
2	0	1	1
3	0	1	1
non nursing degree	1	0	1
TOTAL	7	15	22

*OU = Open University

There were 8 (30.8%) from Centre A and 21 (58.3%) from Centre B who had post basic qualifications. These were 5 midwives and 24 health visitors. For 11 of the health visitors this was the pre health visitor obstetric course (which is obligatory on those who did not have the requisite obstetric experience while a student nurse.) The range of qualifications is shown in table 4.6 and 4.7

TABLE 4.6
To show the post basic qualifications of the attenders, cross tabulated by centre (multiple response).

CENTRE	A.	B.	TOTAL
number returned	26	36	62
none	18	15	33
Pre Health Visitor obstetric course	5	6	11
QIDNS	1	2	3
NDN Cert	2	4	6
Theatre course	2	1	3
Health Visitor Tutors	0	1	1
Advanced Diploma of Midwifery	0	1	1
Midwife Teachers Diploma	0	3	3
Diploma in Nursing (Pt.A only)	0	1	1
Diploma in Nursing	0	1	1
Orthopaedic Nursing Cert	1	1	2
School Health Cert	0	2	2
Diploma in School Nursing	0	1	1
Premature Baby Cert.	0	1	1
Geriatric course	0	2	2
Degree in nursing	0	1	1
TOTAL	11	28	39

The percentage of midwives without post basic qualifications (80%, table 4.21) is slightly higher than the national levels of 78.5% of hospital and 68.9% of community midwives (Robinson et al 1983)

TABLE 4.7
To show the post basic qualifications of the attenders, cross tabulated by occupation (multiple response).

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	25	37	62
none	20	13	33
Pre Health Visitor obstetric course	0	11	11
QIDNS	0	3	3
NDN Cert	0	6	6
Theatre Course	1	2	3
Health Visitor Tutors	0	1	1
Advanced Diploma of Midwifery	0	1	1
Midwife Teachers Diploma	2	1	3
Diploma in Nursing (Pt.A only)	1	0	1
Diploma in Nursing	1	0	1
Orthopaedic Nursing Cert	0	2	2
School Health Cert	0	2	2
Diploma in School Nursing	0	1	1
Premature Baby Cert.	0	1	1
Geriatric Course	1	1	2
Degree in nursing.	0	1	1
TOTAL	6	33	39

There were 15 (57.7%) from Centre A and 22 (61.1%) from Centre B; 70.3% (19) of the midwives and 51.5% (18) of the health visitors who had attended inservice training courses. The courses which had been attended by the greatest number were First Line Management Courses (17) and family planning courses (16). Other courses attended included teaching courses, counselling and communications, aspects of the health visitors' work and training to assess students.

4.7.2 Profile of the subjects in the observation study.

The following data provide a profile of the 23 subjects who taught the 76 antenatal classes which were observed during the study. These variables have been analysed with the Chi Square test, using Cochran's relaxed rule, where appropriate, and demonstrate no statistically significiant differences between the centres (A and B), the occupational groups (midwives and health visitors) and pre and post course teaching.

Figure 4.7 shows the distribution of the subjects from each centre and occupation who formed the subset for the observation study.

There was an imbalance in the amount of observation between the pre course data and the post course data with 23 of the sessions observed beforehand and 53 after the course. This imbalance was due to:

1. the observation of post course only for the subjects attending course Centre A1 which accounted for 11 of the post course sessions;

2. the limited time available for observation before the courses for Centre A2 and Centre B; there were 23 sessions observed during 11 weeks.

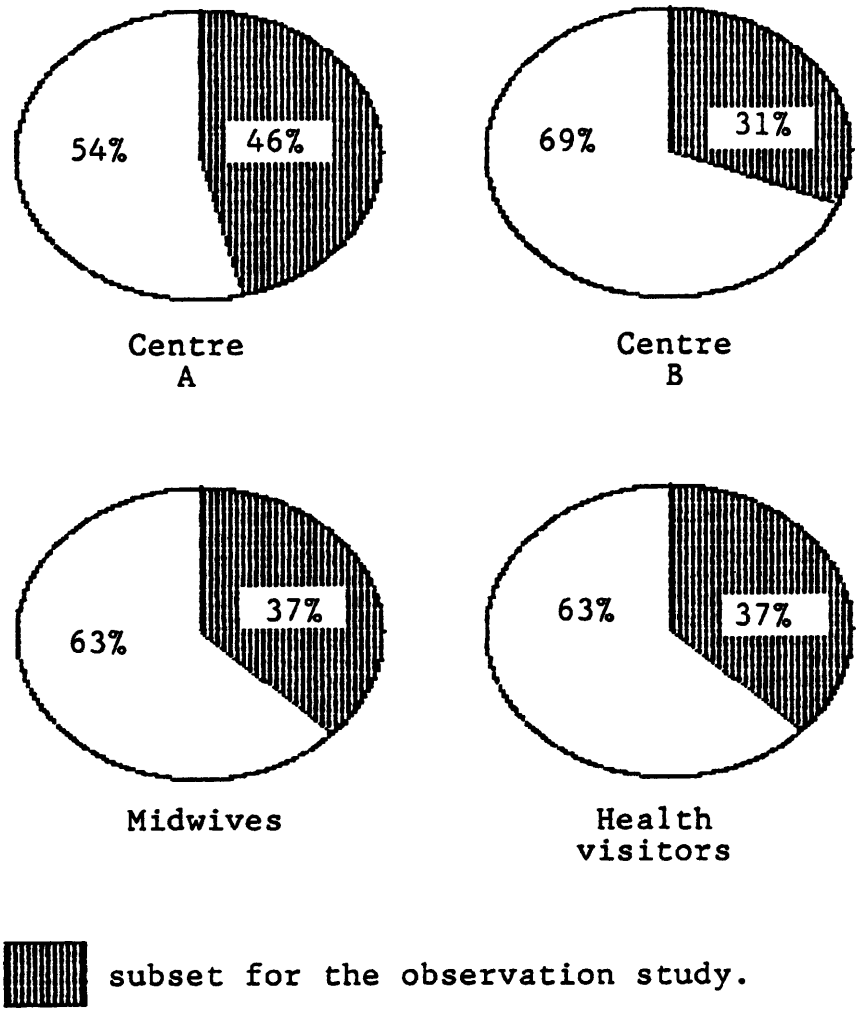


FIGURE 4.7 To show the percentages of subjects in the observation subset, centres and occupations.

TABLE 4.8
To show the distribution of the 76 sessions between centres, occupations, place of teaching, single or team teaching, pre and post course.

	N	%
Centre A	29	38.2
Centre B	47	61.8
SCMs	32	42.2
HVs	44	57.4
health centres/clinics	57	75.0
hospital	18	23.7
GP unit	1	
single teacher	41	55.3
team teaching	34	44.7
pre course	23	30.3
post course	53	69.7

When the data were subject to statistical testing, for instance, between occupations; centres or incidence of team teaching, the differences between the numbers in each group pre and post course, were not significantly different.

CHAPTER 5.

METHODS OF ANALYSIS AND RESULTS

5.1 Methods of analysis.

The data obtained in both the questionnaire and observation study were analysed with the Statistical Package for the Social Sciences (SPSS) on the computer in the Univeristy of Manchester Medical School. The use of individual tests is discussed below.

5.1.1 Analysis of the questionnaire data.

A. Pre course questionnaire.

Analysis of the pre course questionnaire used Chi Square tests of significance for the data obtained from the closed questions. The open questions provided a wide range of comments which were not suitable for statistical analysis and have been preserved as qualitative data. The data from the open questions will be presented as the incidence of the comments which were cross tabulated but with verbatim comments to illustrate some of the features of the subjects' reactions to the questions.

B. The course questionnaire.

The data obtained from the course questionnaire was in two parts, the scoring system which has been analysed with the measures of central tendency; mean, median and range.

The comments about the sessions have been analysed using the same criteria as for the pre course questionnaire.

C. The post course questionnaire

Analysis of the post course questionnaire used Chi Square tests of significance for the data from the closed questions; the questions requesting ranking from the subjects have been analysed with measures of central tendency (mean, median and range), the open-ended data has been analysed as described previously.

D. Reliability testing of coding frames.

The data from open questions were coded into categories. These categories were developed from the coding frame which had resulted from the pilot study. After drawing up the initial coding frame a randomly selected sample were coded. The same sample were coded independently by a colleague. There was a 70.8% agreement between these codes. During discussion, it was agreed some of the comments were not represented and an additional code was created. Other points of disagreement were due to the combination of comments into one code. It was agreed to divide some of the codes. Another randomly selected sample of the data were coded independently by both after the final coding frame had been agreed and 87% of the sample data were coded identically.

5.1.2. Analysis of the observation data.

A. Interaction analysis.

Flanders (1970) gives detailed instructions for the analysis of the data obtained from observation in the classroom. This analysis was proposed in 1970, and at that time had not been used by others. Wragg (1972) however, used this analysis, as there had been little interaction analysis of teaching in the UK.

Flanders' description of the analysis is as follows:

1. Count the number of tallies and calculate the length of observation.

This is needed when the observer has not been recording observations every 3 seconds. As already discussed, this study, as well as that of Wragg (1972), maintained the 3 second intervals as well as noting the time of starting and finishing the observation. So this part of the analysis proposed by Flanders was not necessary.

2. Calculate the percentage of teacher talk, pupil talk and silence or confusion.

Teacher talk in the Flanders categories involves the categories 1-7, pupil talk is in categories 8-9, while silence or confusion is in category 10. In this study the adapted categories were collapsed back into the 10 categories but because of the adaptation, there were some categories which did not fit within the 10-70 limits. These were 02 (teacher talking to baby), 08 (minimal teaching comment from an observer), which were included

in teacher talk. The other categories used for analysis of teacher talk were 10, 20, 30, 31, 33, 35, 37, 40, 43, 44, 50, 52, 53, 54, 60, 64, 66.

The only adapted categories of pupil (or mother) talk, not included under 8 or 9 was 01 (talking to the baby). The other categories in this calculation were 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 94, 95, 97, 98, The categories for silence or confusion; 00, 05, 06, 09, 22, 77, 92, 99 included the interruptions (77) and the inaudible comments (22).

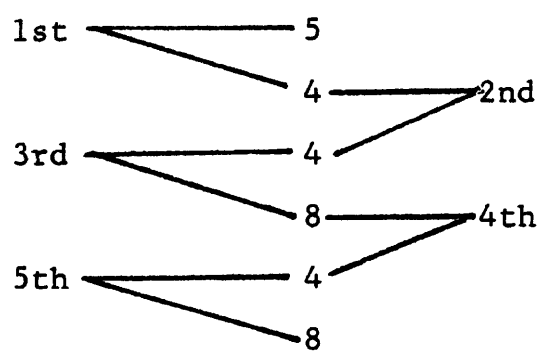
3. The third step is the calculation of 8 ratios which were the proposals made by Flanders in 1970.
The reason for this proposal was that the previous analysis had involved classifying the teaching into indirect (categories 1,2,3,and 4) and direct teacher influence (categories 5,6 and 7) and this has been used by previous workers (eg: Amidon and Flanders, 1961 and Hough, 1967). The development of 8 ratios for analysis was to allow for variations in the numbers of tallies in a total period of observation. If the observation consisted of over a 1000 tallies (over 50 minutes) the indirect/direct ratios were a useful measure but in the observations with less tallies, certain categories had very few observations, with the result that some of the ratios were spuriously high. Although this analysis might have been useful in this study as the results could be compared with those of others, such as Kishi (1983) there was a difference in the use of the direct influence

categories which militated against this analysis. Category 5 (lecturing) was used extensively but category 7 (criticism) was not used. The 8 ratios gave a better picture of the teaching observed.

The ratios proposed by Flanders and used in this study are defined below with the method of calculation on the basis of 10 categories. For the last five, a 10 X 10 interaction matrix is required. This matrix is tabulated by producing a table of 10 rows and 10 columns. Each column and each row corresponds to one of the ten categories. The method of constructing the matrix is from a sequence of pairs. For instance, an episode which consists of lecturing, teacher question and pupil response could be 5,4,4,8,4,8.

This would be tabulated on the matrix by:

1. creating pairs:



2. each pair is assigned to a cell within the matrix, according to its cell address (see FIG 5.1) so that the cell address of the first is 5-4 and of the second is 4-4.

Category	1	2	3	4	5	6	7	8	9	10	Row totals
1	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	
2	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	
3	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10	
4	4-1	4-2	4-3	4-4	4-5	4-6	4-7	4-8	4-9	4-10	
5	5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8	5-9	5-10	
6	6-1	6-2	6-3	6-4	6-5	6-6	6-7	6-8	6-9	6-10	
7	7-1	7-2	7-3	7-4	7-5	7-6	7-7	7-8	7-9	7-10	
8	8-1	8-2	8-3	8-4	8-5	8-6	8-7	8-8	8-9	8-10	
9	9-1	9-2	9-3	9-4	9-5	9-6	9-7	9-8	9-9	9-10	
10	10-1	10-2	10-3	10-4	10-5	10-6	10-7	10-8	10-9	10-10	
Column totals											Matrix totals

(Source: Flanders, 1970; p97)

FIGURE 5.1 To show the cell addresses of the FIAC 10 X 10 matrix.

3. the numbers in each cell are summed to produce identical row and column totals as well as the overall matrix total. From these totals the ratios can be calculated.

THE RATIOS.

The 8 ratios calculated for analysis are:

1.Teacher Response Ratio.(TRR)

It is defined as : "an index which corresponds to the teacher's tendency to react to ideas and feelings of the pupils," (Flanders,1970,P.102) .... It will be expressed as a percentage and will never be less than zero.

The calculation is:
the sum of the frequencies of categories 1, 2, and 3, multiplied by 100 and divided by the sum of categories 1+2+3+6+7.

2. Teacher Question Ratio. (TQR)

It is defined as: "an index representing the tendency of a teacher to use questions when guiding the more content oriented part of the class discussion." ..."it will vary as the teacher solicits pupil reactions to ideas which the teacher considers important or checks on understanding by asking questions." (Flanders, 1970,P.102)

The calculation is:
the sum of category 4 frequencies multiplied by 100 and divided by the sum of categories 4 and 5.

3. Pupil Initiation Ratio.(PIR)

It is defined as: "to indicate what proportion of pupil talk was judged by the observer to be an act of initiation." (Flanders, 1970,P.102)

The calculation is:

the frequencies of categories 9 multiplied by 100 and divided by the sum of all pupil talk.

4. Instantaneous Teacher Response Ratio.(TRR89) (also called 'teacher immediate response ratio')

It is defined as: "the tendency of the teacher to praise or integrate pupil ideas and feelings into the class discussion, at the moment the pupils stop talking." (Flanders, 1970. p 104)

The calculation is:

the sum of the cell frequencies of rows 8 and 9, columns 1,2 and 3, multiplied by 100 and divide the product by the total tallies in the cells of rows 8 and 9, columns 1, 2, 3, 6 and 7.

5. Instantaneous Teacher Question Ratio (TQR89) (also called 'teacher immediate question ratio')

It is defined as: "the tendency of the teacher to respond to pupil talk with questions based on his own ideas, compared with his tendency to lecture." (Flanders, 1970, p.104)

The calculation is:

the sum of the frequencies of cells (8-4)+(9-4), multiplied by 100 and divided by the sum of the frequencies in cells(8-4)+(8-5)+(9-4)+(9-5).

6. Content Cross Ratio. (CCR)

It is defined as: "isolate(s) those statements which are least likely to be involved with problems of reward and punishment, reacting to the ideas and feeling of the pupil and giving of assignments and direction, as these are not classified in the categories 4 and 5." (Flanders, 1970 p.106-7).

The calculation is:

the sum the totals of rows 4 and 5, multiplied by 2, the sum of cells(4-4)+(4-5)+(5-4)+(5-5) is subtracted and divided by the total number of tallies.

7. Steady State Ratio.(SSR)

It is defined as: it "reflects the tendency of teacher and pupil talk to remain in the same category for periods longer than 3 seconds. The higher this ratio, the less rapid is the interchange between the teacher and the pupils" (Flanders, 1970, p. 106)

The calculation is:

the sum of the contents of the steady state cells (ie, those with the identical row and column numbers, eg 1-1) multiplied by 100 and divided by the total number of tallies.

8. Pupil Steady State Ratio (PSSR)

It is defined as: "a more sensitive index to the rapidity of teacher-pupil interchange when the amount of pupil talk is average or above average." (Flanders, 1970, p.106)

The calculation is:

the sum of the frequencies in the (8-8)+(9-9) cells, multiplied by 100 and divided by the total of pupil talk tallies.

B. Analysis of the ratios.

The data which had been obtained from the antenatal classes had been written direct on the SPSS computer coding sheets. All the data were punched onto cards in preparation for computing by the punch card service of the regional computing centre. Following the punching, all the cards were checked for subject number, date and time and there was a 'spot' check of three data cards per session. Although there were 13 errors noted in the 3192 cards, all the errors were in the date and time sections - there were no detected errors in the data.

A variety of statistical tests have been used with the data from FIAC. For instance, analysis was with Students' t test (Pankratz, 1967; Hough and Ober, 1967 and Lohman et al 1967); medians of ratios (Amidon and Flanders 1967); Chi squares of the frequency data (Kirk 1967) and for percentages within each category (Furst 1967). A Darwin Chi square was used on data after tabulation into a matrix of sequence pairs (Amidon and Flanders 1961). Kishi (1983) whose hypotheses required the use of combined FIAC data to produce ratios, for instance, of student talk/teacher talk, tested the data with the coefficient of correlation. Non parametric procedures were chosen beacuse of the doubtful quality of the ratio data and Kruskal-Wallis

rank tests were used by Wagner (1973).

The matrices for each sesion in this study were tabulated by computer with a program written in Fortran for the purpose and from this the percentages of teacher, pupil talk, silence and the 8 ratios were calculated. This provided a range for the 76 sessions as well as the mean and standard deviations for each measure. The distribution of the percentages for each measure was tested to determine if there was a normal distribution. The Kolmogorov-Smirnov two sample test was used (appendix E) for goodness of fit.

The following measures were normally distributed:

percentages of teacher talk; percentages of pupil talk; percentages of silence or confusion; TRR; TQR; PIR and TRR89.

The TQR89, CCR, SSR and PSSR, however, were not normally distributed, so that parametric tests of significance would not be suitable. As a result of this, it was decided that the most appropriate test for significance would be the non-parametric Mann Whitney U test (appendix E) when comparing results between variables. Mann Whitney U test has been used by others with similar data, for instance, Conant (1965) for Bales IPA and Johnson (1964) for her own category system.

For one of the variables in this study (ie analysing the 6 different topics taught) on the percentages and ratios, the Kruskal-Wallis one way analysis of variance was used. For those subjects who had taught the same topic both pre

and post course, a Wilcoxon matched pairs signed-ranks test was used.

C. Reliability, bias and validity of the interaction analysis data.

1) Reliability.

Medley and Mitzel (1963) define three types of reliability testing:

1. Reliability Coefficient - correlation between scores based on observations made by different observers at different times;
2. Coefficient of Observer Agreement - between the scores of observations made by different observers at same time;
3. Stability Coefficient - same observer at different times, during a different session;

To this Weick (1968) adds a fourth which would be used in the ideal situation

4. the observation by a single observer watching a single event compared in a manner similar to odd-even item correlation in a test for internal consistency - ie how much does the observer agree with himself.

The coefficient of observer agreement is the most common of the reliability measures. The agreement coefficient is usually based on whether two (or more) observers were similar in their tally of total events of each type (Rosenshine and Furst, 1973). This agreement, however, may not be based on whether each event was coded the same way by observers.

Inter-subjectivity is preferable to replicability as a criterion, especially in those situations which involve infrequent observations (Kaplan, 1964). Byrne (1964) sounds a note of caution as a high interscorer correlation may be unreliable. It is possible to have disagreement on many individual items and at the same time have total scores which are equal - a discrepancy which is not always picked up on a correlation coefficient. He add that a "percentage agreement index" (p49) provides a useful supplement to interscorer correlations. This, however, is with reference to observations for personality tests when it is possible to measure the same aspects in different situations and different events. It is better to increase the number of observations than to increase the number of observers, as the variations in behaviour create more problems of reliability than do observer errors (Medley and Mitzel, 1963).

There are problems with testing of the reliability coefficient, the stability coefficient and odd-even item correlation in observation scales for teaching behaviour. In the observation of personality types or attitude testing, the record is coding an underlying concept rather than discrete or mutually exclusive events. Each of the Flanders' categories is measuring different aspects of verbal behaviour. As such these three tests of reliability would appear inappropriate. Smith, (1977) who used a modified version of FIAC, correlated the scores of different sessions taught by the same teacher. Of the 20 coding categories,

there was an average reliability of .70 for the six major ones.

Weick, (1968) noted that in the ideal study the four comparisions mentioned above would be made but goes on to note:

> "Admittedly, it is possible only to approximate this ideal, but if the investigator must assign priorities to these four comparisons he should try hardest to secure satisfactory interobserver agreement for a single event, because unless this is achieved there is no assurance that any distinct phenomenon is being preserved in the record. Probably the lowest priority would be assigned to the reliability of two observers who record events at two different times. This measure assumes the lowest priority, because in many studies real changes are predicted and the investigator may wish to detect these changes as well as have stable measures." p404-405

Rosenshine and Furst (1973) felt the decision on how many observations to make on each study have little empirical basis. They go on to state that if the purpose is to compare one group to teachers with another group then the level is not so important than it is if comparing individual classes to outcomes.

Flanders (1967) discusses methods of estimating reliability. Although Bales (1950) proposed an adaptation of Chi-square, Flanders recommended Scott's (1955) coefficient. The advantages were that Scott's method is not affected by low frequencies, could be adapted to percentage figures and was more sensitive at higher levels of reliability.

Scott's coefficient is the test chosen by many researchers who use FIAC (for instance, Wragg, 1970; Wragg, 1972; Wagner, 1973 and Kishi,1983) as well as Quirk et al (1971) who used it for the reliability testing of the Program for Learning in Accordance with Needs Teacher Observation Scale. Smith (1977) tested both inter and intra rater reliability with Cohen's Kappa, (Cohen, 1960) which uses a unit by unit measure of agreement rather than agreement between frequencies.

The formulae given by Scott (1955) for his coefficient "pi" are:

$$pi = \frac{P_o - Pe}{1 - Pe}$$

where

P_o is the proportion of agreement

Pe is found by squaring the proportion of tallies in each category and summing these over all categories.

$$Pe = \sum_{i=1}^{k} Pi^2$$

where

k is the number of categories

Pi is the proportion of tallies falling into each category.

The verbal expression of the formula is:

> "the amount that two observers exceeded chance agreement divided by the amount that perfect agreement exceeds chance" Scott, 1955. p161.

Wragg (1972), who admits that the problem of reliability is not an easy one, commented that there is never perfect agreement between two observers. Most researchers are satisfied with "pi" of 0.8. Wragg's study employed six observers with the consequence that poor reliability of their observations would have significantly affected the results. They achieved satisfactory results, however, (between 0.83 and 0.92) from the testing at the beginning, in the middle and at the end of the observation term.

In this study, with a single observer and no provision for formal reliability testing, it was also a problem. A colleague, who had to be trained specially for the testing periods in a limited time, made two visits for this purpose. Using Scott's co-efficient, the "pi" on the data from the first test was .41 and the second was .80. The same data were tested with the Kappa coefficient of Cohen (1960) which gave a K of 0.41 for the first and 0.82 for the second. The results of the first test were not satisfactory, although the second was within acceptable limits. An explanation for the difference between these results is that the observer had gained experience during the development stages, which the colleague did not have. After the experience of coding during the first testing period, the colleague's expertise increased and the results showed a greater similarity. Macilwaine (1980) had the same problem where the 'testing

colleague' had to be specially trained for the exercise and made fewer observations than the investigtor - in her study the percentage agreement ranged from 55.5% to 67.4%.

2) Bias

Campbell (1958) discusses the problem of bias or the errors which can occur during coding. The most common errors are:

1. abbreviation;
2. middle message loss,
3. closure or directional distortion;
4. symmetry or balanced distortion;
5. enhancement on contrast;
6. bias towards central tendency.

He, however, goes on to state that

> "....many of these errors have little effect. The reason is that events are recorded as they occur; this means that little time elapses between the observation and the record. Each of the preceeding errors becomes more prominent if recording is delayed or if long units are observed before a record is made." (Campbell, 1958 p430).

3) Validity

Medley and Mitzel (1963) noted the three conditions an observation system should fulfill to be valid:

1. there should be observation of a representative example of the behaviours to be measured;
2. the record obtained should be accurate;
3. it should faithfully reflect the differences which do occur.

The validity of the Flanders categories have been well established by Anderson (1966); Withall (1967); Bidewell (1973) and Medley and Mitzel (1963)

The codes which were developed for the antenatal classes were discussed with a colleague, familiar with both this type of class and teaching. Decisions about the additional codes were made jointly to reflect the events which occur. Although the expanded codes were collapsed back to the original 10 of Flanders for the majority of the analysis, the broader category framework meant that it was easier to classify the behaviours when they occurred under different circumstances.

D. The question techniques.

In addition to the interaction analysis categories, the questions asked by the teachers or the mothers were recorded in note form. Within 24 hours of the sessions these notes were checked and clarified. The questions asked by the teachers were later classified into 6 categories, which were developed from the questions. Priority was given to exploratory questions (codes 1-3); questions not within these categories were coded 4-6.

TEACHERS' QUESTIONS:

1. question to expand feelings:

   eg "what is worrying you"

2. 'history' taking questions concerned with the mother's

experience:

eg. "what were you told when you went to clinic last week?"

"what happened when you breast fed your last baby?"

3. question to assess mother's knowledge:

eg "what are the advantages of breast feeding"

"do you know anyone who has breast fed?"

4. open question:

eg after a mother has given details of different forms of pain relief in labour

"what will you do this time?"

5. closed question:

eg."will your husband be with you?"

"have you got a name for the baby?"

6. series of closed questions to each member asking the same question

eg "when is your baby due?"

"what is your name?"

The questions asked by the mothers were classified in a similar manner, except there was no question equivalent to the 'history' question and they did not use a series of closed questions.

ANY QUESTIONS.

The interaction analysis code 44 ("any questions?" "do you have any questions?") was isolated and anlaysed

separately. Another computer program was written to identify the patterns of response following the code 44. Frequencies of the different patterns identified were established but were not amenable to statistical testing as the number of questions per session varied.

MOTHERS' QUESTIONS

1. question regarding feelings:

   eg. "how do I cope if I feel like battering my baby?"

   "is depression worse after birth?"

2. question to obtain further information:

   eg. "are there any foods I should avoid?" (when breast feeding)

   "what will happen after two hours of pushing"

3. open question:

   eg. "what do you eat?"

   "where do you breast feed?"

4. closed question:

   eg. "did you feed the baby after delivery"

"will I have to have a monitor"

The questions were analysed to give a mean and standard deviation, which were tested for significance with a Mann Whitney U test. Some of the questions, especially those asked by the mothers, had very low frequencies which militated against statistical analysis.

5.2 The results of the questionnaire study.

5.2.1 The expections of the subjects.

The expectations of the course were explored by asking the reasons for attending, the skills and information they hoped to gain, their concerns about antenatal education and the aspects of the course which they would think the most useful.

The broad categories of the reasons for attending are given in figure 5.2 and the detail in appendix K.1 and K.2, showing cross tabulation between centres and occupations.

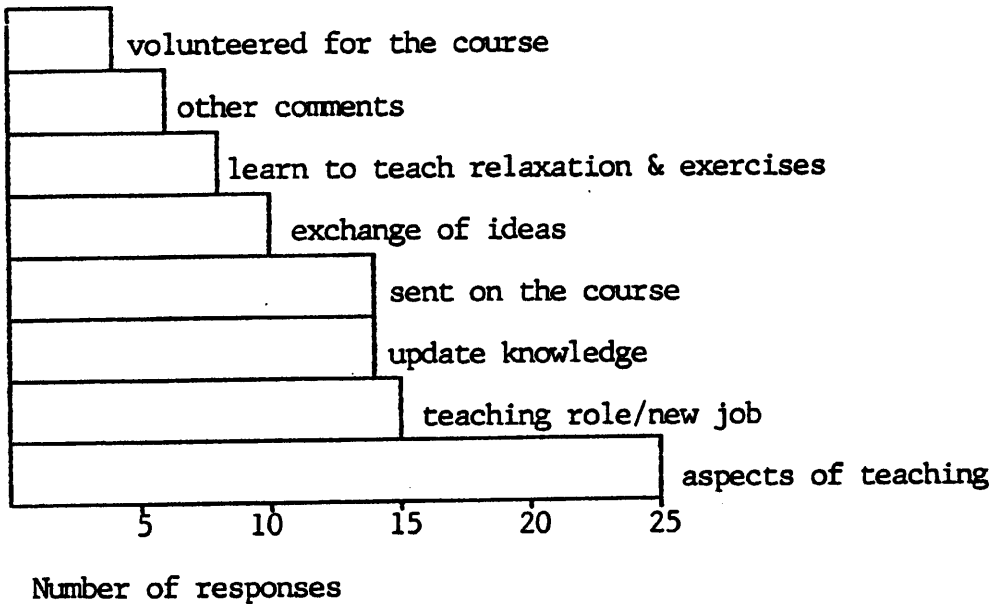


FIGURE 5.2 To show reasons given for attending the course (multiple response).

The single most frequent comment (14) was that they had been sent on the course, with 36.1% of those from Centre B making this comment. This relates to the decision making process discussed in the profile of the subjects (figure 4.6) which demonstrated significant differences when Centre B was compared with Centre A. There was not, however, a significant difference between the occupations, and their comments supported this with 8 (29.6%) comments from the midwives and 6 (17.1%) from health visitors. In contrast there were 3 who volunteered to come on the course.

There were 25 comments on aspects of teaching as their reason, of which 12 mentioned a desire to update teaching skills, while 9 comments reflected a wish to teach and 4 stated they had no previous training or experience. There were 15 comments that teaching was part of the teaching role or they would be starting antenatal teaching in the near future. Learning how to teach relaxation and exercises was the reason given by 8 (30.7%) from Centre A, 7 of whom were health visitors.

Exchanging ideas was mentioned by 10 subjects, with equal numbers from each centre and occupational group.

The skills and information which the subjects hoped to gain from the course are given in Figure 5.3 (appendix K.3 and K.4). The greatest number of responses fell into the teaching category and included teaching relaxation and/or exercises, methods of presentation, evaluation of their own

teaching and planning their classes. There were 21 comments about improving communication skills and 17 reflected a need for skills to cope with groups. Updating knowledge in antenatal education and care as well as midwifery was mentioned by 17 of the subjects.

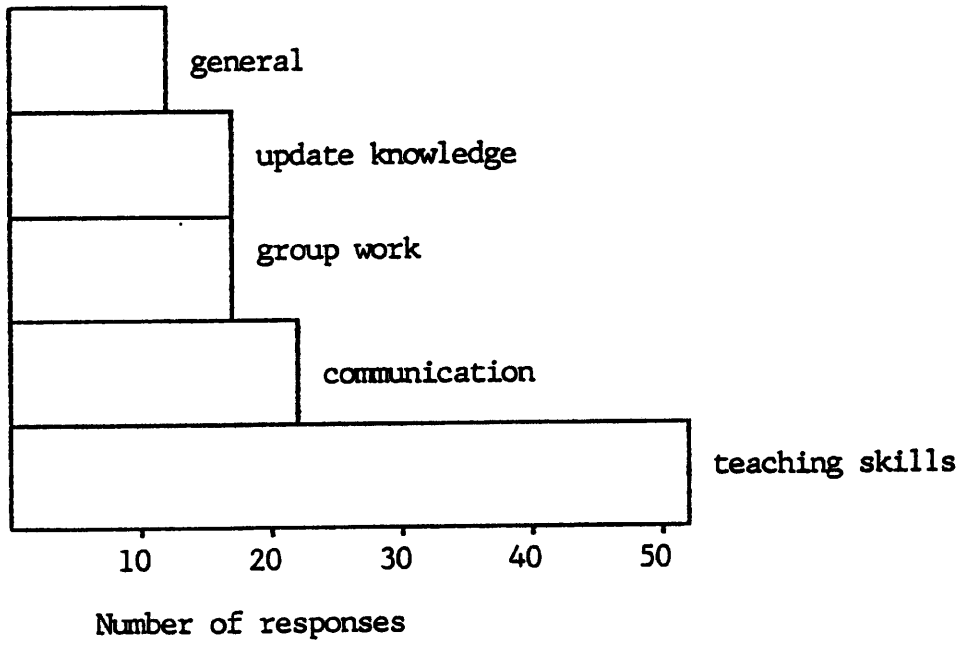


FIGURE 5.3 To show the skills and information the subjects hoped to gain from the course (multiple response).

This question was expanded by asking the subjects to give reasons for the skills and information they hoped to gain. The comments on teaching skills included lack of training in or little experience of teaching; the subjects wanted to improve the effectiveness of their teaching. Also mentioned was learning new skills, gaining ideas from others.

More generally 2 wanted to increase their confidence, to improve the service for the mothers and assist colleagues (appendix K.5 and K.6).

A subset of the subjects (those in Centre A1) were asked which topics they felt most confident about teaching. Those who had previous teaching experience (8) were asked which of the topics they felt least confident about teaching. The wide ranging list (appendix K.7) covered all aspects of antenatal education. The 2 without previous teaching experience said they were most confident about teaching labour, feeding, bathing a baby and the health visitor's topics.

All the subjects were asked if there were any aspects of teaching which caused them concern. Figure 5.4 shows the percentages of replies and includes the 10 who did not answer. The Chi Square test, using replies only, demonstrated no significant difference between the centres and occupational groups.

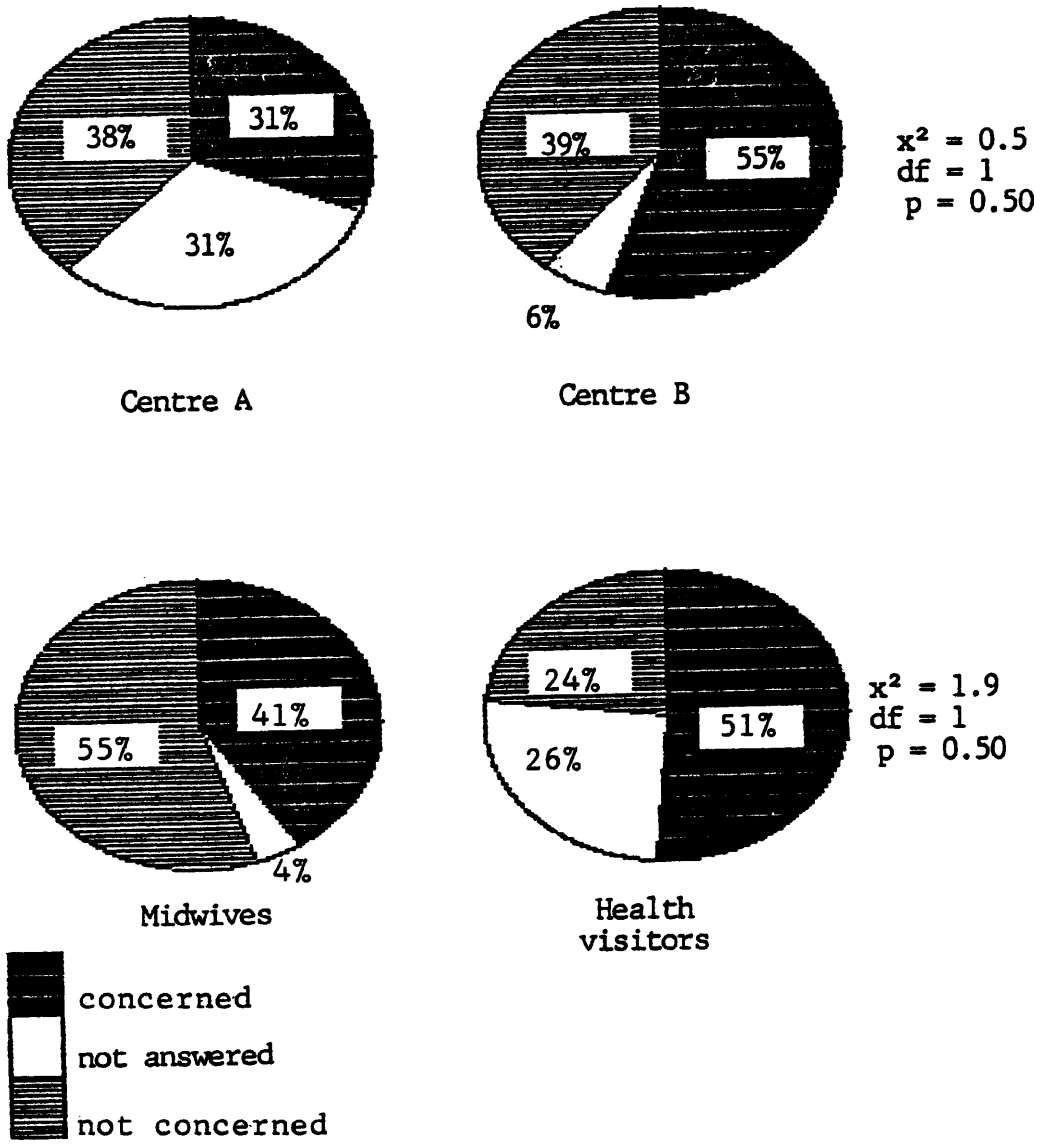


FIGURE 5.4 To show the percentage of subjects who expressed concern about teaching; centres and occupations.

Of the 41 who replied to the question asking which aspects caused concern, lack of knowledge or confidence was noted by 17 and 12 felt that the problem was with meeting the needs of the mothers. The rest of the comments were concern over coping with groups, peer conflict and one who was concerned about all aspects (appendix K.8).

The final question of the pre course questionnaire asked which aspect of the course the subjects would consider most useful. Figure 5.5 shows the majority of the responses (28) mentioned sharing experiences and exchanging ideas with others. The theme of teaching skills which had been noted earlier, was repeated (23) and 11 included communication skills. There were a group of 15 responses which indicated that the weeks' course would help to stimulate and inspire them in their teaching role. Three responses noted that they would have the opportunity to reconsider their work away from the demands clients (appendix K.9).

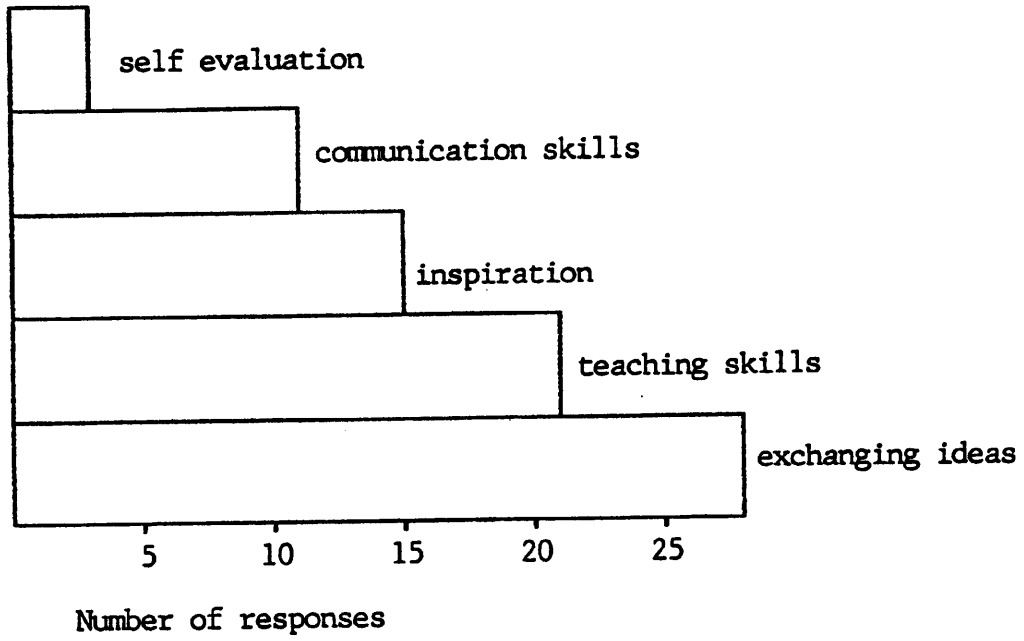


FIGURE 5.5 To show the aspects of the course which the subjects considered would be useful (multiple response).

5.2.2 The reactions to the course.

A. Scoring of sessions.

The questionnaires administered during the course, at the end of each day, give the reactions of the subjects to the course, in two parts. The first part was administered in two ways:

1. for Centre A1 there was a seven point scoring system for six measures; Centre A2 and Centre B used similar measures but with two options instead of the seven point scoring system.
2. the final part of the questionnaire asked for comments about each session.

1). Centre A1

The 12 subjects in Centre A1 were asked to score between one (low) and seven (high) for the following measures for each day.

1. How interesting did you find the sessions?
2. How practical or relevant were the suggestions made by the speakers?
3. To what extent do you feel you will make use of the information/ideas/suggestions?
4. Did you learn something to day?

Group work only.

5. How productive was the group work?
6. How productive was the report back session?

The mean scores and medians are shown in Figure 5.6 and the full results in appendix K.10

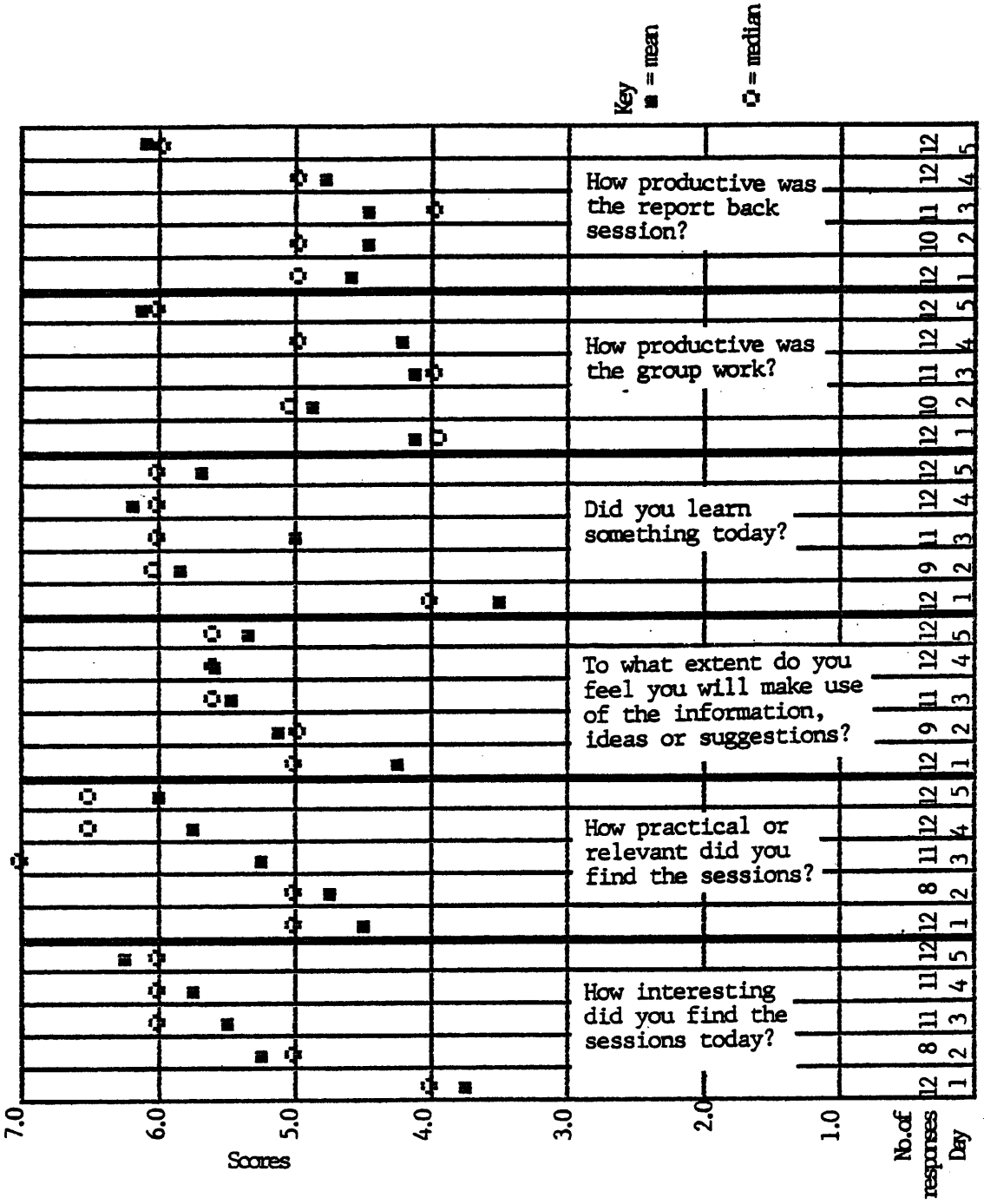


FIGURE 5.6

To show the scores obtained from six questions referring to the sessions held each day (Centre A1, n=12)

It was noted in the discussion of the pilot study that there were a number of spoilt responses (7) as the subjects appeared to dislike having to give an overall score for all the sessions held on one day. Consequently this part of the questionnaire was changed for Centre A2 and Centre B.

2). Centre A2 and Centre B.

The final form of the questionnaire listed the following:

most interesting	least interesting
most practical	least practical
most useful	least useful
learnt most	learnt least
most productive group work	least productive group work
most productive report back	least productive report back

The subjects were asked to name one session which had been held that day under each heading. There were a considerable number of subjects who only answered part of this question, the 'least' section was not completed on the third, fourth and fifth days in Centre A2 but the response in Centre B was more sporadic. The results form Centre A2 are shown in table 5.1 and from Centre B in table 5.2.

TABLE 5.1

To show the percentage of replies for each session each day, of the six forced choice variables, Centre A

Centre A	Day 1 (n=15)					Day 2 (n-15)					Day 3 (n=16)					Day 4 (n=16)					Day 5 (n-16)		
	individual & group teaching	preparations: pre course knowledge	environment	aims and objectives	not answered	teaching methods	instructional techniques	relaxation and exercises 1	discussion re presentation	not answered	group discussion	work for presentation	local research	relaxation and exercises 2 & 3	not answered	communications	relaxation and exercises 4	free discussion	evaluation	not answered	relaxarion and exercises 5	preparation of prepared topic	not answered
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
most interesting	7	20	53	13	7	20	47	33	0	0	69	0	19	12	0	44	6	50	0	0	75	19	6
least interesting	33	7	3	40	7					100					100					100			100
most practical	0	53	33	13	0	0	13	80	7	0	6	0	19	75	0	6	75	19	0	0	57	43	0
least practical	27	20	13	33	7					100					100					100			100
most useful	7	26	40	20	7	0	7	87	0	7	25	0	19	50	6	31	31	6	0	0	31	69	0
least useful	40	13	7	20	13					100					100					100			100
learnt most	20	20	20	33	7	20	0	80	0	7	38	0	12	25	25	12	44	31	6	6	31	57	12
learnt least	40	13	0	20	27					100					100					100			100
most useful groupwork	7	53	13	13	13	33	7	33	7	20	25	6	31	31	6	0	12	69	12	6	38	56	6
least useful groupwork	40	13	7	20	20					100					100					100			100
most productive report	7	20	13	33	7	47	7	27	0	20	50	6	31	6	6	6	0	13	6	6	6	69	25
least productive report	20	20	0	27	27					100					100					100			100

TABLE 5.2

To show the percentage of replies for each session each day, of the six forced choice variables, Centre B

Centre B	Day 1 (n=31) introduction to the course	local research	environment	I never told them that	communications	not answered	Day 2 (n=37) setting the scene	aims and objectives	teaching methods	teaching a skill	not answered	Day 3 (n=37) planning a session	how do groups work?	triggers for discussion	asking questions	not answered	Day 4 (n=31) keeping up to date 1	keeping up to date 2	a mother's view	evaluation	not answered	Day 5 (n=33) awkward people	theory into practice	not answered
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
most interesting	0	16	3	52	16	13	51	24	19	5	0	3	27	24	43	3	71	10	16	0	0	82	18	0
least interesting	23	19	0	6	10	42	19	30	22	27	3	62	22	11	3	3	10	10	19	39	23	15	58	27
most practical	19	10	16	3	45	6	30	19	30	22	0	14	3	38	46	0	29	23	39	7	3	70	21	9
least practical	6	13	16	10	3	52	24	30	5	24	16	19	54	11	3	14	7	13	19	39	23	15	52	33
most useful	3	6	29	13	36	13	19	19	41	22	0	5	16	35	43	0	39	26	19	16	0	61	37	3
least useful	16	13	10	3	6	52	32	14	11	22	22	57	24	5	0	14	7	7	29	36	23	18	42	39
learnt most	3	3	6	36	45	6	16	35	38	8	3	8	22	16	54	0	48	26	16	10	0	58	37	6
learnt least	13	23	16	3	3	42	16	16	8	49	11	57	19	11	5	8	13	3	23	42	19	27	42	30
most useful groupwork	10	3	19	16	39	13	11	19	43	24	3	5	19	30	43	3	19	23	48	19	0	73	3	24
least useful groupwork	19	6	16	3	3	52	19	24	14	30	14	38	24	22	5	11	29	19	23	23	16	6	15	79
most productive report	0	0	10	6	71	13	5	24	38	32	0	8	14	14	65	0	13	32	29	23	3	70	3	27
least productive report	3	0	23	0	3	71	11	38	14	30	8	41	19	0	8	32	3	26	16	32	23	3	18	79

An arbitrary decision was made to summarise the results from the choices of the 'most' and 'least' in the 6 categories for all the sessions from both centres. As there were a number of missing values in the 'least' categories, the 'most' categories were used alone for the summary. Each session was categorised in relation to the other sessions of that day. The number of choices for each sessions in each of the six categories:

most interesting,
most practical,
most useful,
learnt most,
most productive group work,
most productive report back;

were summed, and a percentage obtained from the maximum potential score which could have been obtained if each member placed the same session in the 6 'most' categories. For instance, for one session in Centre B, 33 subjects replied and the maximum potential for this session was 198.

The summaries are presented for all sessions in both centres in tables 5.3 - 5.7 in the five groups in which the open ended data are presented in the next section. Table 5.8 presents a ranking according to the percentage of the summed scores. There were two sessions on the last day in Centre B which have high percentages as there was only a choice of two sessions rather than a choice of four sessions as for the other days; these sessions are marked *.

TABLES 5.3 - 5.7

To show the number of replies, the summed scores and percentages of the 6 'most' categories for the sessions in the course, cross tabulated by Centres A2 and B.

TABLE 5.3

Establishing group-communication skills.

	CENTRE A			CENTRE B		
	N	S	%	N	S	%
Introduction to the course				31	11	5.9
Individual and group teaching	15	7	7.7			
Creating an environment	15	26	68.8	31	20	10.8
'I never told them that'				31	39	20.9
Communications do's and don'ts	16	16	16.6	31	78	41.9

TABLE 5.4

Teaching skills in the group situation.

	CENTRE A			CENTRE B		
	N	S	%	N	S	%
Preparations: pre course knowledge	15	32	35.5			
Aims and objectives	15	19	21.1	37	52	23.4
Choosing teaching methods	15	17	18.9	37	77	34.7
Instructional techniques	15	12	13.3	37	42	18.9
Planning a session				37	16	7.2

TABLE 5.5

Using groups effectively - appropriate skills.

	CENTRE A			CENTRE B		
	N	S	%	N	S	%
How do groups work				37	37	16.7
Triggers for discussion				37	58	26.1
Asking questions				37	109	48.2

TABLE 5.6

Group and communication skills in practice.

	CENTRE A			CENTRE B		
	N	S	%	N	S	%
Keeping up to date 1				31	68	36.5
Keeping up to date 2				31	43	23.1
The mothers' view				31	52	27.9
The importance of feedback	16	4	4.2	31	21	11.3
Group discussion/awkward people	16	34	35.4	33	136*	68.6*
Free discussion	16	46	48.0			
Relaxation and exercise						
1	15	51	56.7			
2 & 3	16	32	33.3			
labour	16	27	28.1			
post natal	16	26	27.1			

TABLE 5.7

Returning to the community.

	CENTRE A			CENTRE B		
	N	S	%	N	S	%
Theory into practice				33	99*	50.0*
Local research	16	21	21.9	31	12	6.5
Report by previous course members				37	49	22.1
Presentation of topics	16	59	61.5			
"Warm fuzzies"	16	4	4.2			

TABLE 5.8

To show the ranking of percentages of sessions from the 6 'most' categories, cross tabulated by Centres A2 and B.

	Centre A %	Centre B %
1 The environment	68.8	
2 Awkward people		68.6*
3 Presentation of topics	61.5	
4 Relaxation and exercises 1	56.7	
5 Theory into practice		50.0*
6 Asking questions		48.2
7 Free discussion	48.0	
8 Communications do's and don'ts;		41.9
9 Keeping up to date 1		36.5
10 What preparations should be made? Pre course knowledge.	35.5	
11 Group discussion	35.4	
12 Teaching methods		34.7
13 Relaxation and exercises 2 and 3	33.3	
14 Relaxation and exercises - labour	28.1	
15 The mothers' view		27.9
16 Relaxation and exercises - post natal	27.1	
17 Triggers for discussion		26.1
18 Aims and objectives		23.4
19 Keeping up to date 2		23.1
20 Report by previous course members.		22.1
21 Local research	21.9	
22 Aims and objectives	21.1	
23 'I never told them that'		20.9
24 Teaching a skill		18.9
25 Choosing teaching methods	18.9	
26 How do groups work		16.7
27 Communications	16.6	
28 Instructional techniques	13.3	
29 The importance of feedback		11.3
30 Creating an environment		10.8
31 Individual and group teaching;	7.7	
32 Planning a session		7.2
33 Local research		6.5
34 Introduction to the course and each other		5.9
35 Importance of feedback	4.2	
36 "Warm fuzzies"	4.2	

B. The open-ended data.

The comments from the subjects about each session were very wide ranging and responses to the open questions produced very rich data. The series of comments, which have small frequencies within each category, have been presented in table form, cross tabulated between centre and occupation, and are given in appendices K.11 - K.40. In this section, a graphic representation of the comments, gives the number and ranking of the positive, negative and doubtful comments about each session made by the subjects (figures 5.7, 5.8, 5.9).The number of comments from each subject varied; some commented briefly while others made as many as four comments about each session. The subjects also varied in their response rate - most commented on each session but some omitted to comment on indivudal sessions. The sessions which were held in both centres had more comments than those which were only held in one centre. The description of the sessions are presented in five groups, the grouping used by the course organisers:

1. Establishing group-communication skills
   a). Introduction to the course and each other
   b). Individual and group teaching
   c). Creating an environment
   d). "I never told them that"
   e). Communications dos and don'ts
2. Teaching skills in the group situation
   a). What preparations should be made? Pre course knowledge.

b). Aims and objectives

c). Teaching methods/choosing teaching methods

d). Teaching a skill

e). Planning a session

3. Using groups effectively - appropriate skills

a). How do groups work

b). Visual aids/triggers for discussion

c). Asking questions

4. Group and communication skills in practice

a). Keeping up to date 1

b). Keeping up to date 2

c). The mothers' view

d). Evaluation/the importance of feedback

e). Group discussion/awkward people

f). Free discussion

g). Relaxation and exercise 1-5

5. Returning to the community

a). Theory into practice

b). Local research

c). Report by previous course members of changes they made in antenatal classes

d). Presentation of topics

e). Counselling

f). "Warm fuzzies"

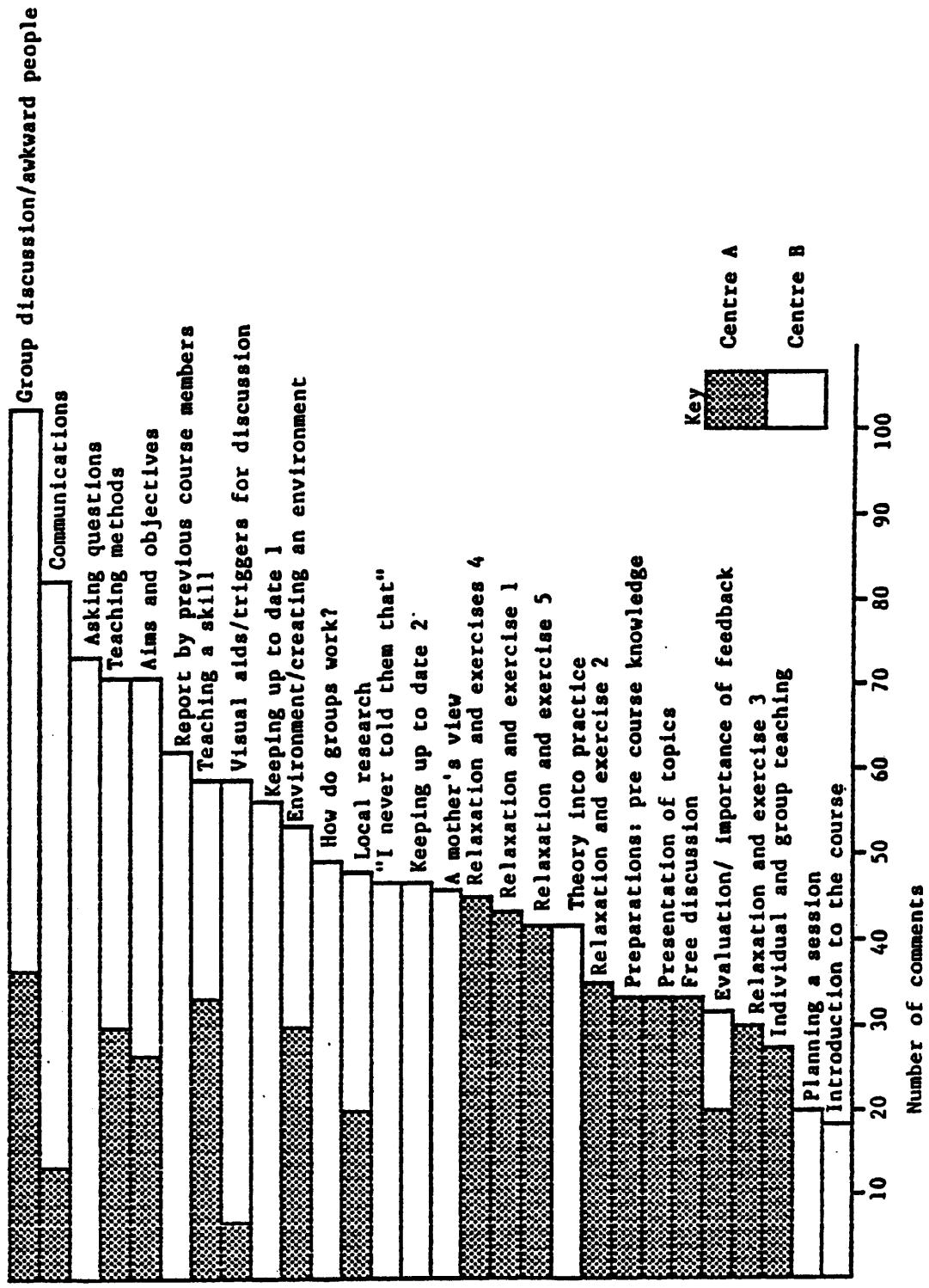


FIGURE 5.7

To show the number of positive comments to each session, Centres A and B (multiple response).

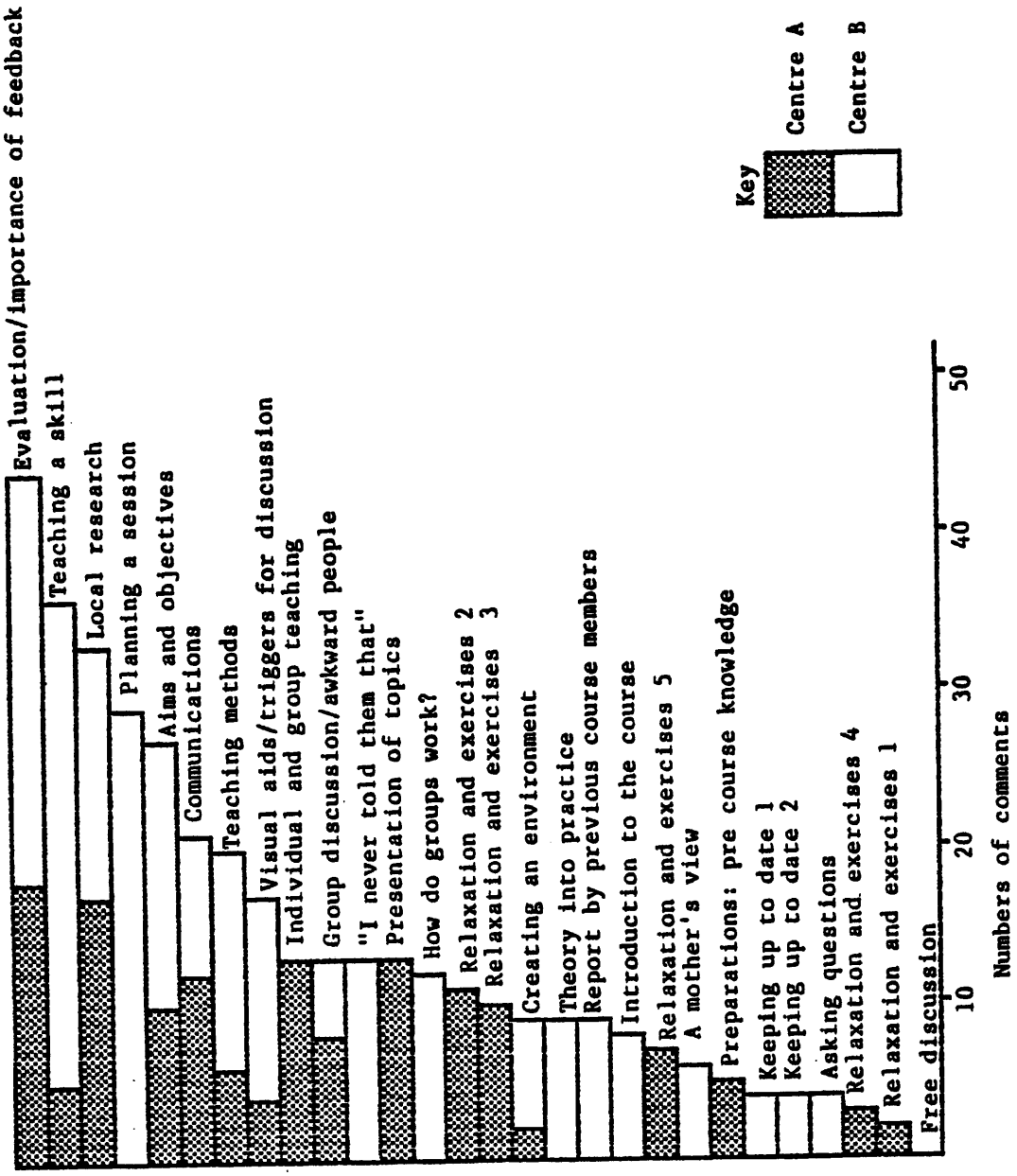


FIGURE 5.8

To show the number of negative comments for each session in Centres A and B (multiple response).

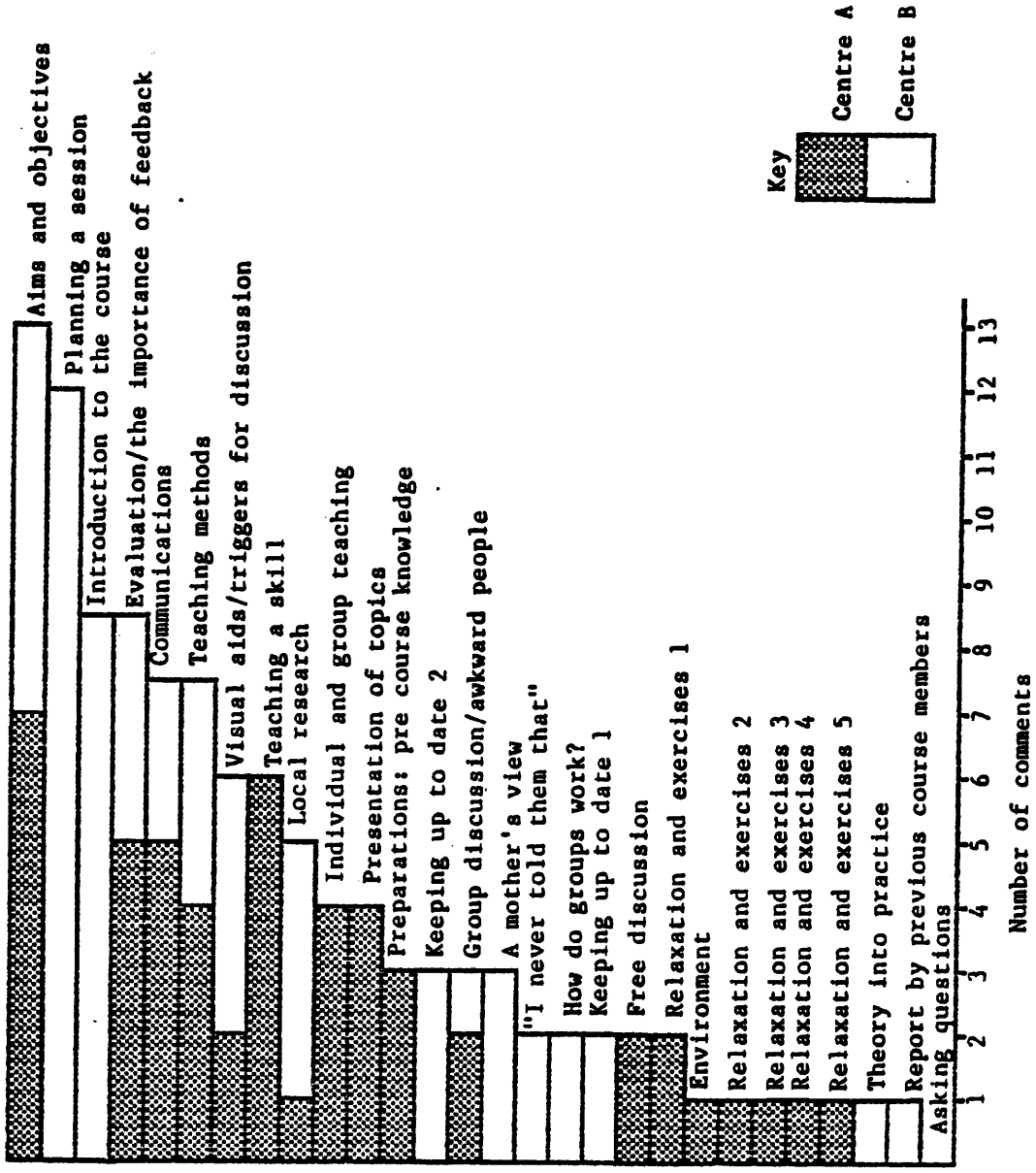


FIGURE 5.9

To show the number of doubtful comments for each session, Centres A and B, (multiple response).

1. ESTABLISHING THE GROUP-COMMUNICATION SKILLS.

a). Session title: Introduction to the course and each other.

Centre B only:

questionnaires returned = 32;

not answered = 11.

The first session held in Centre B consisted of a series of group exercises (such as finding out some details about another and telling the group) to help to break the ice and make the group 'gel'. As well as the advantage of establishing the subjects as a group, one of the aims was to give them the feeling of coming into a group of strangers so that they could link this with the feelings of the mothers in antenatal classes. It had the least number of positive comments, and was third in the ranking of the doubtful comments but was in the latter third (14th) of the negative comments (appendix K.11).

b). Session title: Individual and group teaching.

Centre A only:

questionnaires returned = 28;

not answered = 0.

The first session in Centre A used group work to identify the differences between teaching individuals and teaching groups. This session did not have many positive comments (third from the end) and was ranked 9th in the negative and 7th doubtful comments (appendix K.12).

c). Session title: The environment/creating an environment.

Centres A and B:

questionnaires returned = 60;

not answered: A = 10; B = 9.

A session held in both centres, during which it was emphasised that teachers can alter certain aspects of the classes to make them more friendly and informal. Aspects discussed included how to arrange the seating, wearing uniform or not, using first names and providing a cup of tea. A session which was 8th in the positive ranks, and had the least number of negative comments of the joint sessions with only 1 doubtful comment from Centre A (appendix K.13).

d). Session title: "I never told them that"

Centre B only:

questionnaires returned = 32;

not answered = 5.

This session (in Centre B only) was a lecture on the problems and difficulties of communication both in adult education and within the maternity services between mothers and staff. It was ranked 11th in the positive and 9th in the negative comments with 2 doubtful comments (appendix K.14).

e). Session title: Communications.

Centres A and B:

questionnaires returned = 58;

not answered: A = 1; B = 0.

Both Centre A and Centre B included sessions on communications which included group exercises (such as

copying a picture with limited instructions) to illustrate the difficulties in communication. The positive comments were fourth in the ranking. It was 6th in negative ranking, with more negative and doubtful comments from Centre A than from Centre B (appendix K.15).

2. TEACHING SKILLS IN THE GROUP SITUATION.

a). Session title: What preparations should be made? Pre course knowledge.

Centre A only:

questionnaires returned = 28;

not answered = 0.

This session, held in Centre A, discussed the preparations for teaching antenatal classes, the information the teachers may hope to obtain, and how to supplement it if not known before the mothers arrived in class. Although the placing in the positive and negative ranking was the same (17th), there were nearly seven times as many positive as negative comments, with 3 doubtful comments (appendix K.16).

b). Session title: aims and objectives.

Centres A and B:

questionnaires returned = 65;

not answered: A = 0; B = 1.

The aim of this session was to distinguish between 'aims and objectives' and to demonstrate how the clarification of these points, can assist the teacher to know what she is going to teach and later to evaluate the class. This session had the greatest number of doubtful comments and was 5th in the negative ranks; despite this it still attracted a

large number of positive comments (68) which placed it 5th in the ranking (appendix K.17).

c). Session title: teaching methods/choosing teaching methods.

Centres A and B:

questionnaires returned = 63;

not answered: A = 2; B = 0.

This session discussed different teaching methods, with their advantages and disadvantages in a variety of circumstances, using experiences of the subjects as a basis for the group work. It ranked third in the positive comments, 7th in the negative and there were 7 doubtful comments (appendix K.18).

d). Session title: instructional techniques/teaching a skill.

Centres A and B:

questionnaires returned = 60;

not answered: A = 0; B = 1.

The first part of this session consisted of a lecture on the theory of teaching a skill, followed by group work, with the members attempting to teach a simple everyday task such as sharpening a pencil, or making tea. Centre B used a story board (as used in planning television programmes) with each 'scene' illustrating the stages of making a Victoria sandwich. Skills other than those associated with antenatal education were deliberately chosen to demonstrate the method. Ranked 6th in the positive comments, this session was 7th in the negative rank and the 6 doubtful comments were all from the Centre A subjects (appendix K.19).

e). Session title: planning a session.

Centre B only:

questionnaires returned = 37;

not answered = 0.

The dietitian in the health education unit of Centre B had distributed booklets about nutrition in pregnancy early in the week and the subjects were told they would be expected to make use of them during the course. One of the aims of this session was to demonstrate that they were capable of teaching in an area where they may have expected that an 'expert' was necessary. By the end of the session, it was hoped that the subjects would be able to list the objectives of a session, the key points they would cover, and the teaching methods they would be using. This would give them confidence that they can teach adequately in areas outside their immediate expertise. This session was second from the bottom in the positive rank; 4th in negative comments and second in the doubtful rank with 12 comments (appendix K.20)

3. USING GROUPS EFFECTIVELY - APPROPRIATE SKILLS.

a). Session title: "How do groups work."Centre B only:

questionnaires returned = 37;

not answered = 0.

The aim of this session was to demonstate the use of groups generally and in antenatal education specifically. There were 49 positive and 2 doubtful comments, with a joint ranking of 9th and 10th in the negative with 12 comments (appendix K.21).

b). Session title: Visual aids and triggers for discussion.

Centres A and B:

questionnaires returned = 48;

not answered: A = 1; B = 0

This session was a practical one with the opportunities to use different types of visual aids in both centres. In Centre A the subjects were encouraged to experiment with the different aids. Centre B demonstrated the HEC trigger films (short films on a small topic designed to encourage the consideration of various aspects of pregnancy and antenatal care) as well as demonstrating other visual aids. A film was also shown and the subjects were asked to criticise it, discussing whether or not they would be prepared to use it in their own classes. It was sixth in the positive ranks; 8th in the negative and there were 6 doubtful comments (appendix K.22).

c). Session title: Asking questions.

Centre B only:

questionnaires returned = 37;

not answered = 2

This session was to outline the functions of questions within the groups and to identify the difference between 'good' and 'bad' questions. There was particular emphasis on the limited value of using 'any questions?' as a means of encouraging the mothers to ask questions. It was high in the postive ranking (third); there were only 4 negative comments and no doubtful ones (appendix K.23).

4. GROUP AND COMMUNICATION SKILLS IN PRACTICE.

Session title: a) Keeping up to date 1. b) Keeping up to date 2.

Centre B:

questionnaires returned = 32;

not answered= 1 for both sessions

These two sessions were exclusive to Centre B and had been included in the course at the request of the attenders at the first course of the series. The first session emphasised two aspects of antenatal care which were one which the subjects would be likely to questioned about by the mothers, eg alcohol in pregnancy and amniocentesis. The second session stressed how to keep up to date, where to get information, and how to deal with questions to which they did not know the answer. The first of these sessions was ranked 7th and the second 11th in the positive comments; both had 4 negative comments; the first had 2 and the second 3 doubtful comments (appendix K.24 and K.25).

c). Session title: the mothers' view.

Centre B only:

questionnaires returned = 31;

not answered = 1

This session in Centre B was linked to the following session on evaluation of the antenatal classes. The subjects were given time to prepare questions to ask the mothers, who would be contributing to the course. There were 8 mothers, four who had and four who had not attended

antenatal classes. They came with their babies who were a few weeks old. Each of the groups of subjects spent about 20 minutes, talking to an attender and to a non attender, asking them how they were coping with the baby, now that they had been through the experience of labour and caring for a baby, what information would they have liked in advance. This session was ranked 12th in the positive comments; 16th in the negative and 8th in the doubtful (appendix K.26).

d). Session title: Evaluation/the importance of feedback.

Centres A and B:

questionnaires returned = 59;

not answered: A = 0; B = 2

This session discussed the importance of, and techniques for, evaluating antenatal classes on a regular basis. In the last 5 of the positive ranks, this session had the most negative comments and was third in the ranking of the doubtful comments (appendix K.27)

e). Session title: group discussion / awkward people

Centres A and B:

questionnaires returned = 56;

not answered: A = 1; B = 1

In Centre A the subjects were divided into two groups; members of one group were given instructions of parts to play within the group (eg. be the bored person) while one member was to lead the group discussion. The second group were observers and asked to spot the parts being played by different members. In Centre B the same message was put

across but in this instance there was a series of short group exercises rather than using a large group exercise as a demonstration. This session had the most positive comments, which were considerably more than the second most popular session; it was ranked 9th in negative comments and there were 3 doubtful comments (appendix K.28)

f). Session title: free discussion.

Centre A only:

questionnaires returned = 28;

not answered = 1

This session in Centre A was a flexible part of the prgramme to allow the concerns of the subjects to be discussed. In both of the Centre A courses, the discussion was on how to organise change, how to deal with the practical, management and personnel problems which can arise when change is introduced. There was considerable participation from the subjects, with the course leader merely guiding the discussion. In Centre A2 the discussion was particularly frank as well as practical - possibly helped by the informality of the surroundings - all, subjects and course leaders, were sitting on mats on the floor as it was a session immediately before relaxation and exercises. This was the only session which did not have any negative comments; it was 17th in the ranking of the positive comments and there were 2 doubtful comments (appendix K.29).

g). Session titles: relaxation and exercises 1-5

Centre A only:

questionnaires returned = 1) 26;

2) and 3) 27;

4) and 5) 28

not answered = 0

Centre A taught relaxation and exercises so that the subjects would be able to teach the mothers. It involved a total of eight hours spent on relaxation and exercises. The introduction was a general discussion on the meaning of relaxation including the informality of the sessions, catering for all social classes, using simple terms, promoting discussion and encouraging feedback even at the expense of the exercises.

Then a programme of exercises suitable for use in classes were taught. One or two exercises were taught at a time, starting with exercises used during the antenatal period. The course members were given a chance to practise teaching the exercises on each other as well as the chance to do them. This teaching practice gave them experience in using appropriate vocal tones and forms of communication.

The labour session included an explanation of labour and demonstration of talking it through as the exercises are done; positions at delivery were demonstrated along with pushing and panting. The final session was the postnatal exercises which were explained with emphasis on the importance of them; the frequency of and reasons for doing

the exercises were summarised. Correct posture, sitting and wearing of suitable shoes and clothing were discussed when the relevant exercises were practised. All the sessions had a high number of positive comments, some of the highest for the Centre A sessions only. Of the five, session 3 had the least positive comments, with sessions 2 and 3 ranking 11th and 12th in the negative comments. Four of these sessions had only 1 doubtful comment, the first one had 2 comments (appendices K.30-34).

5. RETURNING TO THE COMMUNITY

a). Theory into practice

Centre B only:

questionnaires returned = 34;

not answered = 2

This session in Centre B put antenatal education into the perspective of recent reports, such as the Court (Committee on Child Health Services, 1976) and Short (Social Services Committee, 1980) reports as well as the initiatives which had been taking place in one of the health authorities involved in organising the course. This session was ranked 15th in the positive comments; 13th in the negative and had 1 doubtful comment (appendix K.35).

b) Session title: Presentation of local research.

Centres A and B:

questionnaires returned = 48;

not answered: A = 0; B = 2

Early in the course both centres included a session which

described results of research which had been undertaken in the antenatal education service within the health authorities. Centre A had the results of a survey of a 1000 mothers and were able to provide information about the numbers of attenders and their pattern of attendance at classes within the health authority. In Centre B a research officer who had undertaken a series of small scale qualitative research projects, presented the results of working groups of midwives and health visitors to discuss the provision of antenatal education. This session was 10th in the positive ranking; 3rd in the negative ranking and 6th in the ranks of the doubtful comments (appendix K.36).

c) Session title: Report by previous course members of changes in they made antenatal classes.Centre B only:

questionnaires returned = 37;

not answered = 1

Centre B had a session when three members of an earlier course described their attempts to institute change in their classes as a result of attending the course. They discussed the problems they encountered as well as the success of their attempts. Although 5th in the overall ranking, this session was second in the number of positive comments for the sessions held only in Centre B; it was 13th in the negative ranks and there was 1 doubtful comment (appendix K.37).

d) Session title: Discussion about topics to be presented.

This session in Centre A2 had only 9 responses which have not been tabulated but are presented in full in appendix K.39.

e) Session title: Presentation of prepared topics.

Centres A:

questionnaires returned = 28;

not answered = 0 The sessions in Centre A1 and Centre A2 where the subjects presented an example of an antenatal class, using the techniques learnt during the week's course as well as giving an opportunity for discussion about their teaching. In Centre A1 these topics were taught to other members of course, but in Centre A2 a group of pregnant women joined the group so that the teaching could be more realistic. This session was ranked 17thin the positive comments; 9th in the negative and there were 4 doubtful comments (appendix K.38).

f) Session title: "Counselling"

The brief number of comments to the counselling session in Centre A1 only are presented in full in appendix K.40

g). Session title: "Warm fuzzies"

The last afternoon of all the courses were spent in evaluation of the course and a discussion with their managers of how they could insititute change within their classes. None of these sessions were formally evaluated, but the session in Centre A2 before the evaluation had

some comments from the subjects. The "warm fuzzies" involved each subject writing a positive comment about all other members on a piece of paper, which was pinned to their backs. This involved a lot of movement and laughter and the comments demonstrate how the subjects enjoyed this session.

COMMENTS ABOUT THE "WARM FUZZIES" SESSION

MIDWIVES

1 missed this session

number returned 5

-best part of the course - a confidence booster, amusing, good round up.
-interesting and enjoyable experience, quite a confidence booster (fortunately), interesting and humourous.
-interesting, wish I could believe it.
-good fun.
-lovely, light relief at the end of the course; hope everyone was telling the truth.

HEALTH VISITORS

number returned 7

-very amusing, a good morale booster and a friendly way to end.
-made the group have light entertainment before the finish of the course.
-provided warm relief and made me realise that there is something nice about everybody.
-a very clever way of encouraging us to evaluate ourselves and the nice little touch at the end to 'boost our morale.'
-a lighthearted look at ourselves, very enjoyable.
-lighthearted, good humoured session, good fun.
-amusing, may boost our confidence.

5.2.3 Post course results

A. Profile of the subjects.

Six weeks after the course, each subject was sent the post course questionnaire. The response to this was lower than the other questionnaires at 78%. The 51 subjects who returned this questionnaire were distributed between centres and occupations as shown in table 5.9.

TABLE 5.9

To show the number of midwives and health visitors who returned the post course questionnaire, cross tabulated by centre.

	Midwives	Health Visitors	Total
Centre A	11	12	23
Centre B	12	16	28
Total	23	28	51

The majority of the subjects answered the questionnaires within 10 weeks of receiving them, although there were 5 from Centre A who did not give this date (figure 5.10).

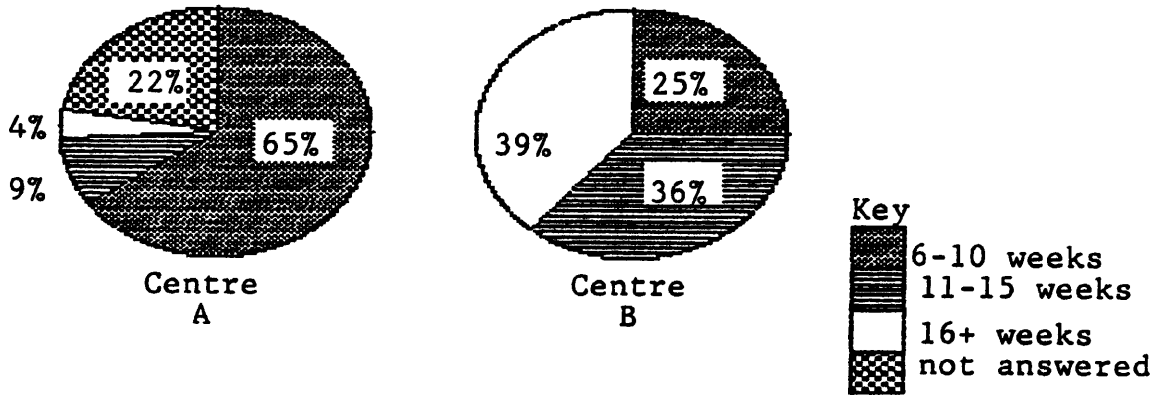


FIGURE 5.10. To show the length of time between receiving and returning the post course questionnaire.

There were 72.5% who had taught antenatal classes since they had attended the course. Although there was a slightly higher percentage from Centre B (figure 5.11) there were no significant differences between the centres.

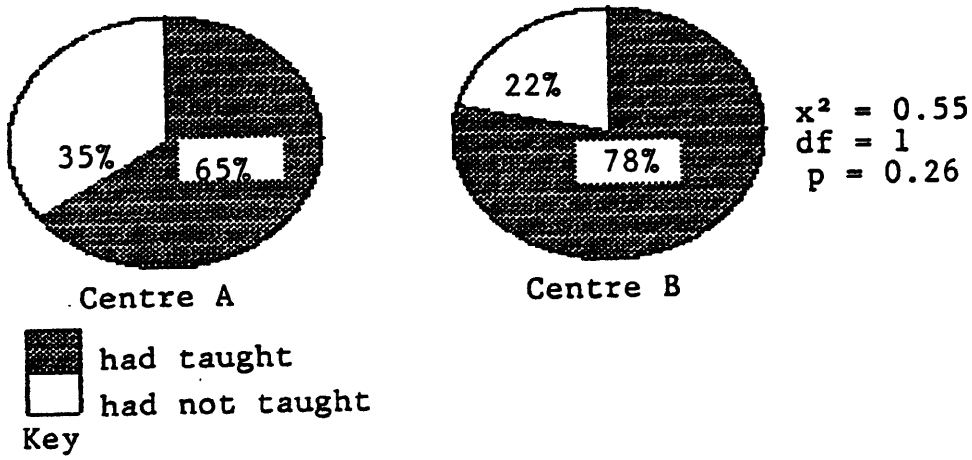


FIGURE 5.11

To show the percentages of subjects who had taught antenatal classes since attending the course.

B. The organisation of the course.

The reactions of the subjects to the organisation of the course were examined by the scores which they gave for 6 aspects as well as asking for comments and suggestions for improvement. The mean scores are shown in figure 5.12 for the travel directions, the course itself, the setting of the course, the parking facilities, lecture rooms and eating arrangements in both centres. The total scores, means, medians and ranges are shown in appendix K.41

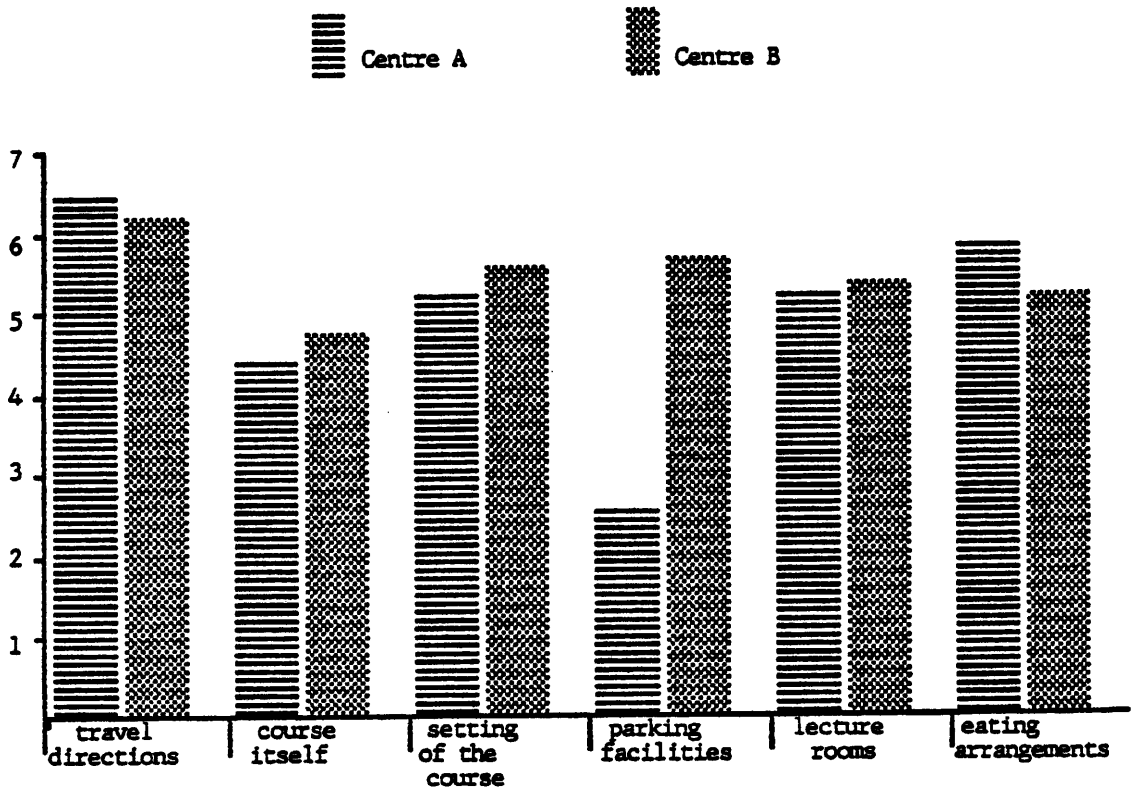


FIGURE 5.12

To show the mean scores given for the organisation of the courses in both centres.

The replies to the question for improved information about the travel directions and the course itself are shown in table 5.10

TABLE 5.10

To show the improvements requested to the information provided about the travel directions and the course.

	Centre A	Centre B	Total
did not answer	5	2	7
none	7	10	17
satisfatory	1	2	3
more general information	5	5	10
more specific information	2	2	4
useful pre-course meeting	1	5	6
would have liked pre course meeting	0	5	5
did not get any information	1	0	1
improve travel directions	0	4	4
TOTAL	22	35	57

The comments about the arrangements of the course (the length, the timing and the venue) are shown in table 5.11 The major differences between the centres were that those subjects who had a long journey to reach the Centre B venue (for some it was 60 miles each way) either expressed their dissatisfaction and/or requested coffee on arrival.

TABLE 5.11
To show the comments about the length, timing and the venue of the courses, in both Centres.

	Centre A	Centre B	Total
general approval	8	3	11
approved of course length	6	4	10
not long enough	0	4	4
too long	4	3	7
timing-positive comments	2	3	5
timing-negative comments	1	0	1
venue-positive comments	2	6	8
venue-negative comments	2	0	2
refreshments needed	0	3	3
dislike of distance of venue	0	8	8
travelling problems	0	3	3
needed 3 days to adjust to classroom situation	0	1	1
none	1	2	3
poor parking facilities	1	0	1
no change recommended.	1	0	1
TOTAL	28	40	68

The reasons given for their replies were included such comments:

general approval

There were 7 who expressed general satisfaction, that the course was as expected, and that hopefully they benefitted from taking part, and one who said she 'wouldn't have missed it for anything'.

approved of course length:

There were 3 from Centre A who said that 5 consecutive days better than weekly sessions. One from Centre B said that longer than a week would have lessened the impact of the group work. There were 2 from Centre A and 1 from Centre B who felt that a week gave time to get to know other members on course.

travel problems

The Centre B members were those who commented that it was too far to travel (4); 2 were not used to rush hour traffic; one felt she would have learnt more if she had not so far to travel, and another commented that most felt the need to adjust to the travelling.

not long enough

Three of the four who felt it was too short expressed a need for more or longer group work and reportback time, while one would have liked an additional week.

too long:

One health visitor said it was too long as her case load had to be put aside for the week, and another commented that she had only come to learn the relaxation and exercises.

positive comments about timing:

The comment in this category was that she enjoyed the flexibility of session time - the topics were not dismissed at end of allotted time span.

negative comments about timing:

Two comments related to the timing of the exercise sessions which were felt to be too soon after lunch; the other five comments reflected the feelings they did not need to come on the course.

positive comment about the place:

Of the 4 who were satisfied with the venue, in Centre B, two were those who worked locally. Those in Centre A commented that the venue was central and had comfortable surroundings.

TABLE 5.12
To show the comments about the setting, parking facilities, the lecture rooms and eating arrangements of the courses, in both Centres.

	Centre A	Centre B	Total
not answered	15	12	27
none (specified)	0	1	1
rooms:- postive comments	2	1	3
- negative comments	5	7	12
poor parking facilities	2	3	5
venue: - postive comments	1	1	2
- negative comments	1	1	2
eating arrangements:			
- postive comments	2	3	5
- negative comments	1	4	5
travelling problems	1	1	2
need for refreshments	0	3	3
needed separate room for tea/coffee	0	1	1
TOTAL	15	26	41

The negative comments about the lectures rooms by subjects from both Centres included:

room very enclosed;
lecture room too hot/stuffy/stifling;
noisy and distracting for group work;
too small/ badly ventilated;
needed a change of surroundings;
lecture room not large enough;
not enough space and privacy for group work.

C. Meeting expectations.

The final section of the post course questionnaire investigated the satisfaction of the subjects with the course.

Each Centre had specified the aims of the course which were printed in the programme distributed

before the course. These aims were incorporated in the post course questionnaire and the subjects were asked to score between 1-7.

The aims for the course in Centre A were:

To instruct the experienced midwife and health visitor in:

1a) methods of parentcraft teaching;

1b) relaxation;

1c) exercises;

2) to improve the uptake of antenatal education

3) to improve the knowledge of parents to enable them to promote:

3a) their health and well being

3b) health and well being of their families;

4) to reduce the perinatal and maternal morbidity.

The means and medians of the scores are shown in figure 5.13 with the total scores, means, medians, and ranges in appendix K.42.

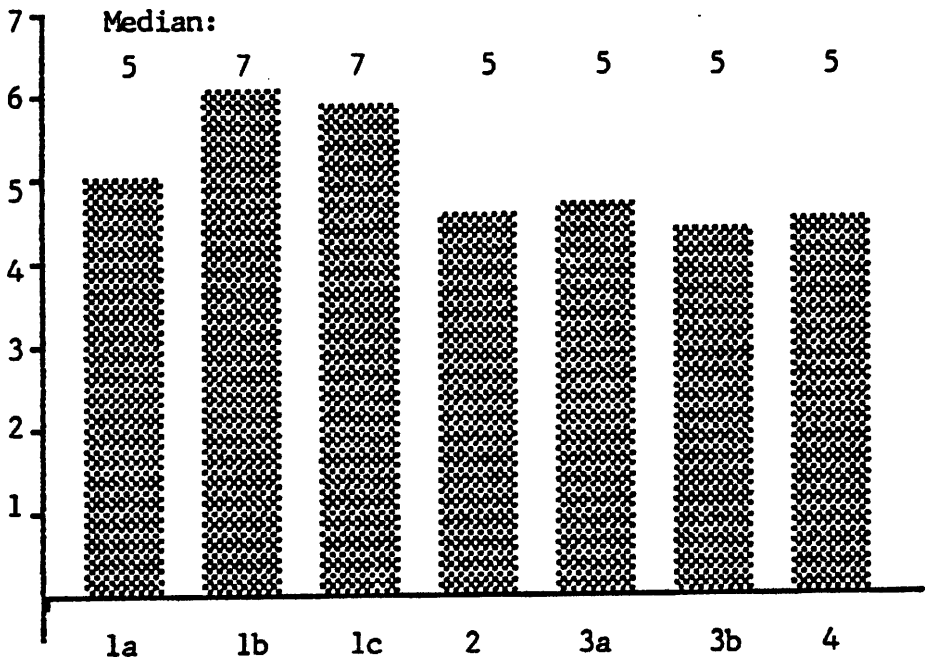


FIGURE 5.13

To show the means and medians of the scores for the aims of the course in Centre A.

The aims for the course in Centre B were:

1a) to review the function of antenatal classes;

1b) to review the organisation of antenatal classes;

1c) to identify areas of personal strength;

1d) to consider new ideas and approaches to teaching;

2 at the end, to have increased understanding of:

2a) group teaching;

2b) the most suitable way to 'put over' information on various topics;

2c) meeting the information needs of those in a class.

The means and medians of the scores are shown in figure 5.14 with the total scores, means, medians, and ranges in appendix K.43

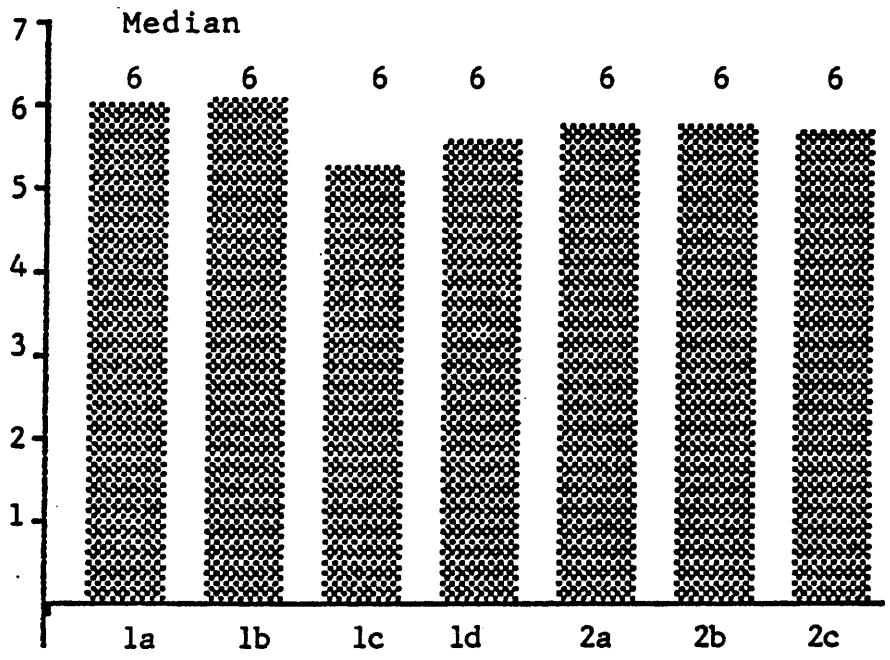


FIGURE 5.14
To show the means and medians of the scores for the aims of the course in Centre B.

A list of the sessions held during the course with the session title, and the day and time it occurred was given. Each subject was asked to pick the 5 most useful sessions and number her choice from 1 - 5, with number 1 being the

most useful. The total number of sessions was 37, of which 17 were sessions which were part of the courses in both centres. There were 14 only held in Centre A and 6 which were held only in Centre B. The questionnaires were identical in format but the session titles only referred to the sessions held at each centre.

Of the 51 who answered the post course questionnaire, there were 3 from Centre A and 4 from Centre B who did not answer this question correctly. For instance, one ranked eery session between one and five and another ranked five sessions as '1'. This may mean that it was not asked clearly enough. They are excluded from this section. The results are shown in tables 5.13a, 5.13b (Centre A) and 5.14 (Centre B).

Table 5.13a
To show the order of ranking the sessions in Centre A. The maximum number of mentions one session could have had was 20.

	number of times mentioned
Relaxation and exercises I	12
Relaxation and exercises III	9
Presentation of prepared topic	9
Relaxation and exercises VI - labour talk	9
Choosing teaching methods	7
Free discussion	7
Relaxation and exercises V	5
Individual and group teaching	5
Relaxation and exercises VII - post natal	5
Finding out before you start	4
Local research	4
Relaxation and exercises II	4
Visual aids	3
Aims and objectives	3
Teaching a skill	3
Starting discussion in practice	2
Communications	2
Relaxation and exercises IV	2
Counselling	2
Setting the scene	1

TABLE 5.13b
To show the sessions not mentioned in the ranking of useful sessions, Centre A.

Planning a session
How do you know if they have understood
Problems with groups
Questions from them and from you
Applying it in practice
The way ahead for you
Evaluation of the course
Discussion in preparation for presentation of topic
Work in preparation for presentation of topic
Discussion
"Warm fuzzies"

TABLE 5.14
To show the order of ranking the sessions in Centre B. The maximum number of mentions one session could have had was 24.

	number of times mentioned
Visual aids	13
Keeping up to date I	11
"I never told them that"	10
A mother's view	10
Teaching a skill	9
Keeping up to date II	9
Planning a session	8
Aims and objectives	8
Choosing teaching methods	7
Starting discussion in practice	7
How do you know if they have understood	7
Problems with groups	6
Questions from them and from you	6
Communications	6
Setting the scene: report by previous course members of changes made	6
Introduction to the course and each other	5
Local research or survey	4
Setting the scene	3
Applying it in practice	2
NOT MENTIONED	
The way ahead for you	
Evaluation of the course	

The subjects were then asked for their reasons for their choice of the most useful session. Some of the reasons were general and these are shown in table 5.15 with the more specific reasons detailed with the session below.

TABLE 5.15
To show the reasons for choice of the most useful session, cross tabulated by Centres.

	Centre A	Centre B	Total
not answered	1	2	3
came to learn rel/ex*	12	0	12
practical/useful	2	6	8
most interesting	1	5	6
appreciated exchange of ideas	1	3	4
factual information	1	6	7
helped with group work	1	5	6
how to plan teaching	4	3	7
appreciated sessions with mothers	5	0	5
good presentation	1	1	2
imperative to keep up to date	0	2	2
remembered well	1	0	1
excellent lecturer	0	1	1
identified dissatisfaction	0	1	1
Total	29	33	62

*rel/ex = relaxation and exercises

The quotes included here give the more specific reasons with the session titles.

Re aims and objectives:

> "Helped me to reassess my attitude and approach to each individual group and be aware of their needs." (Centre B)

Re Planning a session:

> "I feel (it) incorporates most of the advice given to us on the course as a whole. To plan a session one thinks of the subject, and updates one's knowledge of it - decide on the aims and objectives - create an environment - find out previous knowledge of attenders - decide what I want them to get from a session - decide on which ever method one thinks best - encourage questions - control participation of individual members - get feedback myself from questions, etc." (Centre B)

Re what preparations should be made:

> "I never before realised the importance of preparations; although I always prepared (classes) before the course, this gave me reason for in-depth thought." (Centre A)

Re relaxation and exercises:

> "I remember it well. I do teach the patients these exercises whilst they are in hospital. I also do them myself. Being the first session I enjoyed it." (Centre A)

Re General discussion (on the floor):

> "Through the discussion it was easy to see how people can have a negative attitude to change. The programme for classes has become too rigid and the discussions may be changed according to the need of the mothers. Approximately half of the talks given as a routine are useless, eg baby bath." (Centre A).

The percentages of subjects who gave written or verbal reports on their return to work are shown in figure 5.15 There were no significant differences between the centres.

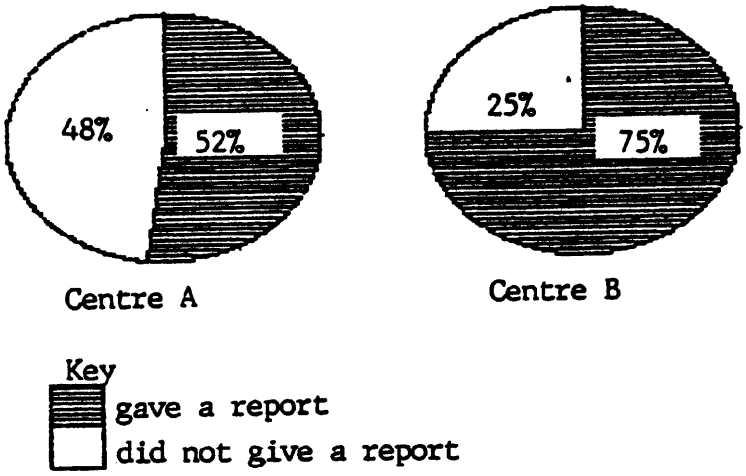


FIGURE 5.15

To show the percentages of subjects giving written or verbal reports on return to work in each Centre.

These reports were mainly given to line managers and colleagues (table 5.16)

TABLE 5.16

To show to whom the reports were given, cross tabulated by Centre (multiple response).

	Centre A	Centre B	Total
not answered	11	7	18
other staff/colleagues	7	11	18
Nursing officer	6	9	15
Senior Nursing Officer	0	2	2
Midwifery tutor	0	1	1
Director of Nursing Services	0	2	2
Chief Nursing Officer	0	1	1
course organisers and managers	0	1	1
none	0	1	1
Total	13	28	41

Two additional comments:

"Not a formal report but persons who attended were asked about ideas from the workshop." (Centre B)

"I did attempt to discuss the course with my colleagues - nobody seemed interested - we do not have a nurse manager at the present time - otherwise I think we would have got things going." (Centre A)

The subjects' reasons for not giving a report are shown in figure 5.16.

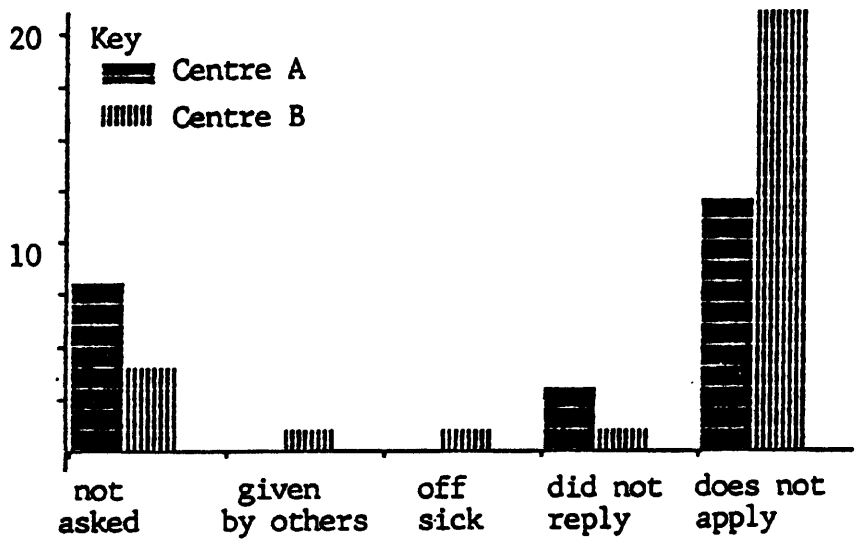


FIGURE 5.16

To show the reasons for not giving a report of the course, in both Centres.

The 72.5% of subjects who had taught antenatal classes since attending the course (figure 5.11) were asked if they had made any changes in their classes (figure 5.17)

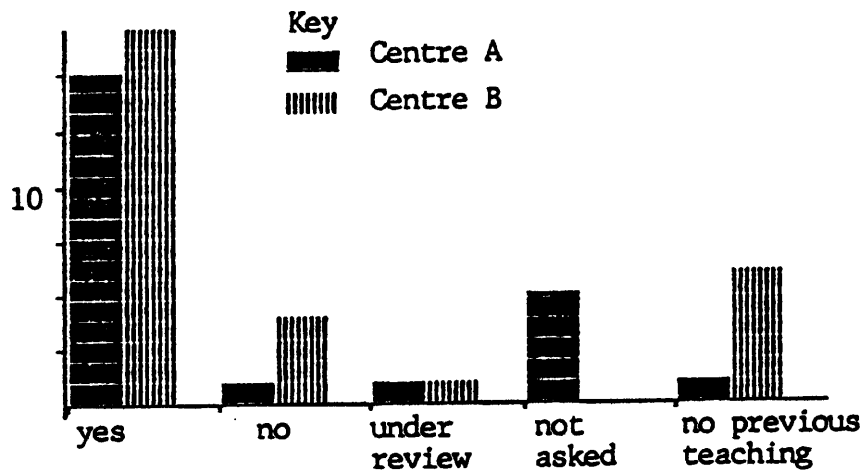


FIGURE 5.17

To show the number who had made changes in their antenatal classes after the course, in both Centres.

The Fishers Exact Probability test of significance (appendix E) was used to analyse those who said they had and had not made changes; there was no significant difference between the centres (p=0.26). There were two who had not yet taught any classes but commented that they were planning changes when they started their next course.

The changes made by the subjects are shown in figure 5.18

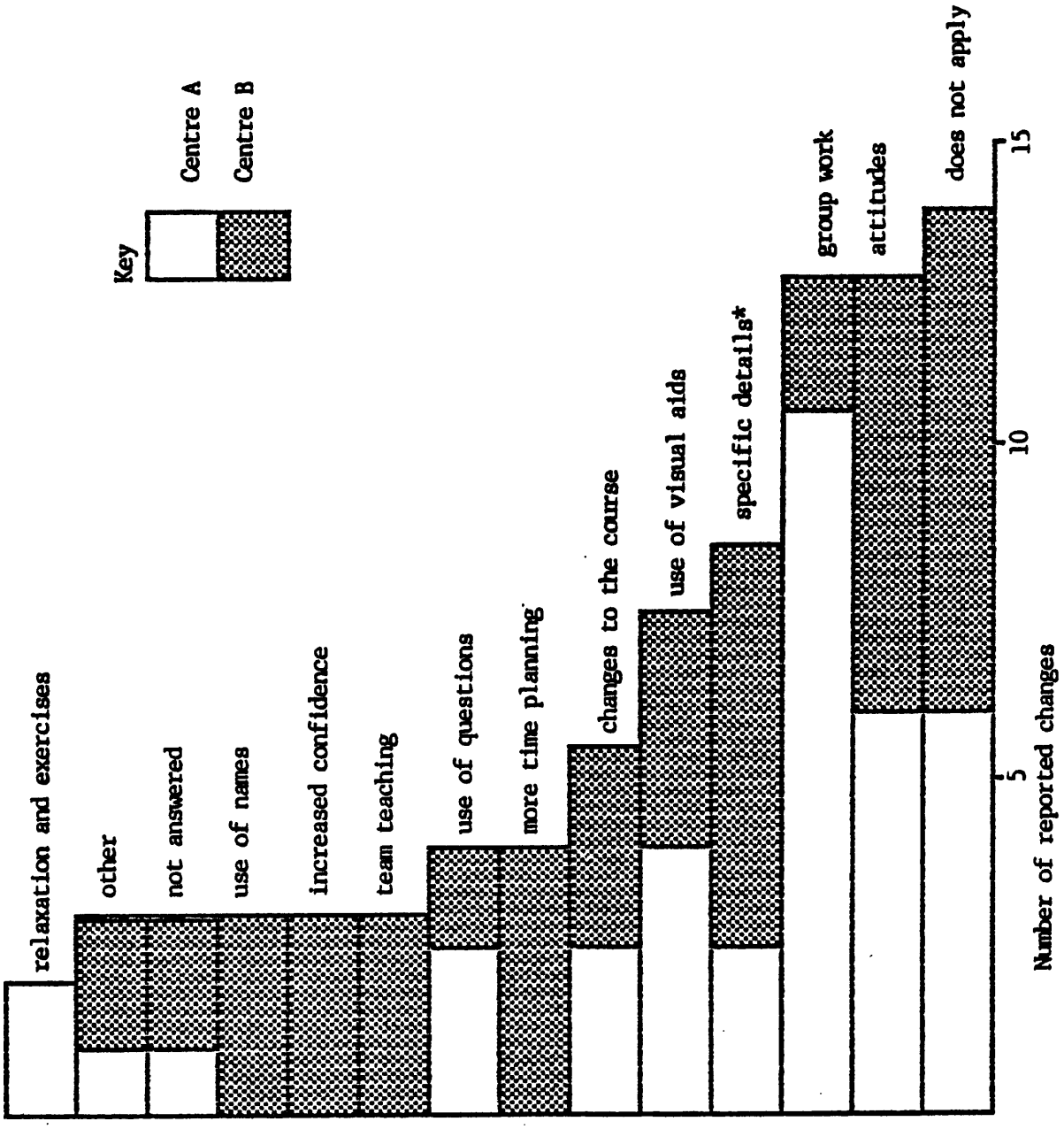


FIGURE 5.18

To show the changes made to antenatal classes by the subjects, Centres A and B (multiple response).

The specific details (marked with * in the figure) included:

seating arrangements;
giving refreshments;
different type of letter to mothers;
visits to mothers homes;
use of health education material;
taking mothers round the maternity unit;
using post natal mothers in the group;
use of posters for advertisements.

Other changes to the course included shortening the content, changing the programme or topics, the timing or introducing a postnatal group. Attitudes were more flexible, informal, and more attention was paid to the needs of the patients. The inclusion of team teaching was, for some, organising her opposite number to attend the classes, or re-arranging the way the two teachers took the classes. Group work changes included reducing the group size or encouraging mothers to be more active in the classes.

The subjects who were unable to make changes in their classes gave the reasons which are shown in figure 5.19

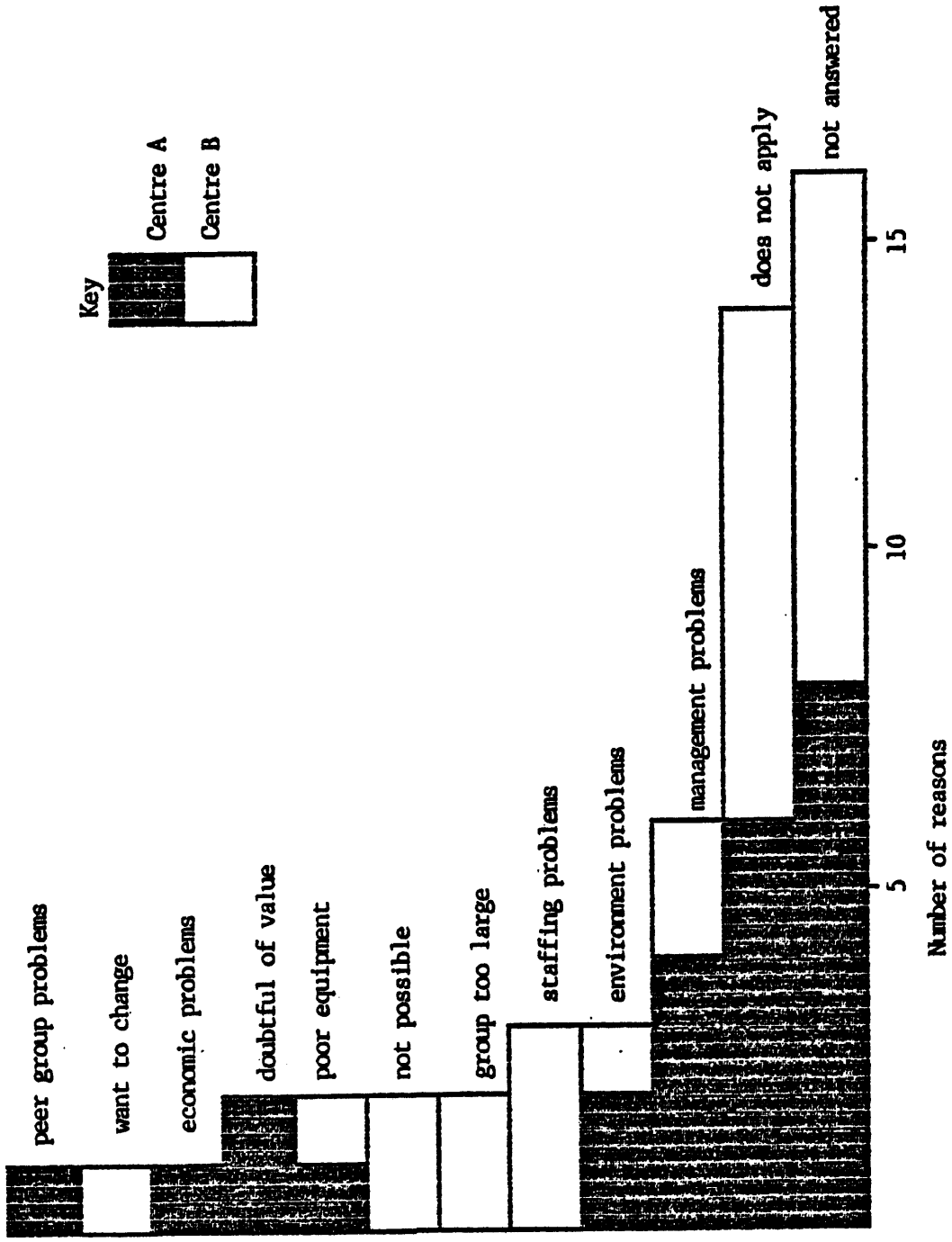


FIGURE 5.19

To show the reasons given for the changes the subjects were unable to make to antenatal classes, Centres A and B (multiple response).

A subset (those from Centre A2 and Centre B; n=40) were asked to describe their own roles in antenatal education as well as the role of their opposite numbers. When the midwives' description of their own role was examined there were a number of themes which emerged.

There were 3 who saw their teaching role relating to the physical aspects of pregnancy; for instance

> "To prepare a mother-to-be for 'bodily changes', to help her cope with her labour and puerperium." (Centre B)

There was one who combined the need for physical preparation with the emotional aspects: eg

> "To help her to have a healthy pregnancy, leading to the joyful experience of labour." (Centre A)

while 4 (21%) concentrated on the emotional side of childbirth, eg:

> "By good communication of doctor, midwife and health visitor, the pre-conceived fears and confusion of the pregnant woman could be greatly allayed." (Centre B)

Another 4 (21%) saw their role as information givers, eg:

> "To give information simply and knowledgably to all mothers. Answer questions and point out their choices in labour and postnatal care." (Centre B)

There were 4 (21%) who felt defensive about their role, eg:

> "A midwife is more capable to teach antenatal classes as she is trained in all aspects for teaching and giving advice." (Centre B)

despite evidence from this study and others that midwives are not adequately prepared for their teaching roles. There

were another two who limited the amount of teaching the midwife should be involved with, eg:

> "Instruction and guidance in the art of infant feeding." (Centre B)

One midwife gave a very full description of her role which covered all aspects of antenatal education and included a point not brought out by others

> "To keep up to date with current research trends, by pressure groups, press reports, magazine articles, therefore being aware of the vast amount of information that the pregnant couple have to assimilate." (Centre B)

The health visitors had a different view of their roles in antenatal education. There were 8 (40% - which included all of the Centre A health visitors) who saw their role in a broader terms of health education:

> "To improve the knowledge of parents to enable them to promote their health and well being and that of their families by making more of an emphasis on parenthood itself, rather than the birth."(Centre A)

or even more generally

> "As teacher and a counsellor having available, and presenting, accurate facts and information."(Centre B)

Of the other health visitors from Centre B there were 7 (35%) who saw the predominant aspects of their role involving the long term care

> "Introduction of my future role in the years to come."

as well as

> "Forming a relationship with the mother for the

years ahead and becoming a 'friend' of the family."

although the one who said

> "...this is the first contact of what will be a long and satisfactory relationship."

appears to make assumptions that the relationship would be satisfactory and did not anticipate any dissatisfaction on the part of the client.

One of the health visitors stressed her dual qualifications as justification for her view of her role

> "As a qualified midwife and health visitor and with my attempts to keep up to date, I feel I have an all round knowledge to play a major role in antenatal education and child care as adviser, listener and giver of support to women and their families."

As with the midwives some saw their roles as limited, one noting that she was a

> "A dabbler, not properly involved in school or antenatal education."

while another felt it was merely

> "Sharing organisation and teaching."

There was an exception among the health visitors who was a health visitor's tutor so that her role is

> "Helping health visitors to keep up to date and in encouraging them to experiment with different approaches to the conduct of antenatal classes."

The midwives' description of the health visitors' role fell into four categories. The greatest number 9 (47%) were those who saw the role as similar but complementary:

> "Similar to the midwifery role; both complementing each other and supportive in the continuity of care outside the hospital confines."(Centre B)

although for one it may have been more hopeful than factual:

"Similar to midwife. I think we should work as a team instead of having separate roles."(Centre A)

There were 4 (21%) who demonstrated understanding of the differences between the professions:

"As the health visitor is involved with the patient long after the discharge from the midwife's care it is important that a relationship is established early in the pregnancy so that there is continuity of care."(Centre B)

There were 4 (21%) who wished to limit the health visitors' involvement:

"The role more for preparation in caring for her baby but not qualified to teach the preparation for labour etc."(Centre B)

For some there were problems, either in how they saw the work or in practical terms of their own situation. One midwife was not clear about her partner's contribution:

" To be frank I am not sure - perhaps as an extension of the midwife. Role postnatally involved in family welfare generally." (Centre A)

Despite her report of a good working relationship, one midwife felt it was not effective:

"We work very closely together but appear to be fighting a losing battle in our area."(Centre B)

The health visitors' description of the midwives' role demonstrated some of the same themes; there were 10 (50%) who felt the roles were complementary:

"I feel that each one's role is equally important as we are really talking about a limited period in using the antenatal term. So the midwife needs this time to help the mother maintain good physical health and to develop a confident approach to childbirth."(Centre B)

although there were two (from Centre B) who repeated the description they had given of their own role.

Four (20%) felt

> "The midwife role in antenatal education is limited to the present pregnancy - care of the prospective mother rather than the whole family and that ends 28 days after delivery."(Centre B)

One health visitor commented

> "Midwife not always keen to teach."(Centre B)

although this may be outside the control of the midwife concerned. During the observation period of the study there were occasions when midwives missed the planned teaching session because of sudden off-duty changes to provide emergency cover. The health visitors, who do not provide a 24 hour a day, 7 day a week service, are not subject to such problems.

There were 5 health visitors, however, who appreciated the special role of the midwife in antenatal education:

> "Supporting each other but midwife much more up to date with modern techniques and correct hospital information."(Centre A)

The reasons for attending the course were asked before it started and this question was repeated in the post course questionnaire. Some gave as many as four reasons and as this was a greater number than the first time it produced a wider variety of reasons. There were changes in their perception, at this stage, of why they attended the course.

The broad categories of the responses are shown in Table 5.17 which contrasts these responses with the pre course replies. The detail in appendix K.44 shows cross tabulation between centres and occupations.

TABLE 5.17

To show the comparison between pre and post course reasons for attending the course (multiple response).

	PRE COURSE RESPONSE	POST COURSE RESPONSE
aspects of teaching	25	39
teaching role/new job	15	8
update knowledge	14	26
learn to teach relaxation and exercises	8	22
exchange ideas	10	25
volunteered for course	3	0
sent on course	14	4
increase confidence	0	5
improve communication	0	3
other comments	6	9
TOTAL	95	141

In addition to requesting reasons the attenders were also asked to give the reasons a score from 1 - 7. The mean scores given for these reasons are included in the figures below (Figure 5.20, Centre A and B; Figure 5.21 midwives and health visitors) with total scores, means, medians and ranges shown in appendix K.45

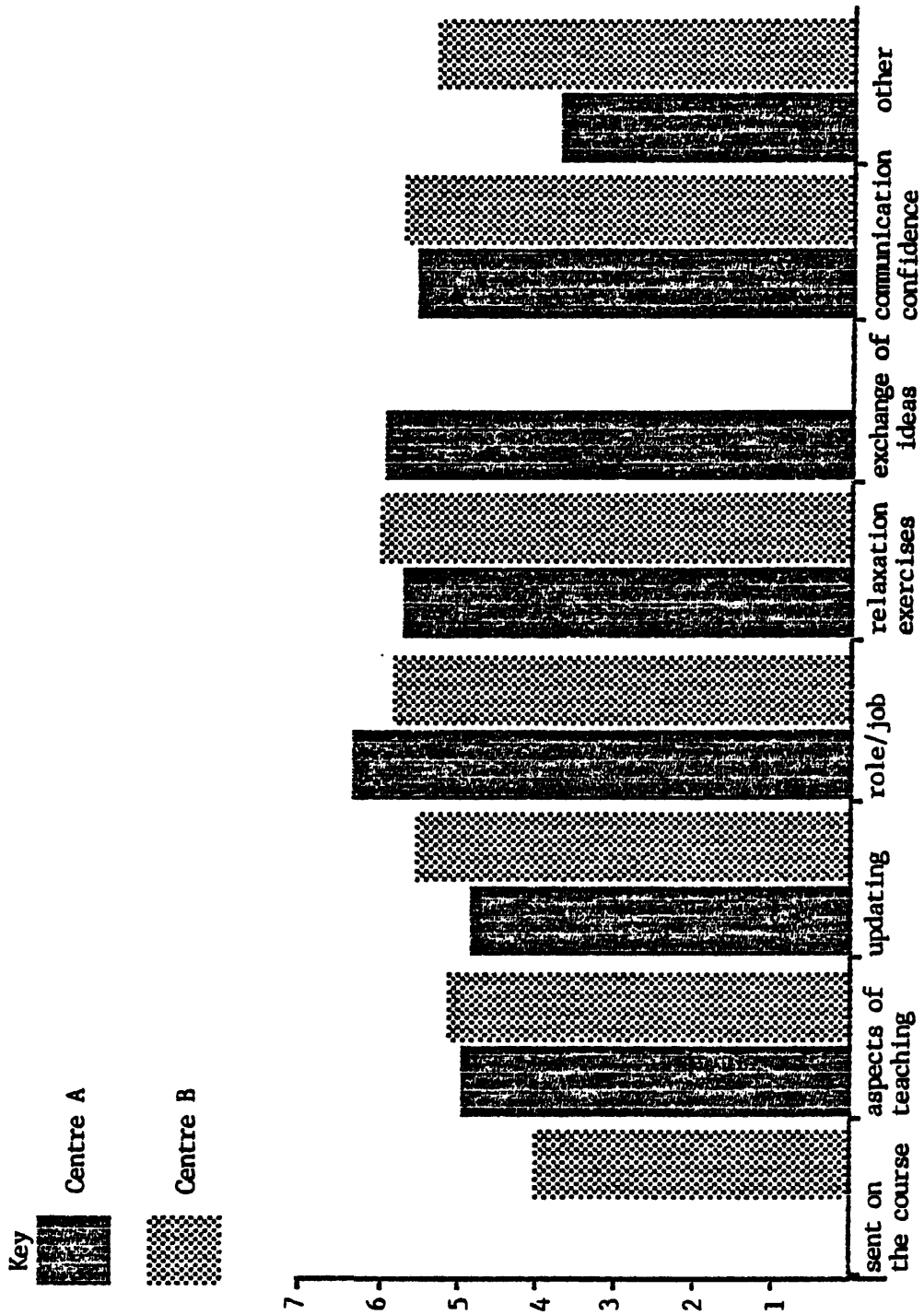


FIGURE 5.20

To show the mean scores given for the reasons for attending the course, Centres A and B.

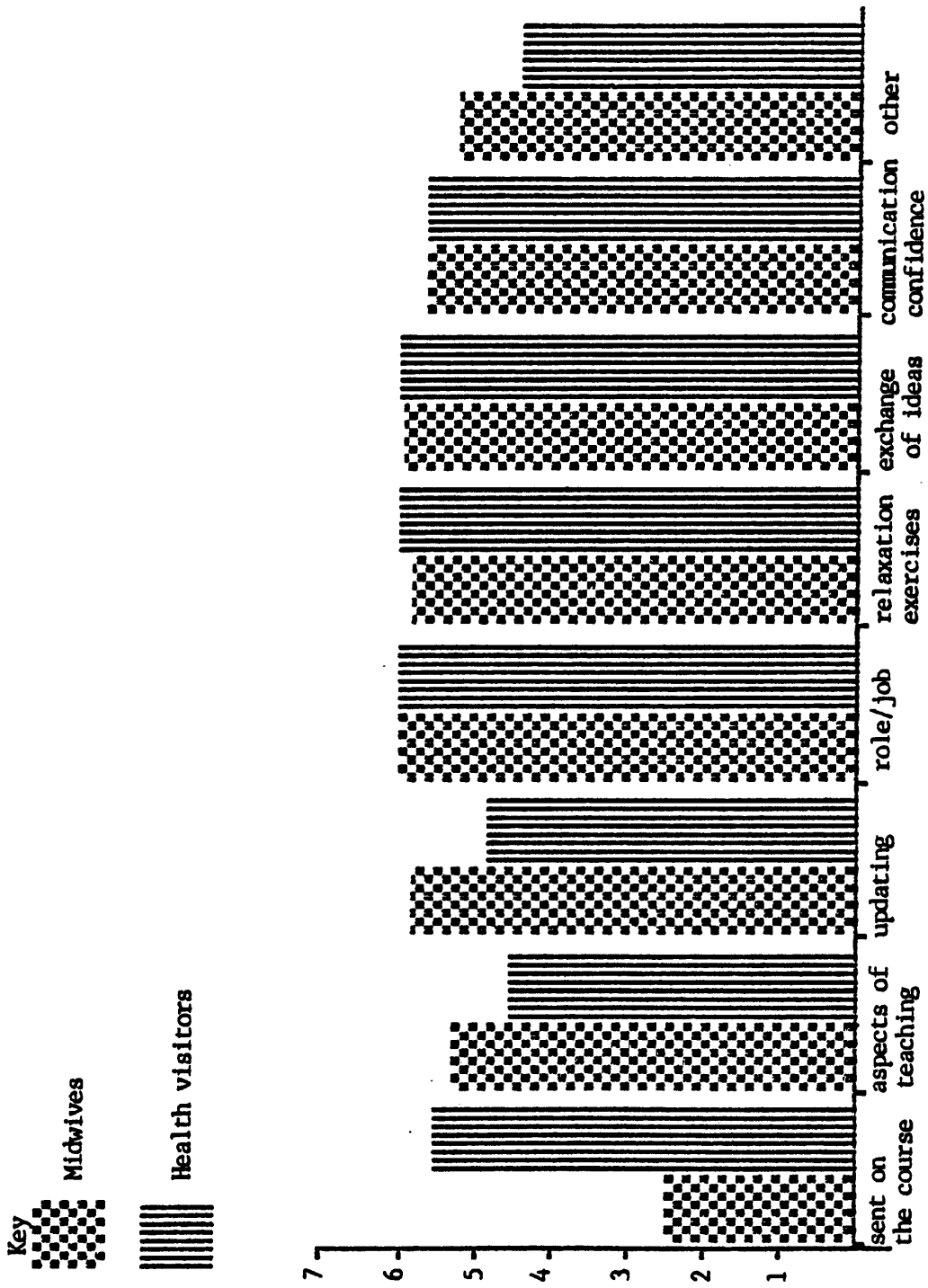


FIGURE 5.21

To show the mean scores given for the reasons for attending the course, midwives and health visitors.

Quotations from this question gives a better idea of the reasons given. An example of the most frequently mentioned reason is the midwife from Centre B who referred to exchange of ideas

> "To hear how classes are run in other areas and to gain as much information as possible to help me formulate some ideas of my own, so that I can hopefully take a more active part in our own classes in the near future."(Centre B)

Comments about the relaxation and exercises include such as this one from a Centre A health visitor:

> "The relaxation sessions were interesting and useful. A little more depth could have been used in giving the reasons for each exercise." (Centre A)

A health visitor who felt the need to refresh her knowledge said:

> "Having been a health visitor for 15 years I felt that I needed to be aware of current trends and methods of antenatal teaching. Although I have done this for many years I only started group teaching 18 months ago with very little idea about what to do."(Centre B)

The health visitor who wanted to improve her teaching commented:

> "The course was structured to improve our teaching and covered many aspects of the skills needed and made us stop and think about what we are doing and what is the best way to material." (Centre B)

A hospital midwife starting teaching in the near future stated:

"As a midwife I was not involved in antenatal classes and I wanted to gain more experience in teaching." (Centre B)

Less favourable comments included:

In response to a low score for relaxation and exercises:

"Not enough information given on reasons for doing exercises antenatally. I would have liked an example programme of exercises for an 8 week session in order to avoid repetitiveness" (Centre A)

One midwife did not feel entirely happy with the application teaching methods:

"I thought this was well explained, but I would have gained more from teaching a session, and then receiving advice and criticism. I felt the one session on the last day wasn't enough." (Centre A).

One of the health visitors who felt she had been sent on the course said firmly:

"I'm sure I would have found the workshop far more interesting had I not recently attended a Health Education Certificate Course and therefore would not have requested study leave to attend this workshop. (Centre B).

One health visitor gave the impression that the course was designed for the inexperienced:

"I have taught antenatal classes for 9 years and wondered if updating was needed. To date I had not attended such a course and had learned from senior colleagues. This course seemed ideal for someone setting out on antenatal teaching." (Centre B)

The next aspect explored was an overall view of the course. The responses are shown in figure 5.22.

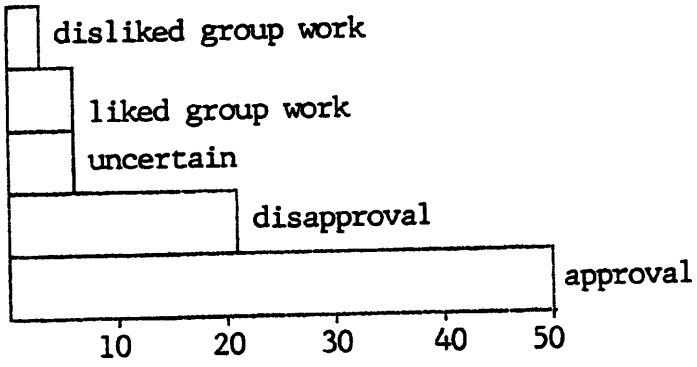


FIGURE 5.22

To show the overall responses of the subjects to the course (multiple response).

The final question asked if the subjects would recommend these courses to a friend or colleague. The subjects responded enthusiastically with 100% from Centre B and 82.6% from centre A saying yes. One of the Centre A subjects qualified her answer with the rider:

"It would depend on how experienced the colleague was."

5.3 The results of the observation study.

5.3.1 Comparison of the two centres.

The 76 classes were observed in 23 different sites between the two centres. Midwives led 42% of the classes and 58% were led by health visitors. There were 54% of the classes which were taught by a team of two, with the rest taught by one person. The incidence of classes which were observed in the two centres, pre and post course is shown in table 5.18.

TABLE 5.18
To show the incidence of classes observed pre and post course, cross tabulated by centre.

	Centre A	Centre B	TOTAL(%)
pre course	9	14	23 (30.3)
post course	20	33	53 (69.7)
TOTAL	29	47	76 (100)

corrected $x^2 = 0.00$
degrees of freedom = 1
P. = 1.00

The two centres were examined for major differences, but there were not many. The variables examined were classified as:

1. those outside the control of the teachers, see table 5.19

2. those which could be controlled by the teachers, see table 5.20

TABLE 5.19
To show factors outside the control of the teachers.

Occupation of the teacher
Health Centre or hospital
Number of mothers in the class,
Parity of the mothers in the class
Size of room used for the class
The amount of noise*
The seats available.

*There were significantly more noisy surroundings for the classes in Centre A ($p = 0.006$), otherwise there were no significant differences in the incidences in each centre.

TABLE 5.20
To show factors within the control of the teachers.

Subject matter of the classes
Number of post natal mothers in the classes
Number of fathers in the class
Number of babies in the class
Number of observers in the class
Use of films
Efficiency of audio visual equipment
Efficiency of other equipment
Use of notes by teachers
Use of the mothers' names by teachers
Wearing of uniform*
Teaching in teams or alone

*There were significantly ($p = 0.02$) less in Centre A who wore uniform, otherwise there were no significant differences in the incidences in each centre.

The rooms which were used for teaching purposes varied from those set aside specifically for classes to a screened off area of the clinic or the waiting area. The differences between the two centres are shown in figure 5.23

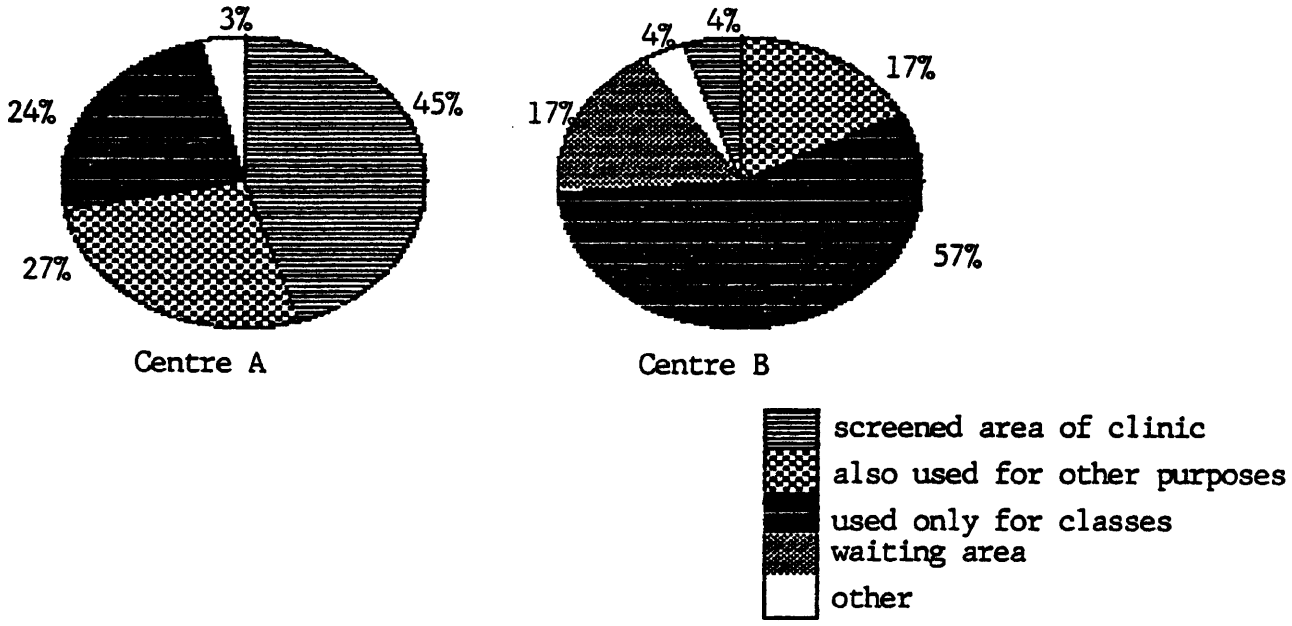


FIGURE 5.23

To show the distribution of the types of rooms used for teaching in the two centres.

5.3.2 The results of the interaction analysis.

The length of observation of the classes ranged from 10 to 74 minutes with a mean of 42 minutes. The short classes were those where films or videos were a major part of the class. The analysis of the observation of the 76 antenatal classes is presented according to the research questions itemised in Chapter 3.2. The method of analysis of FIAC has been discussed in 5.1.2 but the definitions of the three percentages of talk and the 8 FIAC ratios are repeated. The percentages are of teacher talk, pupil talk and confusion or silence. Teacher talk in the Flanders 10 categories involves the categories 1-7, pupil talk is in categories 8-9, while silence or confusion is in category 10.

The 8 ratios used for analysis were:

1. Teacher Response Ratio (TRR)

It is defined as : "an index which corresponds to the teacher's tendency to react to ideas and feeling of the pupils," (Flanders, 1970, P.102)

2. Teacher Question Ratio (TQR)

It is defined as: "an index representing the tendency of a teacher to use questions when guiding the more content oriented part of the class discussion." ..."it will vary as the teacher solicits pupil reactions to ideas which the teacher considers important or checks on understanding by asking questions." (Flanders, 1970, P.102)

3. Pupil Initiation Ratio (PIR)

It is defined as: "to indicate what proportion of pupil talk was judged by the observer to be an act of initiation." (Flanders, 1970, P.102)

4. Instantaneous Teacher Response Ratio (TRR89)

(also called 'teacher immediate response ratio')

It is defined as: "the tendency of the teacher to praise or integrate pupil ideas and feelings into the class discussion, at the moment the pupils stop talking." (Flanders, 1970. p 104)

5. Instantaneous Teacher Question Ratio (TQR89)

(also called 'teacher immediate question ratio')

It is defined as: "the tendency of the teacher to respond to pupil talk with questions based on his own ideas, compared with his tendency to lecture." (Flanders, 1970, p.104)

6. Content Cross Ratio (CCR)

(also referred to as content emphasis)

It is defined as: "those statements which are least likely to be involved with problems of reward and punishment, reacting to the ideas and feeling of the pupil and giving of assignments and direction, as these are not classified in the categories 4 and 5." (Flanders, 1970 p.106-7).

7. Steady State Ratio (SSR)

(also referred to as total sustained discourse)

It is defined as: it "reflects the tendency of teacher and

pupil talk to remain in the same category for periods longer than 3 seconds. The higher this ratio, the less rapid is the interchange between the teacher and the pupils" (Flanders, 1970, p. 106)

8. Pupil Steady State Ratio (PSSR)

(also referred to as pupil sustained discourse).

It is defined as: "a more sensitive index to the rapidity of teacher-pupil interchange when the amount of pupil talk is average or above average." (Flanders, 1970, p.106)

As there are no 'norms' for FIAC within antenatal education, Table 5.21 shows a comparison of the total percentages and ratios for the 76 sessions with combined observations from Flanders (1970) and Wragg (1972)

TABLE 5.21
To show a comparison of data from 76 antenatal classes with composite data from the studies of Flanders and Wragg.

	A/N classes	Flanders	Wragg
no of classes	76	78	578
% pupil talk	17.2	20	*
% teacher talk	77.5	68	73
% silence	5.2	11	*
TRR	79.2	42	48
TQR	7.7	26	21
PIR	19.2	34	43
TRR89	94.1	60	80
TQR89	30.2	44	32
CCR	69.9	55	50
SSR	80.6	50	59
PSSR	55.9	7	39

* = information not available

A. Differences in interaction pre and post course.

The main research question of the study was to determine if there was increase in the amount of interaction between the teachers (ie. the subjects of the subsample who were observed) and the mothers attending the antenatal classes. There were six variables measured:

a) each centre - pre and post course

b) pairs matched for teacher, topic, and place - pre and post course;

c) those who had not taught before attending the course and were observed post course were compared with the remainder of the post course observations;

d) the subjects from Centre A1 were only observed post course - they were also compared with the remainder of the post course observations.

e) each occupation - pre and post course.

f) comparison of pre and post course scores of a self selected group and a manager selected group.

The pre and post course results were compared and tested for significance by the Mann Whitney U test (see appendix E). The results of the interactions, cross tabulated by centre are detailed in appendix L.1 with table 5.22 indicating the levels of significance in the results.

TABLE 5.22
To show the levels of significance (Mann Whitney U test) of the results of the interaction analysis when compared pre and post course, cross tabulated by centre.

	Centre A	Centre B
% mother talk	ns	ns
% teacher talk	ns	ns
% silence	ns	p=0.01 (dec)
TRR	ns	ns
TQR	ns	ns
PIR	ns	ns
TRR89	ns	ns
TQR89	ns	ns
CCR	ns	ns
SSR	ns	ns
PSSR	ns	ns

ns = not significant

Both centres had classes with the same percentage of silence pre course. The significant decrease in silence in the Centre B classes was taken up by an increase in the percentage teacher talk but not at an significant level. There was an increase in silence in Centre A and a decrease in teacher talk which was associated with a small but not significant increase in percentage mother talk.

There were 9 classes which were taught by the same teacher on the same topic and in the same place both pre and post course. Comparison between the pairs pre and post course, tested for significance by the Wilcoxon matched-pairs signed ranks test, demonstrated no significant differences between the percentages of talk or silence, and the 8 FIAC ratios (appendix L.2)

The comparison between those who had not taught before attending the course and the remainder of the post course observations is shown in appendix L.3. The comparison between those who were only observed post course and the remainder of the post course observations is shown in appendix L.4. Table 5.23 summarises the results of both presenting the levels of significance.

TABLE 5.23
To show the levels of significance (Mann Whitney U test) of the results of the interaction analysis between those without previous teaching experience cross tabulated by the rest of the post course observations and those only observed post course cross tabulated by the rest of the post course observations.

	no previous teaching experience	observed post course only
% mother talk	ns	ns
% teacher talk	p=0.05 (dec)	ns
% silence	p=0.009 (inc)	ns
TRR	ns	ns
TQR	ns	ns
PIR	ns	ns
TRR89	ns	ns
TQR89	ns	ns
CCR	ns	ns
SSR	ns	ns
PSSR	ns	ns

ns = not significant

There was a significant difference in the percentage of time spent in silence or confusion. The classes taught by the inexperienced teachers had 13.6% silence compared with 3.4% in the classes taught by the more experienced teachers. Although the inexperienced did not spend as much time talking as the experienced (69.7% compared with 76.9%) the mothers also talked less (16.6% compared with 17.6%) in the classes conducted by the teachers with no previous teaching experience.

The results of occupational differences pre and post course should be treated with some caution as they include both single and team teaching, with the latter classified according to the teacher who led the class. There were 41 classes (54%) which were conducted by two teachers, all but 4 of which were taught by a team of midwife and health visitor; 4 were taught by two health visitors together. The teacher on whom the classification of a 'midwife class' or a 'health visitor class' was based was the one who organised the classes and led the teaching and discussion. Mann Whitney U tests of significance on the percentages of talk, silence and the 8 FIAC ratios demonstrated no significant differences between classes taught by a single teacher and those taught by a team. Table 5.24 shows the differences between the occupations.

TABLE 5.24
To show the levels of significance (Mann Whitney U test) of the results of the interaction analysis when compared pre and post course, cross tabulated by occupation.

	Midwives	Health Visitors
% mother talk	ns	p=0.02 (inc)
% teacher talk	ns	ns
% silence	ns	ns
TRR	ns	p=0.05 (inc)
TQR	ns	ns
PIR	ns	ns
TRR89	ns	ns
TQR89	ns	ns
CCR	ns	ns
SSR	ns	ns
PSSR	ns	ns

ns = not significant

The health visitor led classes had a significant increase in the TRR post course, an increase which brought them up to the level maintained by the midwives in pre and post course classes. The percentage of mother talk was significantly increased in the health visitors post course classes, which was associated with a decrease but not at a significant level, of the percentage of teacher talk. The midwives talked for a greater percentage of time in the post course classes and the mothers talked less, but neither of these reached a significant level (appendix L.5).

The profile data from the pre course questionnaire (figure 4.6) had demonstrated there were significantly more subjects from Centre B who attended the course at the suggestion of their managers compared with those who were self selected. This was supported in the reasons for attending the course.

Of the 76 classes there was information about the decision making process for the teachers of 71 of the classes. This information was not available when the subset was chosen for inclusion in the observation study. There were 16 classes with the self selected teachers and 55 with the manager selected teachers, which were analysed to determine if there were any differences in the pre and post course levels of interaction.

Figure 5.24 shows the results of the percentages of mother and teacher talk and silence in the two groups.

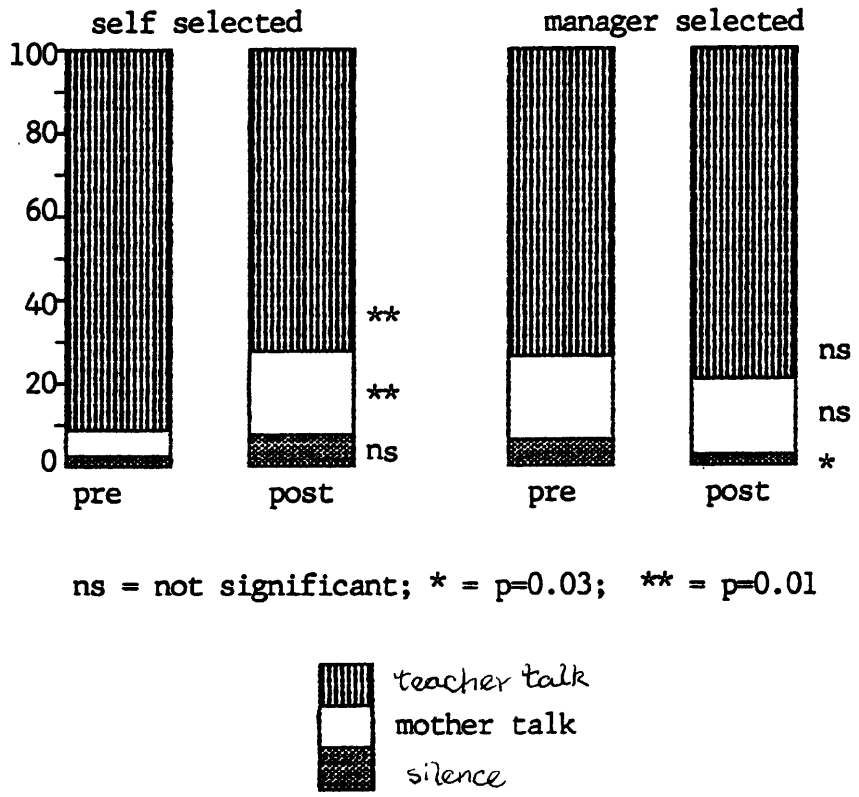
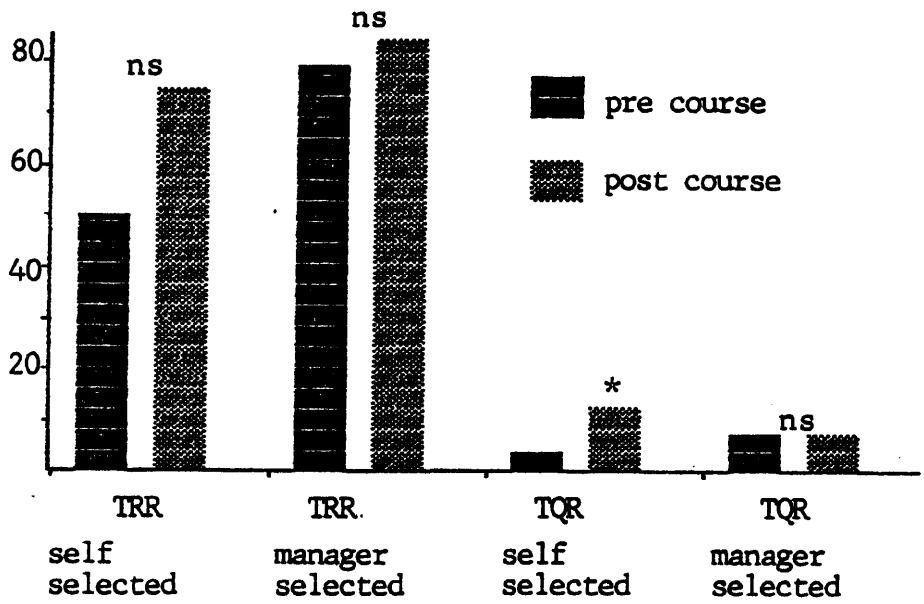


FIGURE 5.24

To show the percentages of mother talk, teacher talk and silence, in the classes taught by the self selected group and manager selected group, pre and post course.

There was a significant increase in mother talk and a significant decrease in teacher talk in the self selected group, post course. The significant decrease in the silence post course in the manager selected group was associated but not at a significant level with an increase in teacher talk

and decrease in mother talk.

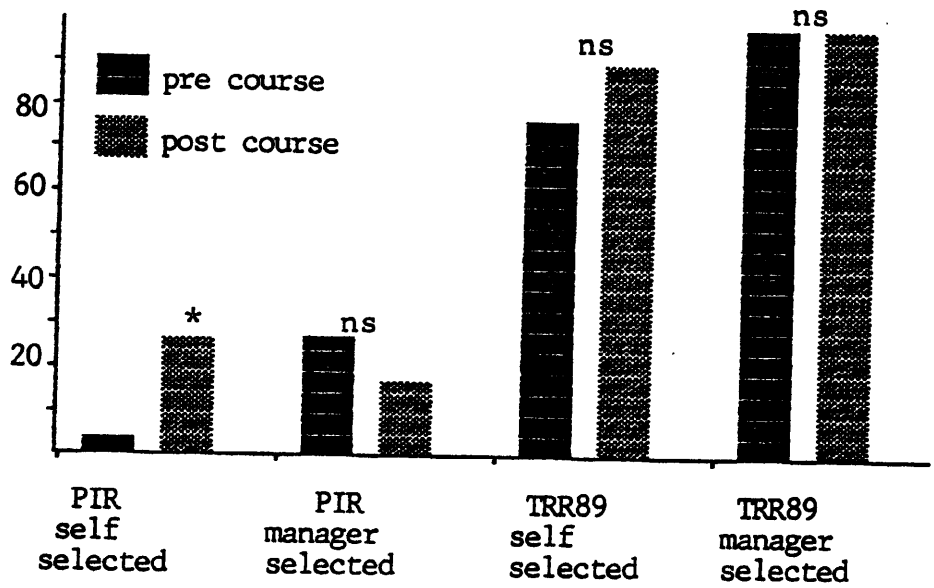


ns = not significant; * = p=0.04

FIGURE 5.25

To show the Teacher Response Ratio, and Teacher Question Ratios, in the classes taught by the self selected group and manager selected group, pre and post course.

Neither group demonstrated any differences in the TRR, but the self selected teachers increased their use of questions to guide the content orientated part of the discussion (TQR).

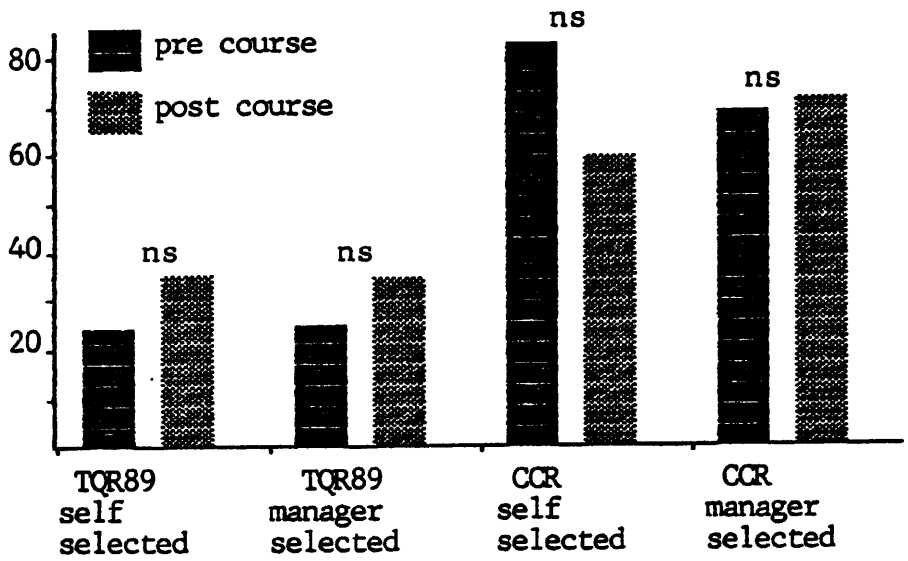


ns = not significant; * = p=0.05

FIGURE 5.26

To show the Pupil (mother) Initiation Ratio and Instantaneous Teacher Response Ratio, in the classes taught by the self selected group and manager selected group, pre and post course.

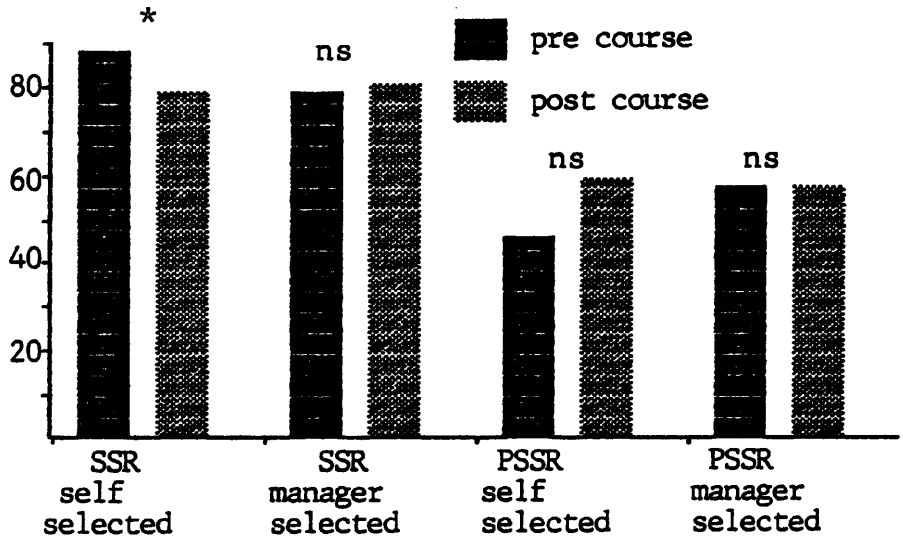
The self selected group had a significant increase in the initiation from the mothers in their post course classes, whereas this measure decreased in the classes taught by the manager selected group. The increase in the instantaneous response to the mothers' ideas was not significant in the self selected teachers and did not reach the level maintained by the manager selected group.



ns = not significant.

FIGURE 5.27

To show the Instantaneous Teacher Question Ratio and Content Cross Ratio, in the classes taught by the self selected group and manager selected group, pre and post course.



ns = not significant; * = p=0.01.

FIGURE 5.28

To show the Steady State Ratio and Pupil Steady State Ratio, in the classes taught by the self selected group and manager selected group, pre and post course.

There was a significant decrease in the SSR, which indicated more rapid interchange between teacher and mothers in the classes taught by the self selected group.

B.The topics taught

As well as examining the teaching behaviour pre and post course, the interaction results were also analysed to determine if other factors influenced the interaction between teachers and mothers. Table 5.25 presents the results of the classes cross tabulated with the 6 broad categories of the topics (appendix L.7).

TABLE 5.25
To show the levels of significance of the Kruskal-Wallis 1 way analysis of variance of the 6 topics taught in the classes.

	sig.	inc/dec	topic
% mother talk	ns		
% teacher talk	ns		
% silence	p=0.001	inc	baby bathing
TRR	p=0.001	dec	baby bathing
TQR	ns		
PIR	p=0.016	inc	feeding
TRR89	p=0.001	dec	baby bathing
TQR89	p=0.021	inc	antenatal topics
CCR	p=0.015	dec	baby bathing
SSR	ns		
PSSR	ns		

ns = not significant;
inc/dec = an increase or decrease in the ratio with a significant difference.

The classes which featured baby bathing showed the greatest number of differences. The increase in the percentage of silence was due to some of the teachers demonstrating the bathing in silence. There was a decrease in the teachers' reactions to ideas and feelings from the mothers (TRR) and in the integration of these ideas into the class discussion (TRR89). There was a decrease in CCR indicating divergence from the subject matter and less

involvement by the teacher than in those classes with a higher CCR. The topics with the greatest increase in the mothers' contribution (PIR) were those on feeding, both breast and bottle. The classes which had an increase in the teachers responding to the mothers' talk (TQR89) were those on the antenatal topics.

As 18% of the classes were discussing breast feeding, these were analysed separately and compared with non-feeding topics, ie. those classes which were on bottle feeding were excluded from this analysis (Table 5.26; appendix L.8).

TABLE 5.26
To show the levels of significance (Mann Whitney U test) of the results of the interaction analysis between breast feeding topics cross tabulated by non-feeding topics.

	Breast feeding
% mother talk	p=0.0002 (inc)
% teacher talk	p=0.004 (dec)
% silence	p=0.01 (dec)
TRR	ns
TQR	ns
PIR	p=0.01 (inc)
TRR89	ns
TQR89	ns
CCR	ns
SSR	ns
PSSR	p=0.008 (inc)

ns = not significant

The results of the breast feeding topic analysis demonstrated a decrease in the percentage of teachers' talk with a corresponding increase in the percentage the mothers talked at a highly significant level. The PIR and PSSR indicate that the increase was in the mothers' initiation of the subject and that there was a rapid interchange of talk

between mothers and teachers.

C. The environmental conditions.

The classes held in health centres or clinics were compared with those held in hospital and the single one held in a GP Unit. There was no difference in the distribution of pre and post course classes between the community and hospital.

As there had been significantly more classes in noisy surroundings in Centre A, the noisy classes were compared with quiet ones. There was an equal number of noisy classes in the pre and post course classes.

Seating arrangements were one of the features of the training course, with the attenders assessing the effects of different types of seating plans on mothers in class. All the classes were held in places where it was possible to control the seating arrangements. The most frequent choice was a semi circle (40%) and these were equally distributed between the pre and post course classes.

The levels of significance of the place of teaching, the noise of surrounding and the seating arrangements on the interaction analysis are shown in table 5.27 (appendices L.9; L.10; L.11)

TABLE 5.27
To show the levels of significance (Mann Whitney U test) of the results of the interaction analysis between classes held in the community cross tabulated by those in hospital; noisy cross tabulated by quiet surroundings and semi-circular seating arrangements cross tabulated by other seating arrangements.

	Place	Noise	Seating
% mother talk	ns	ns	ns
% teacher talk	ns	ns	ns
% silence	ns	ns	ns
TRR	ns	ns	p=0.02 (inc)
TQR	ns	ns	ns
PIR	ns	ns	ns
TRR89	ns	ns	ns
TQR89	ns	ns	ns
CCR	ns	ns	p=0.05 (inc)
SSR	ns	ns	ns
PSSR	ns	ns	p.0.05 (inc)

ns = not significant

There were only significant differences in the seating arrangements, with a decrease in the teacher's tendency to react to ideas (TRR) in classes with semi circles; a decrease in the content emphasis (CCR) and an increase in the teacher - mother interchange (PSSR).

D. The addition of babies and fathers to the classes.

There were classes which included babies or fathers as well as the antenatal mothers. Classes with babies formed 25% of all those observed. There were 10 classes with babies when the topic was breast feeding (71% of the breast feeding classes) and 9 which featured baby bathing. Four of the classes with babies did not include the mother as these babies were part of a hospital class and had been 'borrowed' to bath for demonstration purposes. There was no significant

difference in the incidence of classes with babies when pre course classes were compared with post course classes.

Of the 7 classes which had fathers present, 6 were the fathers' or parents' evening class to which the fathers were specially invited. All the other classes took part in the afternoon, and although fathers were welcome they were not invited. This low number of fathers joining their partners is somewhat surprising as both of the centres had considerable unemployment problems. The levels of significance are shown in table 5.28 and full results in appendices L.12 and L.13.

TABLE 5.28
To show the levels of significance (Mann Whitney U test) of the results of the interaction analysis between classes without babies cross tabulated by classes with babies present and classes without fathers cross tabulated by classes with fathers present.

	Babies		Fathers
% mother talk	ns		ns
% teacher talk	p=0.005	(dec)	ns
% silence	ns		ns
TRR	p=0.004	(dec)	ns
TQR	p=0.04	(inc)	ns
PIR	p=0.003	(inc)	ns
TRR89	p=0.009	(dec)	ns
TQR89	ns		ns
CCR	p=0.0001	(inc)	ns
SSR	ns		ns
PSSR	ns		ns

ns = not significant

The classes with the babies had a significant reduction in the percentage of teachers talk, this was associated with an increase in the percentage of mother talk, although not at a significant level; a decrease in the teachers'

reactions to ideas (TRR); an increase in the teachers use of questions when guiding content (TQR); an increase in the proportion of talk initiated by the mothers (PIR); a decrease in the teachers' tendency to integrate mothers' ideas when they stop talking (TRR89); and a decrease in the emphasis on the content (CCR).

The talk in the classes by the fathers was categorised separately during observation, but when the codes were collapsed back the fathers' talk was included in the mothers' talk. Despite this, there was no difference in the classes with fathers compared with those with mothers only.

5.3.3 The question techniques.

A. The teachers' questions.

The six categories of questions which were used by the teachers were:

1. question to expand feelings:
   eg "what is worrying you"

2. 'history' taking questions concerned with the mother's experience:
   eg. "what were you told when you went to clinic last week?"
   "what happened when you breast fed your last baby?"

3. question to assess mother's knowledge:
   eg "what are the advantages of breast feeding"
   "do you know anyone who has breast fed?"

4. open question:
   eg after a mother has given details of different forms of pain relief in labour
   "what will you do this time?"

5. closed question:
   eg."will your husband be with you?"
   "have you got a name for the baby?"

6. series of closed questions to each member asking the same question

eg "when is your baby due?"

"what is your name?"

There were a total of 1499 questions asked in the 76 classes observed, the mean number in a class was 20. The first three classifications, the exploratory questions, comprised 26.1% of the total. Table 5.29 shows the distribution of the different types of questions.

TABLE 5.29
To show numbers and percentages of types of questions asked during 76 antenatal classes.

type	n	%
to expand feelings	55	3.7
'history' taking	221	14.7
assess knowledge	115	7.7
open	325	21.7
closed	544	36.3
series of closed	88	5.8
unknown	151	10.0
total	1499	99.9

There were 10% of the questions for which there were insufficient data to classify them.

The questions were compared pre and post course, cross tabulated by the centres and the occupations; the full results are shown in appendix L.14 with the levels of significance in table 5.30

TABLE 5.30

To show the levels of significance of Mann Whitney U test of the teachers questions pre and post course, Centres A and B.

	Centre A	Centre B
expand feelings	ns	p=0.01 (inc)
assess knowledge	ns	ns
'history' taking	ns	ns
open	ns	ns
closed	p=0.007 (inc)	ns
series of closed	ns	ns

ns = not significant

TABLE 5.31

To show the levels of significance of Mann Whitney U test of the teachers questions pre and post course, midwives and health visitors.

	Midwives	Health Visitors
expand feelings	ns	ns
assess knowledge	ns	ns
'history' taking	ns	ns
open	p=0.04 (dec)	ns
closed	p=0.04 (dec)	ns
series of closed	ns	ns

ns = not significant

There was a significant increase in the closed questions asked by the Centre A subjects and the questions to expand feelings asked by the Centre B subjects post course; there was a decrease in the mean number of open and closed questions asked by the midwives post course compared with pre course. There was no difference in the mean number of questions asked pre and post course by the self selected and manager selected teachers.

B. The use of "Any questions?"

Of the total number of questions, 10.3% were inviting questions from the mothers. They involved asking "Any questions?" or "Do you have any questions?" These questions were analysed separately to investigate the pattern of response following this form of question. As the number of questions asked varied in different sessions, it was not possible to subject this data to statistical tests of analysis, so the data is presented as numbers of events or percentages.

On 64% of the occasions when "any questions?" were asked, there was no response from the mothers. When the mothers responded to 36% of these questions, 17% (of the total) was with a question (the shaded area in figure 5.29) The other 19% where there were responses, these were either a statement or non verbal response, such as shaking heads.

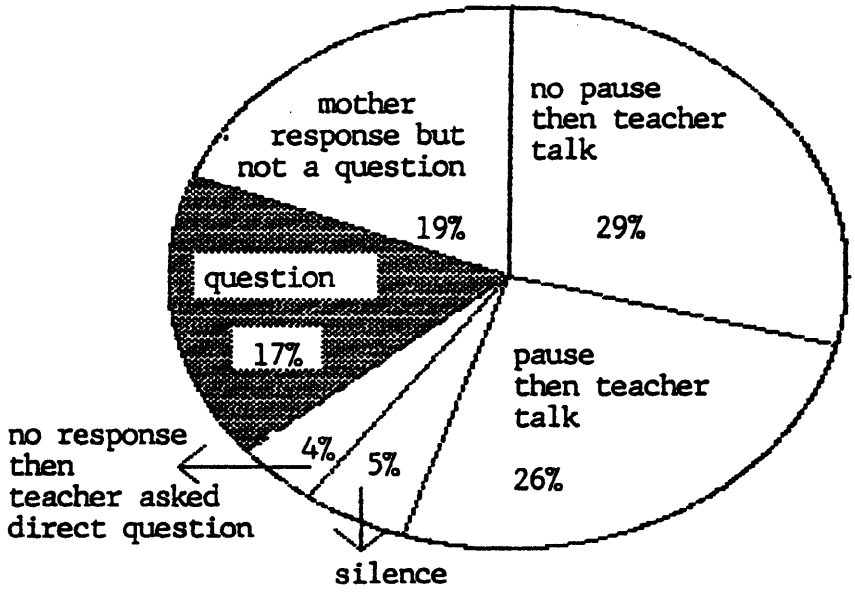


FIGURE 5.29

To show the percentages of events following the teachers asking "Any questions"

Of the questions which did not get any response from the mothers, some were then followed by a direct question. This still did not result in questions. There were 25% of the questions which were followed by a pause of at least 3 seconds, that is long enough to be identified by the interaction analysis system. The largest single pattern was to ask "Any questions?" and to carry on talking within 3 seconds, which would seem to indicate that the mothers would need to be quick with their question to get it in. A small number of these questions (5%) were the final words of the session and no more was said.

There were only 3 sessions where this technique was not used. For some sessions, this form of questioning was used

frequently, with one session where it was asked 9 times, with only one which had a response, figure 5.29

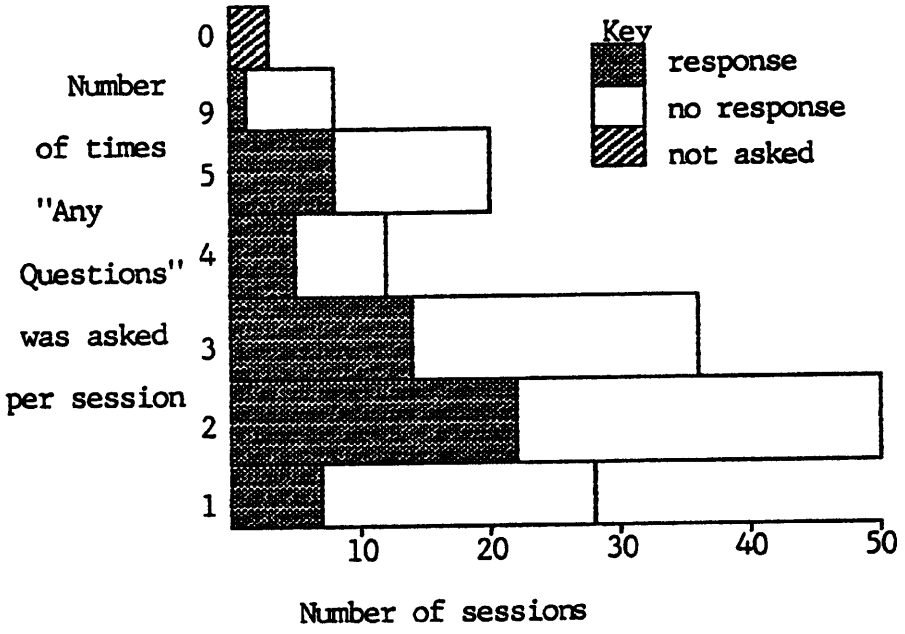


FIGURE 5.30

To show the number of times "any questions" was asked in a session.

The response/no response figures were examined between the centres and between pre and post course. There were 78 occasions when "Any questions" was asked in Centre A and 77 in Centre B.

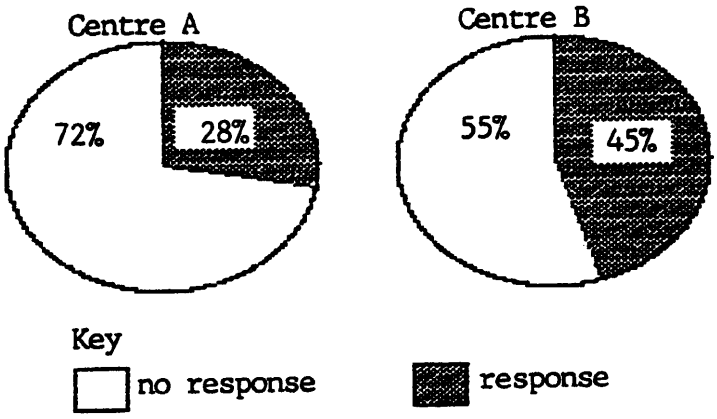


FIGURE 5.31

To show the percentage of responses and no responses to "any questions" in Centres A and B.

"Any questions?" was asked on 45 occasions in the pre course observations (23 sessions) and on 110 occasions in the 53 sessions observed post course. There was a small increase (2%) in the percentage of responses to this questions in the post course sessions, figure 5.31

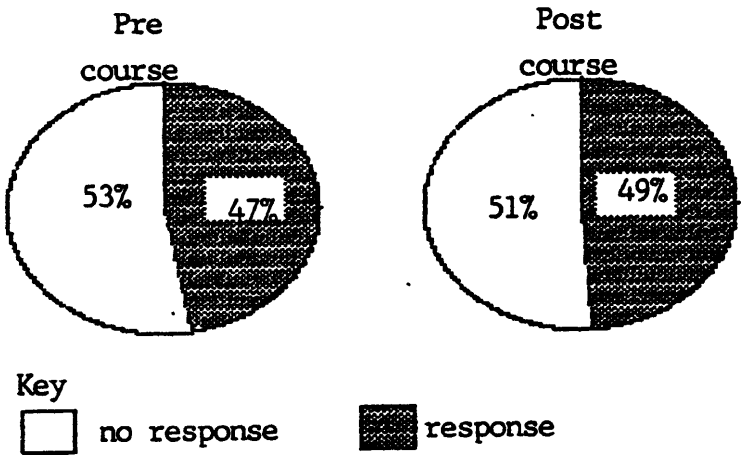


FIGURE 5.32

To show the percentage of events after asking "any questions", compared pre and post course.

C. The mothers' questions.

The questions asked by the mothers were classified in a similar manner to the teachers, except there was no question equivalent to the 'history' question and there were no series of closed questions.

1. question regarding feelings:
 eg. "how do I cope if I feel like battering my baby?"
 "is depression worse after birth?"

2. question to obtain further information:
 eg. "are there any foods I should avoid?" (when breast feeding)
 "what will happen after two hours of pushing?"

3. open question:
 eg. "what do you eat?"
 "where do you breast feed?"

4. closed question:
 eg. "did you feed the baby after delivery"
 "will I have to have a monitor?"

The mothers' questions were analysed to give a mean and standard deviation, to be tested for significance with a Mann Whitney U test. The frequencies, however, in each category were so low that it was not possible to have any meaningful results from the statistical tests. They are presented here as frequencies.

There were 560 questions from the mothers in the 76 classes compared with 1499 from the teachers.

TABLE 5.32
To show the frequencies of the pre and post course of mothers' questions in each of the categories.

	Pre course	Post course	total
regarding feelings	5	22	27
more information	110	217	327
open	20	18	38
closed	47	60	107
unknown	51	10	61
total	233	327	560

The pre and post course questions from the mothers are shown in figure 5.33

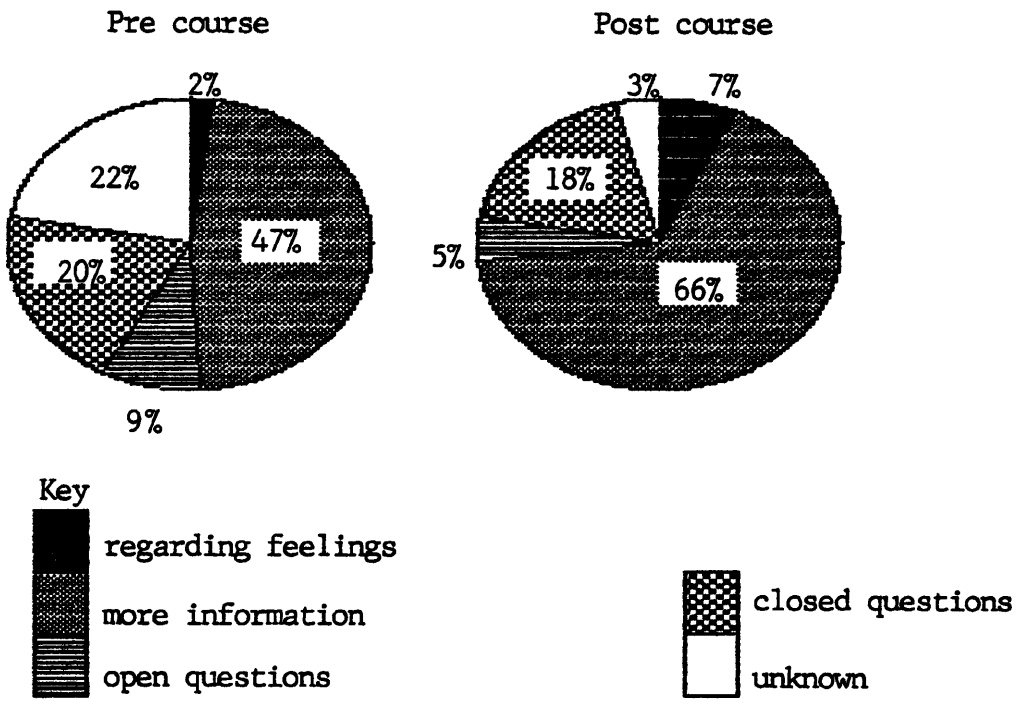


FIGURE 5.33

To show the percentages of pre and post course questions by the mothers in the antenatal classes.

CHAPTER 6

DISCUSSION.

The results of this evaluation of a teaching and group skills training course indicate that:

a) The course met the expectations of the midwives and health visitors.

b) The classes which were associated with an increased interaction between mothers and teachers in the pre and post course analysis were those taught by the self selected group of teachers and to a lesser extent in those classes led by the health visitors.

c) Analysis of other factors demonstrated increased interaction in classes with babies present and those where the topic was breast feeding. It is difficult to isolate the effects of breast feeding and babies on the interaction as 10 of the 19 classes on breast feeding had babies present. There a small increase in interaction in the classes which had a semi circular seating plan.

d) Centre A teachers asked more closed questions and Centre B teachers more questions to expand feelings, post course.

e) Asking 'any questions' produced the desired response on only 17% of occasions;

f) Mothers asked few questions, a mean of 7.4 per session compared with a mean of 19.7 per session from the teachers. The majority of the questions (58.4%) were asking for more information with only 5% concerning feelings.

These findings will be discussed in relation to the research questions of the study.

6.1 The questionnaire study.

1. To determine the reasons for attending and expectations of the course.

A. Teaching skills.

The majority of the subjects wanted to learn to teach or to improve their teaching skills. There were 3 groups who qualified their reasons:

a) those who felt they were sent on the course;
b) those who had already some form of teacher training;
c) those for whom learning relaxation and exercises were the main reasons for attending.

Motives for attending classes as an adult are varied both in an individual and within a group at a course (Rogers, 1971). While in-service training may present a cohesive purpose in the eyes of those who plan and organise,

the attenders' motivation and expectations may range widely. The expectations of the subjects may well determine how much they are willing to learn (Perkins 1981a). If the course can enhance feelings of accomplishment, responsibility and personal growth it will reinforce the positive motives and stimulate learning (Beard, 1970).

It might be asked if the most appropriate staff were selected, as there was a range from those with no experience of teaching to those with formal teacher training and some with many years' experience. There was some evidence that the choice of those to attend was made by their managers without necessarily consulting the staff as to other courses they had attended; 53.3% of those who had previous teacher training and 64.5% of the total were selected by their managers. One commented at the end of the first day:

> "Covered all the topics previously and often in a lot more detail and depth, rehashing old ground."

There were significantly more in Centre B who were selected by their managers, and when asked for their reasons for attending, 13 in Centre B compared with 1 in Centre A said they were 'sent' on the course. For example, a midwife stated she was "asked to attend"and a health visitor replied "Because I was asked to do so"

Perkins (1981a) discussing evaluating in-service training commented:

> "A group of people who choose to enroll for a course are likely to be considerably more sympathetic to its stated aims and methods than a group who are there because they have been told to attend." (p3)

There was no trouble with participants once an "unsuitable nominee" was supported in her decision not to attend (Daniels and Perkins 1982) but not all course organisers have such freedom. The ideal situation, however, of selecting already motivated staff may present problems for managers. Selection may be, may have to be, on the basis of service needs rather than the professional development of an individual. As there is increasing commitment to and demand for continuing education (ENB 1985b, SHHD, 1981) managers may have to send staff for post basic training, whether or not the individual is willing. It should be also considered that those whose needs have been identified by their managers, may not necessarily agree with the managers' assessment and require considerable persuasion to attend.

As the self selected group in the observation study was a small part of the whole sample (17%) extrapolation of findings from this group to the whole is made with caution. The pre course interaction of the self selected group was lower than the manager selected group and it may be that an awareness of their own needs to improve their teaching skills was their motivation. As this was the group to demonstrate the greatest change post course, it could be argued that sending the self selected (who may also be more highly motivated) is more cost effective.

Of the subjects in Centre A, who were offered the chance of learning how to teach relaxation and exercises, there were more health visitors than midwives who gave this reason. This need had been identified in Centre A before

setting up the course and was specifically reflected in the health visitors comments, which supports the recommendation of Anderson et al (1980).

B Group work.

Learning how to deal with groups or teaching groups was expressed indirectly as concern about meeting the needs of mothers, how to cope with groups and dealing with peer conflict. One midwife expressed her concern as:

> "Providing classes which are beneficial to all social classes and age groups. They are often difficult to integrate."

Antenatal teachers often reject the idea that they do not identify and respond to the needs of a group, but Perkins (1980a) has demonstrated that they are unable to do this.

The aspects which the subjects thought would be the most useful were teaching and communication skills, exchanging ideas, inspiration and an opportunity for self evaluation.

2. Will there be a difference in the rating and the comments about the course sessions between the subjects from the two centres?

Direct comparison between the rating and the comments is inappropriate. The rating of sessions was made on a daily basis and comparision was with sessions held on the same day. The comments were referring only to individual

sessions without reference to others. Both centres, however, gave the greatest number of positive comments to the session which discussed how to deal with groups. Sessions about other aspects of group work, for instance 'asking questions' and 'free discussion' were high in the ranking of the forced choice rating section of the course questionnaire. Learning how to deal with groups had not been expressed directly in the reasons for attending the course.

Despite giving learning teaching as the main reason for attending the course, both pre and post course, the sessions relating to teaching skills, did not have as many positive comments, nor were these sessions ranked high in the forced choice question as were the group work sessions.

Centre A subjects gave the relaxtion and exercises sessions both high rating and many positive comments.

There was little difference in the rating and the comments about the sessions between the subjects of each centre.

3. Will there be a difference in the how the subjects' expectations were met by the course, between the centres?

A. Organisation.

The organisation of the courses in both Centres was

given a high score, except for the parking facilities in centre A and the travelling distance for some of the centre B subjects. There were suggestions how to improve the information distributed before the course.

B. Reasons for attending.

The scores for the reasons for attending the showed that they were ranked according to the needs of the individuals. Those who would be embarking on antenatal education in the near future gave the preparation for this responsibilty a high rank; centre A subjects, midwives and health visitors placed relaxation and exercises high in the rank order. The Centre B subjects gave the highest score to exchanging ideas; in the pre course responses, this had been mentioned most frequently as potentially the most useful aspect of the course. Aspects of teaching was ranked third by Centre A; fifth by Centre B and midwives and was seventh in the health visitors ranking.

There were differences in the reasons given by midwives and health visitors as well as changes between pre and post course. There were less (4 compared with 14) who stated they had been 'sent' on the course. A considerable increase in the number who wanted to learn to teach (9 to 36) was stated post course and this consisted of all the midwives and 36% of the health visitors. Exchanging ideas was a reason given by equal numbers of midwives and health visitors and there was an increase in both groups post course. The majority wanting to learn relaxation and

exercises pre course were health visitors, with a third of the midwives and half the health visitors repeating it post course. Only two mentioned improving communication and confidence pre course and 8 made this comment post course.

The difference between the reasons given pre course and those given post course may have been due to a shift of emphasis in the answers as many of the post course reasons imply usefulness rather than giving a reason. Another possible explanation for this change was the course itself. In both centres, there was a session reporting research into antenatal educations. This may have raised their awareness of the need for this type of course. For instance, of the 14 who had said they were sent on the course, only 4 gave this reason afterwards. The other 10 may have appreciated a need in themselves which they did not perceive before the course.

4. Will the subjects consider that the aims of the courses in each centre were met?

The aims of the course in Centre B obtained a higher score than Centre A. The score for relaxation and exercises in Centre A were the highest (6.1 and 5.9) with the methods of parentcraft teaching slightly lower. The other aims in Centre A were the long term aims of antenatal education in the health authority, for instance, to reduce the perinatal and maternal morbidity. As such, they were not aims which

weeks' course. The aims in Centre B were more within the capabilities of each individual and obtained higher scores.

When usefulness was considered the sessions which were ranked highest were those teaching relaxation and exercises and teaching skills for Centre A. In Centre B the specialist sessions (Keeping up to date) were high in the rank order as were the sessions on visual aids, 'I never told them that' and the sessions with the mothers. That the organisers of each course had catered for the needs of their own staff as can be seen by the priority given in each centre to the sessions particular to that course.

The paucity of comments in this section, however, about the discussion and group work aspects of antenatal education may reflect the attitudes of the subjects. The sessions which relate to the familiar teaching methods, such as the use of visual aids, choosing teaching methods, aims and objectives were seen by the subjects as being useful. The sessions which were not mentioned at all as being useful included 'problems with groups', 'questioning techniques' and 'discussions'. A similar ranking by nurse tutor students was reported by Sheehan (1985) which he felt was due to a practical approach by the students and also the difficulty of ranking the less tangible aspects of the course.

In addition, the frequency with which the skills sessions, as opposed to discussion sessions, were mentioned may indicate that the midwives and health visitors had

different expectations of the courses to the organisers. Alternatively, it may be easier for someone to say she has learnt, for instance, 'aims and objectives' because she can actually list what she has learnt. Group work skills, such as 'questioning techniques' may not be so easy to measure and the antenatal teacher may not know if she has learnt anything until she has tried it out. As some of the attenders had not taught an antenatal class after the course when they answered the post course questionnaire, they may not have had an opportunity to assess themselves.

This predominence of teaching sessions as useful is the opposite to the results from the ranking of and comments about the sessions during the course, when the group work sessions had more favourable reactions.

5. Will the subjects be willing and/or able to make changes to their own classes?

There were 62.5% of all the subjects who had made changes to their classes. The changes mentioned most frequently were more flexible, informal attitudes and a greater willingness to include group work in their classes. Other changes included organisational details, use of visual aids, change in approach to teaching and increased confidence in teaching. Of those who could not make changes, problems with their managers, environment or

staffing levels were the main reasons given. While environmental reasons for not making changes may be insuperable in a period of financial constraint, management and staffing problems would be possible to overcome with a spirit of co-operation. Perkins (1981a) notes that managers may indirectly influence what goes on during a particular class. She attributes the following to management influence:

a rigid syllabus to be followed;

attitude to time needed for preparation and continuity, especially if there is to be team teaching;

lack of support while they develop their teaching skills.

Despite recent trends, recommendations for guidelines continue to appear in the journals (Craven et al, 1975; Gillett, 1985b).

A rigid system contributed to this comment:

> "I would like to use the trigger films we saw on the course, but all the films for our classes have already been ordered for this year and I can't change it."

Although training courses may be seen as a method of improving a service throughout a health authority, this training takes time as only a few of the staff can be released for each course. The enthusiasm and inspiration engendered by a week to consider teaching and explore new methods may be considerably dampened by a return to a system which has not changed and colleagues who see no reason to alter their established, probably didactic teaching. One

subject commented:

"The course programme has been set for the next few months and I can't change it on my own."

It is possible, however, that it may be easier to attribute reasons for the lack of change to the organisation or others, rather than struggle to produce the change.

6. What are the midwives' and health visitors' perceptions of antenatal education?

The subjects' perception of their own roles and that of their opposite number in antenatal education revealed both co-operation and conflict. Conflict and differences in perception of roles were discussed in the literature review and are supported by many of the findings in this study. Health visitors' relationships with community midwives were not as good as those with general practitioners (Draper et al (1984b). Yet the Scottish Health Visitors Association (1982) put the responsibility for the planning and organisation antenatal education with both professional groups, a stance supported by a joint statement from the Health Visitors Association and the Royal College of Midwives (1982). The Maternity Services Advisory Committee (1982) has pointed to the sensitive co-operation which this must involve if effective education is to be offered.

Some midwives in this study limited their participation in antenatal education to only the physical or emotional aspects while one concentrated on infant feeding which was related to her job description; others felt they should supply the expressed needs of the mothers. While one had a very wide view of antenatal education, some were defensive and felt they were more qualified to teach than the health visitors, despite reports (Ashton, 1977; Sayle, 1979) that midwives are not properly prepared for this role.

Health visitors considered their role in broader terms such as within the context of all health education or the long term care of families. Some argued for their greater expertise as they were qualified as both midwives and health visitors. Despite this, there were others who saw their participation as limited.

When describing the health visitors' role, some midwives stated the two were similar but complementary while others demonstrated an understanding of the differences between the two professions. Some midwives would like to limit the health visitors' involvement while others were uncertain or felt the health visitors were ineffective.

Health visitors saw the midwives' role as complementary but some would have liked to limit teaching to topics relating to pregnancy and the immediate postnatal period. While some midwives were seen as not keen to teach other health visitors appreciated that the midwives are more up to date in midwifery. Similar views were expressed by the

midwives and health visitors in McCabe et al's study (1984).

Multidisciplinary training for those who form health teams has been suggested as a means of enhancing effective interaction (Hayes and Patterson, 1975) and to lessen differences (Milne 1980). Those in favour of such training have referred to increased communication and respect, increased knowledge of roles and function, greater equality within the health team and improved patient care as a result (Rezler and Giannini, 1981)

It could be argued that it is only necessary for midwives and health visitors to appreciate each other's work and difficulties in order for harmony to reign. It would appear that without understanding and without adequate common training it is reasonable to expect conflict between the two professions. If there is duplicated and unco-ordinated teaching, conflicting and didactic advice, and an undervaluing of the other's contribution to care, it may be predicted that poor educational outcomes will inevitably result. It cannot be assumed, however, that understanding and training is all that is needed to make health education effective. Other factors may be equally important.

The service's organisational contraints are such that more may be required than just mutual good will and training. For example, the midwife may be called away to a delivery or the health visitor to a case conference and such instances must have implications for their managers. If the

service is committed to health education this means realistic workloads and staffing levels with an understanding of the value to teachers (in this case, the midwives and health visitors) of spending time together.

Providing for opportunities to prepare relevant and acceptable material, specific to the needs of each group, is essential for co-ordinated teaching. This may be difficult during periods of economic restraints, when it must seem that physical care should take priority over preventive care. Dingwall and McIntosh (1979) showed how it is possible (or convenient) for interdisciplinary conflict to be blamed on poor interpersonal relationships rather than on the structural problems of the working situation.

Overall summary of the course.

The overall comments to summarise the experience of the week were mainly favourable; some brief and enthusiastic

> "Wouldn't have missed it."
>
> "The most valuable course that I have attended since my training 20 years ago.
>
> "Tremendous interest and help."
>
> "Enjoyed it very much. When's the next one?"

Others gave a greater depth to their replies; as the health visitor who commented:

> "Initially I thought it was going to be a complete waste of time, rather juvenile and rather 'americanised' in approach. By the end I saw reasons for it and was able to stand back and assess my own attitude a little better."

One midwife commented on the length:

> "It could be condensed into 3 days; majority of midwives and health visitors were of long standing experience and

> should have no problems communicating with patients. Much of that was a waste of valuable time."

and does not appear to be aware of the problems that midwives and health visitors, even the experienced, do have with communication despite the demonstration during the course. She does not give a reason for this conviction, but was one of those who said she was sent on the course. It could be that she was lacking the motivation required to benefit form the course.

Some reflect the aspects already disussed from the earlier part of the results - one health visitor did appreciate the advantages of having the support of a colleague when instituting change:

> "Enjoyed meeting other health visitors and midwives; felt that it did break down the traditional barrier that exists between the two disciplines. Found it very helpful that the midwife I work with was also present and we can relate our teaching to this common experience."

while another health visitor had already faced the reality:

> "Excellent week, you came back from it with a lot of new ideas and then came down to earth as you find how difficult they are to implement."

One critical health visitor did not appear to appreciate that the course had been of benefit to her:

> "I found a lot of the course tedious as I have a lot of first hand experience. The group work was time consuming and not particularly productive. Would have liked more updating, and I am doing this personally now as a result of the course! I hadn't realised how things had changed so much in hospital procedures."

All post basic courses face the problem of trying to please a diverse group, with varied interests, experience and motives as well as covering those aspects which the

organisers feel are the needs of the attenders. Some of the difficulties may be that those who attend are not aware of their weaknesses; they may be resentful of the time spent on the course while their field work waits for them; attending other courses may result in a feeling of endless repetition. Despite these difficulties, this course appears to have met the needs of some of those who attended as well as the aims of the organisers. The comment of a midwife:

> "A very useful workshop in emphasising the part that prior preparation, use of visual aids and a relaxed atmosphere are the keys to success in getting our message across and create the right atmosphere for feedback."

is one which summarises both sides.

6.2 The observation study.

1. Will there be an increase in interaction between teachers and mothers in the classes observed post course compared with those observed pre course?

There was little increase in interaction between the teachers and mothers in the post course classes compared with the pre course classes. Increase post course in the levels of interaction between teachers and mothers were mainly in the classes taught by the small group of self selected teachers.

The antenatal classes observed, when examined as a whole, demonstrated that the teachers talked for about four-fifths of the class, the mothers contributed to less than one-fifth and the remainder of the time was spent in silence or confusion. The amount of teacher talk is higher than Flanders 'rule of two-thirds' mentioned by Amidon and Giammatteo (1967) which states:

> "in the average classroom, someone is talking two-thirds of the time; two-thirds of that time the person talking is the teacher; and two-thirds of the time the teacher talks he is using direct influence (lecture, direction-giving, criticism)" p285.

As there was no criticism in the antenatal classes the substantive part of the class was spent in lecturing or direction giving. For those with a demonstration or a

practical procedure (bathing a baby or making up a bottle feed) there was a considerable amount of direction; these consisted of 21 classes (27.7%). Vehvilainen (1984) reported in a study of midwives' communicating with mothers in labour, that 43% of their communication was giving instruction. For the classes without a practical demonstration, lecturing was a dominant feature. The only exception to the four-fifths teacher talk was in classes on breast feeding and those with babies in the class, where it was just over two-thirds. These findings support other work which demonstrated that nurses spoke twice as much as patients in recorded conversations (Macleod Clark 1981b).

The percentage of mother talk was lower than the pupil talk in American school children (Flanders, 1970). There were minimal changes in the percentage of time the mothers talked, with only the health visitor classes showing a significant increase post course; in Centre A the reduced time the teacher talked in the post course classes was accounted for by an increase in the periods of silence or confusion.

Amidon and Giammatteo (1965) report that a group of teachers who were defined as superior had a 52% of pupil talk in their classes compared with the 40% in the classes conducted by teachers defined as average. College students participated 14.2% of the time in a study by Smith (1977). A group of students who had been taught the FIAC system as a paper exercise, taught classes where the percentage of pupil talk was 51.8% (Wagner, 1973)

The teachers responded to the mothers' ideas and feelings (TRR) but did not use questions to guide the content (TQR). The TRR illustrated interesting differences in the classroom climate (Wragg 1972). Both pre and post course, there was a considerable increase in the tendency of the teacher to react to the mothers' ideas and feelings compared with American school children (Flanders, 1970) and British school children (Wragg, 1972). In the British school children (Wragg, 1972), the ratio was higher when women were teaching girls (60) and in sixth formers (78), compared to the composite ratios, and closer to those in the antenatal classes.

The teachers' use of questions to guide the content of the class discussion was less than half the ratio reported for American school children (Flanders, 1970) and British school children (Wragg, 1972).

The amount of discussion which the mothers inititated (PIR) in the classes as a whole was low. As the focus of this evaluative study was to determine if the teachers' behaviour would increase the mothers' involvement in the classes during post course observation, the PIR is a critical measure. There were no significant differences pre and post course except for the self selected group. In addition the PIR was lower than the mean American school children, range 32-35 (Flanders, 1970) and half the mean PIR (43) in British school children (Wragg, 1972). This measure of the talk initiated by the mothers indicates they were not

able to have any more control over the discussion in the post course classes than in the pre course classes.

The ratio of praise or integration of pupil ideas in to the class discussion was high. The British school children (Wragg, 1972) had a higher mean ratio than the American school children (Flanders, 1970), and the only ratio approaching these observed in the antenatal classes is to be found in British sixth formers (Wragg, 1972): this may indicate that it rises with age. Amidon and Giammatteo (1967) report that the use of ideas initiated by pupils was twice as high in classes taught by superior teachers compared with average teachers.

The tendency of the teacher to respond to pupil talk with questions based on the teachers' ideas shows a similarity to the British school children (Wragg, 1972) but both are lower than the American school children (Flanders, 1970). The teachers in Centre B showed the greatest increase in this ratio post couse but it was not at a significant level.

In the classes as a whole there was a high level of emphasis on the class content. The steady state ratio is higher where there is less rapid interchange between pupil and teacher, it reflects the tendency of teacher and pupil talk to remain in the same category for longer than 3 seconds. It would appear that the interchange was slow in the antenatal classes as the ratio was considerably higher than in both American school children (Flanders, 1970) and

British school children (Wragg, 1972)

The self selcted group had lower levels of interaction pre course and the post course observation demonstrated that they had achieved higher levels than the manager selected group, see table 6.1.

TABLE 6.1
To show the mean percentage mother talk and pupil (mother) initiation ratio in the pre and post course classes taught by the self selected group and the manager selected group.

	% mother talk		PIR	
selection	pre	post	pre	post
self	5.2	20.6	3.8	26.6
manager	19.7	17.9	27.2	16.9
all classes	16.6	17.5	22.2	17.9

For both measures, the manager selected group had higher levels pre course than the self selected group. The pre course levels of the self selected group were lower than the means for all the pre course classes. Despite this small amount of interaction initally, the group improved significantly and in the post course results had higher levels than the manager selected group. Although not at a statistically significant level there was a reduction in the mothers involvement in the post course classes taught by the manager selected group.

When the 11 measures of interaction were examined, the self selected group had a significant difference in 5 measures post course. Their teaching produced classes where the mothers talked more and the teachers less. They used

more questions to guide the content or solicit the mothers' reactions to the teachers' ideas. There was an increase in the proportion of the class where the mothers initiated the content or matter for discussion. A reduction in the SSR indicated there was an increased interchange between teachers and mothers, implying that these teachers did not dominate the classes.

The other six measures also indicate an increased interaction, although not reaching levels of statistical significance. The self selected group responded more to mothers ideas or feelings, which they were more likely to praise or integrate into the discussion. There was an increased use of questions rather than lecture, when responding to mother talk and a decrease in emphasis on the content. As the amount of mother talk was above average, the increased PSSR indicated a rapid interchange between mothers and teachers.

In contrast, the post course classes of the manager selected group demonstrated less interaction compared with pre course although for most measures this did not reach statistically significant levels. The mothers talked less and the teachers more; there was significantly less time spent in silence. There was a slight increase in the response to mothers' ideas and feelings but no change in the pattern of questioning, or use of mothers ideas. Mothers initiated less in the post course classes, there was an increase in the use of lecturing and reduced interchange between mother and teacher.

In contrast, the post course classes of the manager selected group demonstrated less interaction compared with pre course although for most measures this did not reach statistically significant levels. The mothers talked less and the teachers more; there was significantly less time spent in silence. There was a slight increase in the response to mothers' ideas and feelings but no change in the pattern of questioning, or use of mothers ideas. Mothers initiated less in the post course classes, there was an increase in the use of lecturing and reduced interchange between mother and teacher.

Possible explanations for these differences have been sought by examining characteristics of the self selected group. Three of the 5 pre course classes were teaching baby bathing (the overall percentage mother talk for these classes, n=13, was the lowest in the topic grouping at 10.4%) which may have contributed to the low mother talk percentage in the self selected group. The PIR, however, in baby bathing was higher than in antenatal, labour topics and the fathers' classes so that the influence of the baby bathing topics to the low interaction level in the self selected group is not clear. There was an equal distribution of all topics among the post course classes taught by the self selected group.

The time of post course observation was similar to the whole group (range 5 to 9 months for the self selected group; 4 to 10 months for all post course observations).

Four of the pre course classes were taught in teams and 7 of the post course classes.

The 16 classes taught by the self selected group consisted of 11 teachers of whom 9 were from Centre A and 2 from Centre B. The proportion of self selected subjects in the whole sample was 61.5% in Centre A and 22.2% in Centre B. The occupations of the self selected group in the observation study was 2 midwives and 9 health visitors. There were 8, including both the midwives, who had previous experience of teaching and 3, all health visitors had previous training in teaching. This would appear to indicate that identification of the self selected group was dependent on their own perceptions of their teaching ability rather than experience, training or occupation. These pre course results seem to demonstrate that this group were accurate in their assessment of their own teaching skills, as their teaching was associated with low levels of interaction.

The interaction results may indicate that the manager selected group did not feel a need for further training for their teaching role. As their pre course levels of interaction were higher than the self selected group, there may be some justification for this judgement. The post course results demonstrate, however, that their interaction only improved very slightly and did not reach the levels achieved by the self selected group, post course. As the self selected group, even post course, did not have classes with as much mother talk as pupil talk in other studies such

as the 40% and 52% (Amidon and Giammatteo 1967) and the 51.8% reported by Wagner (1973), this improvement is still only a small one.

2. Will there be a difference in the interaction between teachers and mothers when the the following variables are examined:

the topics taught;

the environmental conditions;

the addition of babies or fathers to the class?

In the 9 pairs of classes which were matched for teacher, topics and place of teaching, there were no differences in interaction pre and post course. The teachers response ratio was reduced in the breast feeding classes. The higher percentage of mother talk in the breast feeding classes, which also had a higher PIR, had a significantly higher ratio in the PSSR; these three together indicate that the mothers were able to discuss their own concerns and maintain a rapid interchange with the teacher. The results from the PSSR should be viewed with caution as it is sensitive index of teacher-pupil interchange when the amount of pupil talk is high. In this study the amount of mother talk was lower than the American school children (Flanders, 1970), so although the PSSR is slightly higher than that of the British school children (Wragg, 1972) and similar to American school children (Flanders, 1970), this

finding is probably of limited value.

The baby bathing classes were associated with reduced interaction between mother and teacher as there was an increase in the percentage of teacher talk, reduced response from the teacher to the mothers' ideas and integration into the discussion. In all 76 classes there was about half the percentage of silence or confusion noted in American school children (Flanders, 1970), but there was less participation by the mothers than by American school children (Flanders, 1970). There was significantly more silence in the classes where the teacher had no experience of teaching before attending the course and in those classes which were teaching mothers how to bath a baby.

The percentage of mother talk was higher in classes with babies present. The teachers' response to mother talk with the teachers' own ideas was lowest in the classes on baby bathing and those with babies present.

The environment did not have much impact on the interaction levels in the classes. There were no differences between the classes held in hospitals compared with the community based classes. Noisy or quiet surroundings did not affect the amount of interaction.

There were some differences when the different seating plans were compared. The teachers' response to the mothers ideas was reduced in the classes which had semi-circles compared with a variety of other seating arrangements. The

teacher response ratio for all 76 classes was higher (79.2) than in the American (42) and British (48) school children (Flanders, 1970; Wragg 1972). This may appear encouraging, in the light of Flanders' assertion that a "relatively small percentage increase in attention to pupil ideas.... has a constructive influence on educational outcomes." (P.14). Flanders' (1970) claim, however, that the more the teacher responds, the more the pupils will show initiative has not been demonstrated in this study. The higher than average teacher response was associated with lower than average pupil initiation (PIR 19.2 in this study; 34 in Flanders' study; 43 in Wragg's study)

The content cross ratio measures those statements least likely to be involved with reward and punishment and was lower in the classes which had semi-circles compared with a variety of other seating arrangements. The lowest ratio was in classes with babies present. As there was no criticism in the antenatal classes, it might be expected that the CCR would be higher in antenatal classes than school classes and this was demonstrated. The ratio of sixth formers was similar to those of the antenatal classes, which reflects the progressive rise in each age group noted by Wragg (1972).

When babies were included in the class, the percentage of teacher talk was reduced as was the teachers' response to the mothers' ideas; there was an increase in the mothers' initiation of ideas, but a reduction of praise or integration of ideas into the discussion and reaction to

ideas and feeling of the mothers. There were no differences in the classes with the fathers compared with those which did not have fathers present.

Kishi (1983) reported a higher ratio of pupil to teacher talk was correlated, under certain condiditons, with higher levels of recall, within a well baby clinic. The low rate of mother initiation in this study and the low percentage of mother talk, raises questions of not only how much the mothers remembered but how much of the discussion was about matters which concerned them.

3. Will the training course change the teachers' use of questions during their classes?

The use of questions to stimulate discussion was stressed in the original training course (Perkins and Craig 1981) and they gave exampes of how this could be done. The courses held in each centre emphasised questioning techniques and the subject had opportunities to practise.

The small number of questions from the teachers (mean of 7.7) in this study may indicate that it is easier for the teachers to adhere to their prepared talk rather than to risk questions on topics with which they feel they cannot cope. Macleod Clark (1984) discusses the concept of nurses having to take the responsibility of 'talk' which involves decisions in the conversations.

The pattern of questioning by the midwives and health visitors who were observed teaching the antenatal classes, showed that nearly half (42%) of their questions were closed questions. There was an increase of closed questions by Centre A subjects but a decreased use of them by midwives post course. Macleod Clark (1981b; 1984) reports the majority of questions used by nurses are closed. Closed questions can be useful to collect facts or focus conversation but if used frequently, can be inhibiting to the conversation (Macleod Clark 1984).

In all the classes, a fifth of the questions were open; midwives used this technique less post course than pre course. Open questions are useful for bringing out attitudes which can be explored further (Smith and Bass, 1982) Open questions are preferred in educational setting to explore feelings, attitudes and family problems (Brieger, 1980). Macleod Clark (1981a) has shown that it is not enough to ask open questions, the replies have to be listened to and responses used to encourage further communication. The proportion of open to closed questions may indicate that the questions which have undemanding answers are the easiest to ask and are used the most.

The training courses stressed that the teachers should base their teaching on what the mothers already knew. There were, however, only 26% of questions which were exploratory. The majority of the exploratory questions were those seeking information about the mothers' experience and there were no

significant differences between pre and post course. Although the classes led by health visitors had a slightly higher number of questions to assess knowledge (mean 2.3) pre course than the classes led by midwives (mean 0.7), health visitors asked less (mean 1.8) post course compared with the midwives who improved to a mean of 1.7. It could be expected that health visitors would have demonstrated higher levels of assessment as these skills are part of health visiting (Orr, 1985)

Although there was only 3.7% of questions which gave the mothers a chance to talk about their feelings, this is slightly better than Macleod Clarks' (1984) report of less than 1% of nurse-patient conversations focussing on patients' emotions and feelings.

There was a significant increase in the questions to expand feelings by Centre B subjects post course. Student nurses, ranked high in therapeutic effectiveness, used more feeling responses (Johnson 1964).

Kishi (1983) reported a mean of 20.6 questions in interviews with health care personnel and mothers in a well baby clinic. Questioning occured 2.6% of the time in classes with college students (Smith 1977). The mean percentage of questioning by nurses in home visits showed a range from 10.4 - 36.1% with more questions in the visits with less interaction units (Conant 1965). There was a considerable increase in questioning by student teachers who used indirect teacher influence (Amidon and Flanders 1961).

Amidon and Giammatteo (1965) report that a group of superior teachers used twice as many questions which were broader, than average teachers. In British fifth forms the student teachers asked more and longer questions; in girls schools, there was less use of questions (Wragg, 1972).

This analysis illustrates the poor questioning skills of midwives and health visitors. This may indicate a lack of previous training in communcation skills.

Some of the problems identified in the nurses' communications is their brevity (Behymer, 1958; Macleod Clark, 1981b; Crotty, 1985) which Kerrigan (1957) and Faulkner (1979) have associated with the task oriented approach to nursing. There is no reward for nurses who talk to patients and delay in completing the task in hand (Faulkner 1981a). In antenatal classes, however, the midwives and health visitors are available and have time for the mothers; indeed, it could be considered their task. Despite this, their patterns of communication show that it is mainly talk rather than listening. In these classes the mean length of time the mothers spoke was a quarter of the time the teachers spoke. This is more than in schools where Flanders has discused a 'rule of two thirds' - the average amount of teacher talk in a class is two thirds of the time.

The low overall level of questions from the teachers would fit with the interpretation of Perkins (1981b) that the professionals put a heavy emphasis on making the

decisions about what is to be taught. Such a didactic style does not encourage the discussion of the needs and expectations of the mothers in the class. This would seem to be inappropriate both to the emotional nature of pregnancy and childbirth and the trend within the professions to move towards more individualised care. Both of these require a considerable skill in assessment - the assessment questions, 'history' taking and to assess knowledge were a small percentage of the whole.

4. Will the training course reduce the incidence of the phrase 'Any questions'?

Despite the emphasis during the training course that asking 'any questions' was of limited value, subjects still used this form of questioning. In 83% of occasions, 'any questions' did not obtain the required response. There were 29% of questions where the teacher did not pause for 3 seconds before going on talking. There is a need for silence, which Faulkner and Maguire (1984b) have stressed in their training notes for nurses assessing mastectomy patients. Some of the teachers persisted in this technique even when it was unsuccesful. Although the teachers from Centre B obtained slightly more responses to this form of questioning, there was a only 2% increase in the response in the post course sessions.

5. Will the training course change the mothers' use of questions in classes?

The information available about the questions the mothers asked is limited, as the frequencies were so small that it was not possible to carry out statistical tests. Craig and Page (1981) studying the questioning skills of nurse teachers, were also unable to test the relationships between teachers and students because of the low number of questions from the students.

In this study there is a mean of 7.4 questions per class. The majority of questions (58.4%) were asking for more information. Although there was a change in the relative percentages between the pre and post course questions, as there was a fifth of the pre course questions without sufficient data to classify them it is difficult to interpret the results. There was an increase of 19% in questions for information post course but this could be accounted for by the proportion of unknown questions in the pre course data.

Rees (1982b) reported that all the mothers in his study had asked some questions, and that they were satisfied with the opportunities they were given. Many teachers, in another study, did not set aside a time for answering mothers' questions (Rathbone, 1973) and for one

> "the idea that she should, scarcely seemed to make sense" p58

At least one of the hospitals in Rathbone's (1973) study had a democratic approach to the classes where questions were considered legitimate. Perkins (1980a) argues that there is a difference between mothers asking questions and "spilling fears" but mothers whose questions are not answered or who feel inhibited about asking them are unlikely to bring out the fears which they may be afraid will sound silly.

Perkins (1980a) notes that parents expect opportunities for questions to be made by the professionals. The HEC Pregnancy Book (Kohner, 1984) is positive about this:

> "you can ask questions and talk over any worries or difficulties you've got." p33

which is an improvement on The Baby Book (Morris, (ed) 1980) which says that classes will result in mothers who have:

> "full knowledge, confidence and control" p.36

without mentioning the possibility of asking questions. Another of the books distributed free to mothers comments:

> "Your midwife and health visitor will help you by answering questions and giving advice but one of the best places to prepare yourself will be at the antenatal classes." p36 (Newbourne Publications, 1980).

Williams and Booth (1974), in a textbook for antenatal teachers, comment that a test of a good class is the number and variation of questions put and the amount of discussion which arises. They say that mothers should be able to ask questions as soon as they occur and that the teacher should be looking for signs, such as a puzzled frown or a mouth half open to comment. Textbooks on health education (for instance, Runswick and Davis, 1976) also encourage answering

questions at the appropriate moment and not expecting clients to wait until the end of the class.

Macintyre (1982) reported that 20% of mothers interviewed were not able to ask the questions they wanted to in clinic. Reasons for not asking questions were that they were "fobbed off", were not taken seriously, there was not time or opportunity, the questions would be dismissed as trvial or that they would be labelled as "fussers". The hospital atmosphere can bewilder so that mothers are unable to ask the questions they want (Perkins 1979d). Faulkner (1979) has reported that patients do not easily ask questions and they are likely to be ignored, which will not encourage the patients to persevere. These findings from other studies may account for the small number of questions from the mothers observed in this study.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 Limitations of the study.

7.1.1 Theoretical

A. Generalisation.

Evaluation has many inherent problems, one of which is the delay, which decision makers may find unacceptable, in the production of a final report (Zusman and Bissonette, 1973). This could be the case with this study. The courses which were evaluated took place in October 1982 and April 1983. These courses were within an ongoing series, and in both centres, have continued. This report is available in 1986. During the intervening time, changes and developments have been made by the course organisers on the basis of their own process evaluation and without the knowledge of the outcome evaluation.

The consequence of this is to raise questions about the application of the results both within the study centres and in a wider setting. Some of the results, for instance, concerning the selection of staff to attend courses, are applicable both to the study centres and to other post basic training courses. Some of the organisational details would only apply to these centres and may have been corrected or conditions may have varied so that some of these results will no longer be relevant.

Despite caution in the generalisation of the results, the teaching and group work skills course is worth trying in other Health Authorities. If further evaluation is carried out, the results could be compared with the results from this study, which would help to indicate whether these results can be applied to other groups of midwives and health visitors.

The course is a combination of the original Perkins and Craig (1981) materials and those from the two centres, and as such, has the advantage of being used in three different Health Authorities. A training manual, which includes the practical details and the teaching material from all three sources, is being produced by kind permission of the course leaders and the Health Education Council. This could encourage further use of the course.

B. Verbal teaching behaviour

The focus of the observation study was on the verbal teaching behaviour in antenatal classes. Apart from a limited analysis of questions, the content was not analysed. There may or may not have been a change in the content. The purpose of the training course was 'how' to teach rather than 'what' to teach. Although measuring interaction between mother and teacher may have the limitation of only concentrating on certain aspects of what goes on in the antenatal classes, it has been accepted within the framework of this study, that it was appropriate.

C. One group pre test post test design.

The discussion in section 4.2.1 illustrated the difficulties of carrying out experimental work in a real situation. While the limitations of the one group pre test post test design are accepted, a true experiment in a study of this kind would have had one of two effects. Either the design of the experiment would have been so compromised that it would not have been experimental, or the control of the 'real world' would have been so rigorous, that the results could not be applied when the conditions were not controlled. By using a pre experimental design, the antenatal teachers remained in their own settings and the observation was undertaken in situations which could occur in other antenatal classes.

7.1.2 Methodological

A. Sample

The size of the sample, although small in itself, in terms of the courses held in the two centres, represents a sixth of the attenders to date. The number of subjects attending in the courses evaluated was 65, not all of whom replied to the questionnaires. There is no evidence that this sample is not the same as another group of midwives and health visitors. The criteria for assuming a sample is random are: that all the members of the sample obviously belong to the population and that there is no apparent attribute shared by the members of the sample which distinguish it from the population (Upshaw, 1968). Because it was a sample of convenience, however, generalisation of results to a larger group should be approached with caution.

The sample was chosen to attend the courses by managers who were aware of the evaluation. As the interaction levels pre course of the manager selected group were higher than the self selected group pre course, it may be that the managers, consciously or unconsciously, chose the 'good' teachers to attend. Alternatively, although there was no information in the study about this, it may be that there was a group, identified by the managers who needed training, who refused to be included. The manager selected group may be been a compliant group rather than those identified as 'good' teachers.

The subset selected for the observation study was also a sample of convenience, even though efforts were made to randomise the selection. Again, a sample of 23 antenatal teachers is small from which to generalise to all teachers in the NHS. The loss of 7 subjects between the pre course and the post course observation meant that, there was a very small group (9) who could be matched pre and post course for teacher, topic and place of teaching.

B. Reliability

The results could be presented with greater confidence if it had been possible to test the reliability of the interaction analysis at regular intervals. As there was a single observer, the lack of reliability testing is not as important as it would have been, for instance, in Wragg's study (1972) which had 6 observers.

The two episodes of reliability testing were in themselves, insufficient. Although the results of the second test were satisfactory, the first result was unacceptably low. The post test interaction analysis, overall, demonstrated little change from the pre test. It has been accepted that these results may reflect 'observer drift' rather than lack of change. The range within each of the measures which was wide and the results of the self selected group, however, may indicate that when change did occur, it was measured. Had it been possible to tape record the antenatal classes, some of the problems could possibly have been overcome.

C. Question techniques

Tape recording of the classes could also have provided more information about the questions which were asked in the antenatal classes, especially those asked by the mothers.

7.1.3 Practical

A. Control over observation pre course.

Had there been a longer period between nomination of the subjects and the courses which were evaluated, there could have been more classes observed during the pre testing period, which would have strengthened the findings.

B. Midwives and health visitors as teachers in the observation study.

Although there were some small differences between the occupational groups, as 54% of the classes were taught in teams, the differences between the groups need to be viewed

with caution. There were no significant differences between single and team teaching, however, but the occupational differences could have been accounted for by some unmeasured variable dependant on who led and organised the classes.

C. Postnatal mothers and babies

The results of having babies in the class, which had some significant differences compared with the classes without babies, may have been due to the presence of their mothers rather than the babies themselves. The number of classes with babies without their mothers (4) was small and separate analysis was not undertaken.

D. Further analysis

Further analysis could be carried out on the data, especially from the observation study. The following could have been analysed on the interaction analysis data:

1. the length of time since the training of the antenatal teachers
2. the length of service in the NHS of the antenatal teachers;
3. the identification of 'interactors' with 'non-interactors' among the teachers.

As there was a wide range in the interaction analysis results, there could have been two possible approaches to identify the interactors and non-interactors; a) for those measures which were normally distributed, the top tenth percentile could be compared with the bottom tenth percentile; b) for those measures which were not normally distributed, the top 10 in the range could be compared with

the bottom 10 in the range. The descriptions accompanying each class, could have been used to identify further factors which did not appear in the checklist.

4. the impact of the mothers on the interaction: the number, parity and the frequency of attendance.

5. the content of the classes;

6. the mothers satisfaction with the teaching - this was not part of the design and data does not exist in this study to measure it (unlike the other suggestions for analysis) but it would have been highly significant if increased maternal satisfaction with classes was associated with the higher levels of interaction between mothers and teachers.

7.2 Conclusions

The conclusions are presented according to the research questions.

7.2.1 The questionnaire study.

1. To determine the reasons for attending and expectations of the course

Apart from those who stated they were 'sent' on the course, the reasons for attending the course were to learn teaching, group work and communication skills, with the Centre A subjects including learning to teach relaxation and exercises. Both midwives and health visitors were keen to exchange ideas with others.

2. Will there be a difference in the rating and the comments about the course sessions between the subjects from the two centres.

The subjects disliked having to rate the sessions held each day. Three methods of assessment were tried (including the pilot study) and none of them were entirely successful. Clear differences between the centres did not emerge from the rating, although the sessions on group work were given the highest rating. The open ended questions produced such diverse comments that their main use would be to support the 'gut feelings' of the course tutors but apart from a generally favourable impression, with negative comments

about specific details, were not helpful in the overall evaluation. None of the formats used in this study are recommended for use in a similar study.

3. Will there be a difference in how the subjects' expectations were met by the course between the centres?

The post course questionnaire was successful in measuring how the course met the subjects' expectations. The organisation, apart from parking facilities in Centre A was satisfactory. There was a shift in emphasis in subjects' perceptions of reasons for attending the course by the time the post course questionnaire was administered. In contrast to the results of the course questionnaires, the sessions which were seen to be the most useful were the specialist sessions in each Centre (A = relaxation and exercises; B = keeping up to date) and the sessions on teaching skills, in both Centres.

4. Will the subjects consider that the aims of the courses in each centre were met?

The subjects in Centre B gave higher scores to meeting the aims of the course than those in Centre A. This may have been because the aims in Centre B were expressed more realistically.

5. Will the subjects be willing and/or able to make changes to their own classes?

Over half the subjects who had taught after the course made changes to their classes; those who wanted to but were unable, were prevented by management, environment or staffing problems.

6. What are the midwives' and health visitors' perceptions of antenatal education?

The perceptions of their antenatal education role were varied, showing both co-operation and conflict between the two occupational groups. Overall, health visitors had a wider view of their role than the midwives did of theirs. Some subjects of both groups tried to limit the involvement of the others.

7.2.2 The observation study.

1. Will there be an increase in interaction between teachers and mothers in the classes observed post course compared with those observed pre course?

Apart from the small self selected group, the increase in interaction post course was small compared with the pre course levels of interaction between teachers and mothers.

2. Will there be a difference in the interaction between teachers and mothers when the the following variables are examined: the topics taught; the environmental conditions; the addition of babies or fathers to the class?

There were differences in the levels of interaction in different topics but some of the results are conflicting. Although feeding and post natal topics both had the highest percentages of mother talk and mother initiation ratios, baby bathing had the lowest percentage of mother talk and parents'/fathers' evening had the lowest initiation ratio. There were highly significant differences in the increase in interaction when the breast feeding topics alone were compared with the non-feeding topics.

The place where the classes were held (community or hospital) and the incidence of noise did not influence the levels of interaction. There was a small increase in interaction when the seating in the classes was arranged in a semi circle.

The inclusion of babies in the classes was associated with a significant decrease in teacher involvement and an increase in interaction between mothers and teachers. Whether this effect was due to the babies themselves, or their mothers, or the topics (52.6% were on breast feeding) was not identified. The inclusion of fathers in the classes

did not influence the interaction levels.

3. Will the training course change the teachers' use of questions during their classes?

The total number of questions asked by the teachers was small and they were predominately closed questions. There was an significant increase in the number of closed questions asked by the Centre A subjects and a significant increase in the questions to expand feelings by the Centre B subjects. The classes led by midwives used signficantly less open and closed questions post course.

4. Will the training course reduce the incidence of the phrase 'Any questions'?

Asking 'any questions' produced questions from the mothers in only 17% of the occasions. It was not possible to subject this data to statistical testing as the number of times 'any questions' was asked varied in different sessions. There did not appear to be a reduction the number of times it was asked post course.

5. Will the training course change the mothers' use of questions in classes?

Mothers asked very few questions and although there was an increase in the percentage of questions requesting more information, the large percentage of unknown questions in

the pre course compared with the post course data could have accounted for this increase.

7.2.3 Process and outcome evaluation

This evaluation consisted of two parts, the questionnaire study, examining the process, and the observation study, examining the outcome, of the teaching and group work skills course. The data from the questionnaires give a favourable impression. Despite the criticisms of aspects of the course, both of details and organisation, the subjects' responses indicated that they had learnt about teaching, group work and communication skills. Some expressed enthusiasm and inspiration to incorporate new techniques into their classes. While some were able to make the changes they desired, others found the constraints imposed by their peers, managers or environment too much to overcome.

Course tutors could examine the data from the questionnaire study and conclude, that although there were details of organisation which needed altering, improving or rectifying, the course was useful for their staff. The consequence of this process evaluation could be for support to continue providing the course.

Examination of the observation data, the outcome, gives a less positive result. Apart from one group, identified as self selected to attend the course, there were such small differences in interaction between mothers and teachers, that the outcome on the teaching behaviour between 4 and 10

months post course that the benefit of attending the training course could be questioned.

Possible explanations for the differences between process and outcome evaluations include:

1. The observation may have occurred too soon after the course.

Developing proficiency in skills, after learning them, takes time. Although no individual teacher was observed post course until four months after the training course and each had taught at least one full course of classes (between 6-8 classes or her normal involvement in such a course) the decision to observe was based on the time constraints imposed by the study rather than any optimum time at which to observe. It is possible that further change in teaching behaviour would have occurred when the subjects had more time to establish their skills with these new methods of teaching.

Campbell and Stanley (1966) discuss possible outcome patterns following the introduction of an experimental variable within a time series of measurements. They demonstrate that a single pre test measure may be:

- the norm
- part of a varying pattern
- part of a pattern of improvement

A single post test measure may record:

- the first measure of a sustained improvement

-a post test peak which subsequently declines to pre test levels

-the start of an increasing improvement

-a measure which occurs just before the improvement starts

-continues the improvement which was occurring before either test

-a peak or trough within widely varying patterns of performance.

As this study had neither a series of measurements of interaction pre or post test nor a separate control group, it is only possible to state that between 4 to 10 months post course, there was little change between pre and post test interaction.

2. It is harder to relearn than learn.

It could be argued that the experienced teachers had to unlearn their own familiar teaching methods and that the observation took place before they had the opportunity to establish new methods or approaches and to feel comfortable with less didatic and more interactive teaching. Those who came on the course without previous teaching experience may have found the interactive teaching easier as they did not have to 'unlearn' teaching methods. The inexperienced group, however, did not interact more with the mothers than the experienced group and demonstrated similar levels to those in the pre course group.

The process evaluation, even one which involves questionnaires pre course, each day and post course, did not offer any means of predicting the results of the outcome study. Evaluations which comprise only process measures are useful to identify the strengths and weaknesses of the course, but satisfaction with the course itself does not mean there will be any change in behaviour.

7.3 Recommendations

The following recommendations are made:

1. That greater attention be paid to the selection of staff to attend post basic training courses. Where possible staff should be chosen if they themselves perceive a need for further training. Consideration might be given to means of helping staff to become aware of their own needs for development. One aspect of this course which could have been used in this way was the report of local research into antenatal education. It might be more effective to use this in advance of attending the course, such as at a pre course meeting, or presenting to all local antenatal teachers prior to selection for the course.

2. That managers provide a more flexible approach to their antenatal education service so that staff who wish to institute change can do so. This may help to remove the excuse of those who attribute lack of change to the system.

3. That the intermediate training course devised by Perkins (1982) be used with antenatal teachers and evaluated. As this course incorporates individual tape recording and feedback techniques, it may help teachers to identify their difficulties with asking questions and provide a means of improved learning. Similar methods have been successful in training nurses to assess patients psychological needs (Faulkner, 1984a).

4. That where possible antenatal teachers ask a mother and baby to attend antenatal classes to increase the interaction between teacher and mothers.

5. That further research is required into reliable and valid methods of evaluating nursing practice.

REFERENCES

Abdellah FG and Levine E 1965
Better patient care through nursing research.
The Macmillan Company, New York

Adams L 1982
Consumers' view of antenatal education
Health Education Journal 41: 12-16

Adams ME 1977
Providing a service
Nursing Mirror Parentcraft Supplement ppxii-xiii
(29.9.77)

Adams ME Armstrong-Esther C Bryar R Duberley J Strong G
Ward E 1981
Trial run - the nursing process in midwifery.
Nursing Mirror, pp32-35; (7.10.81)

Advanced Diploma of Midwives Students Derbyshire College of
Education, 1984
An investigation into midwives' perception of
their role.
Midwife, Health Visitor and Community
Nurse,20:280-284.

Alexander MF 1983.
Learning to nurse: integrating theory and
practice.
Churchill Livingstone, Edinburgh.

Alexander MF 1984
Learning to nurse: beginning has implications for
continuing.
Nurse Education Today 4: 4-7

Altschul AT 1972
Patient-nurse interaction: a study of interaction
patterns in acute psychiatric wards.
Churchill Livingstone, Edinburgh.

Altschul AT 1979
Commitment to nursing.
Journal of Advanced Nursing 4: 123-135

Altschul AT 1983
The consumer's voice: nursing implications.
Journal of Advanced Nursing 8: 175-183

Amidon EJ Flanders NA 1961
The effects of direct and indirect teacher
influence on dependent-prone students learning
geometry.
Journal of Educational Psychology 52: 286-291

Amidon E Flanders NA 1967
Interaction analysis as a feedback system
IN: Amidon E and Hough JB (eds) Interaction analysis: theory, research and application.
Addison-Wesley Publishing Co, London.

Amidon E Giammatteo M 1967
The verbal behaviour of superior elementary teachers.
IN: Amidon E and Hough JB (eds) Interaction analysis: theory, research and application.
Addison-Wesley Publishing Co, London.

Amidon E Hough JB (eds) 1967
Interaction analysis: theory, research and application.
Addison-Wesley Publishing Co. London.

Amidon E Hunter E 1967
Verbal interaction in the classroom: verbal interaction category system.
IN: Amidon E and Hough JB (eds) Interaction analysis: theory, research and application.
Addison-Wesley Publishing Co, London.

Anderson AS 1966
An analysis of instructor-student classroom interaction.
Journal of Medical Education 41: 209-214.

Anderson DC 1979
The practical implementation of a health education programme.
IN: Anderson DC (ed) 1979
Health education in practice.
Croom Helm London

Anderson DC Fowler HK Perkins ER Spencer NJ 1980
Practical prospects for health education in the 1980s
Leverhulme Health Education Project.
University of Nottingham.

Anderson HH 1967
The measurement of domination and of socially integrative behavior in teachers' contacts with children.
IN: Amidon EJ and Hough JB 1967
Interaction analysis: theory research and application.
Addison-Wesley Publishing Company, Reading, Massachusetts.

An inquiry into health visiting 1956
Report of a working party on the field of work, training and recruitment of health visitors.
Chairman Sir W Jameson
Ministry of Health HMSO London

Ashton RM 1977
The parentcraft teacher.
Nursing Mirror Parentcraft Supplement p. xv.
(29.9.77)

Ashton RM Crowe VJ 1979
Development of programme to prepare the midwife for education of parents for childbirth and parenthood.
Midwives Chronicle 92: 248-250

Ashworth P 1984
Communicating in an intensive care unit.
IN: Faulkner A 1984
Communication
Churchill Livingstone, Edinburgh.

Atkin JM 1963
Some evaluation problems in a course content improvement project
Journal of Research in Science Teaching 1:129-132

Atkin JM 1967
Research styles in science education
Journal of Research in Science Teaching 5: 338-345

Auld MG 1980
Midwifery standards
Midwives Chronicle 92 5-11

Baely PR 1979
Philosophy of health education
IN Sutherland I (ed) Health education: perspectives and choices
Geoge Allen and Unwin

Balaskas J 1984
The active birth partners' handbook
Sidgwick and Jackson.

Bales RF 1950
Interaction process analysis: a method for the study of small groups
Addison Wesley; Reading, Mass.

Bales RF 1958
Task roles and social roles in problem solving groups.
IN: Maccoby EE Newcomb TM Hartley EL
Readings in Social Psychology, 3rd edition, Henry Holtand Co, New York

Ball JA 1981
Effect of present patterns of maternity care on the emotional needs of mothers: Part 2.
Midwives Chronicle 94: 198-202

Bandura A Ross D Ross SA 1973
A comparative test of the status envy, social power and secondary reinforcement theories of identificatory learning.
In: Rosen L West R 1973
A reader for research methods
Random House New York

Beard R 1970
Teaching and learning in higher education.
Penguin Books Ltd Middlesex.

Beckett C 1976
Antenatal care in industry
Physiotherapy 64: 233-234

Behymer AF 1953
Interaction patterns and attitudes of affiliate student nurses in a psychiatric hospital.
Nursing Outlook 1: 205-207.

Bell DF Miller RI Bell DL 1984
Faculty evaluation; teaching scholarship and services.
Nurse Educator pp 18-27 Summer 84.

Bennett VR Grant M 1984
A flexible period in extended midwifery training.
Nurse Education Today 4: 134-136

Bergman R 1982
Evaluation of nursing care - could it make a difference?
International Journal of Nursing Studies 19:53-60

Bidewell CE 1973
The social psychology of teaching.
IN: Travers RMW (ed) Second handbook of research on teaching. Rand McNally Publishing Co, Chicago.

Black P 1984
Who stops smoking in pregnancy?
Nursing Times 80: 19 pp59-61 (9.5.84)

Bloch D 1975
Evaluation of nursing care in terms of process and outcome: issues in research and quality assurance.
Nursing Research 24: 256-263.

Bonovich L 1981
Participation: the key to learning for patients in antepartal clinics:
Journal of Obstetric, Gynecologic and Neonatal Nursing 10 (2): 75-79.

Borgatta EF 1963
A new sytematic interaction observation system: behavior scores system (BSs system)
Journal of Psychological Studies 14: 24-44

Boswell J 1979
Are classes 4 and 5 paying attention?
Nursing Mirror 148 12: pp24 - 25 (22.3.79)

Boyd C Sellars L 1982
The British Way of Birth
Pan Books, London.

Bourne G 1982
IN: Boyd C Sellars L 1982
The British Way of Birth
Pan Books, London.

Brammer AC 1977
Organised classes for pregnant women and their partners in preparation for childbirth and parenthood.
An enquiry into the classes provided by the Maternity Services in England in 1975.
Maws Ed. Research Scholarship, 1974/75

Brant HA 1978
The quality of prenatal care.
Midwives Chronicle 91: 315-318

Breese AC 1976
Antenatal classes and preparation for pregnancy, birth and motherhood.
M.Med.Sci dissertation. Nottingham University. (unpublished)

Brieger WR 1980
A behavioural guide for evaluating patient educators.
International Journal of Health Education, 23: 55-61.

Brown B 1982
Maternity-patient teaching - a nursing priority.
Journal of Obstetric, Gynecologic and Neonatal Nursing, 11: 11-13.

Brown GA 1975
Microteaching: Programme of teaching skills.
Methuen, London.

Bryans BAC 1985
The midwifery process - does it work?
Midwives Chronicle 98: 280.

Bryar R Strong G 1983
Trial run - continued.
Nursing Mirror pp45-48 (12.10.83)

Bryar R 1985
An assessment of the introduction of systematic, individualised care into midwives practice.
Paper presented to the RCN Research Society Conference, 1985.

Budd J 1982
A review of antenatal and related literature.
Centre for Mass Communication Research, University of Leiciester (unpublished)

Burnett CWF 1956
The value of antenatal exercises.
Journal of Obstetrics and Gynaecology 63: 40-57

Bury PM Clarke PM Flanagan PM Lord PM Pilkington PM Russell PM 1976
Project on mothercraft
Queen's Park Hospital Blackburn (unpublished)

Byrne D 1964
Assessing personality variables and their alteration,
IN: Worchel P and Byrne D (eds) Personality change. Wiley, New york

Campbell A Worthington EL 1982
Teaching expectant fathers how to be better childbirth coaches.
American Journal of Maternal and Child Nursing 7 1: 28 -32

Campbell DT 1958
Sytematic error on the part of human links in communication systems
Information and Control 1: 334-369

Campbell DT 1973
Reforms as experiments
In: Rosen L West R 1973
A reader for research methods
Random House, New York

Campbell DT Stanley JC 1966
Experimental and quasi-experimental designs for research
Rand McNally Chicago

Cannell CF Kahn RL 1965
Interviewing
In Lindzey G Aronson E (eds)
Handbook of Social Psychology, vol II
Addison-Wesley, Reading, Mass

Carey J 1981
First-trimester prenatal counseling in private practice
Journal of Obstetric and Gynecologic and Neonatal Nursing 10: 336-339

Cartwright A 1964
Human relations and hospital care
Routledge and Kegan Paul London

Central Midwives Board 1962
Handbook incorporating the rules of the CMB
CMB London

Central Midwives Board 1980
Approved midwifery training syllabus
CMB London

Central Midwives Board 1983
Notices concerning a midwife's code of practice
CMB London

CETHV 1967
The function of the health visitor
The Council for the Education and Training of Health Visitors

Chalmers I 1980
Intensive or extensive care in perinatal health services
Community Medicine 2: 279-281

Chamberlain G 1975
Antenatal education: the consumer's view
Midwife Health Visitor and Community Nurse, 11: 289 -922

Chamberlain G Chave S 1977
Antenatal education
Community Health 9: 11-16

Clark J 1973
A family visitor
RCN London

Clark T Goodwin M Mariani M Marshall MJ Moore S 1983
Curriculum evaluation: an application of Stufflebeam's model in a Baccalaureate School of Nursing
Journal of Nursing Education 22: (2) 54-58

Cliff KS 1985
Health promotion: can the nursing profession influence policies?
Midwife Health Visitor & Community Nurse 21: 302-309

Cogan R 1978
Practice time in prepared childbirth
Journal of Obstetric and Gynecologic and Neonatal Nursing 7: 33-38

Cogan R Henneborn W Klopfer F 1976
Predictors of pain during prepared childbirth
Journal of Psychosomatic research 20: 523-533

Cohen J 1960
The coefficient of agreement for nominal scales
Education and Psychological Measurement 20: 37-46

Comaroff J 1977
Conflicting paradigms of pregnancy: mirroring ambiguity in antenatal encounters
In A Davis and G Horobin Eds
Medical Encounters
Croom Helm, London

Committee for Child Health Services 1976
Fit for the future Chairman: Mrs J Court
HMSO London

Conant LH 1965
Use of Bales' interaction process analysis to study nurse-patient interaction
Nursing Research 14: 304-309

Cooper K 1976
Curriculum evaluation - definition and boundaries
IN Tawney D 1976
Curriculum evaluation today; trends and implications
Schools Council Macmillian

Craig JL Page G 1981
The questioning skills of nursing instructors
Journal of Nursing Education 20: 18-23

Craig PM 1981
Organising and co-ordinating antenatal education in preparation for parenthood
Liverpool Area Health Authority Teaching
(unpublished)

Craven RO Crouch M Goosey RA 1975
Guidelines for teachers of parentcraft and relaxation (8 parts)
Midwives Chronicle Vol 88: Jan - Aug pp 11-12; 55; 84-85; 118; 155; 205; 236; 266 -267

Cronbach L 1963
Course improvement through evaluation
Teachers College Record 64: 672-683

Cronbach LJ 1982
Designing evaluations of educational and social programs
Jossey-Bass Publishers San Francisco

Cronk H 1971
They never tell you anything
Nursing Times 67 (18) 551

Crotty M 1984
Continuing education - a practical experience
Nurse Education Today 4: 20-21

Crotty M 1985
Communication between nurses and their patients
Nurse Education Today 5: 130-134

Crouch P 1977
The challenge of health education
IN: Owen G (ed) Health visiting
Bailliere Tindall London

Crow R 1984
Observation
IN:Cormack DFS (ed) 1984
The research process in nursing
Blackwell Scientific Publications

Crow R Wright P 1976
The development of feeding behaviour in early infancy
Nursing Mirror pp57-59; (1.4.76)

Curle A 1949
A theoretical approach to action research
Human Relations 2: 269-280

Dalzell-Ward AJ 1974
Trends in health education.
Midwife and Health Visitor 10: 49-52

Daniels H Perkins ER 1982
Developing parentcraft teaching: course development evaluation
Paper for limited circulation

Davies A 1980
The changing nature of health education
Nursing Times 76 43:1890 (23.10.80)

Davis DB 1981
The training and assessment of social skills: the patient profile interview
Nursing Times 77 (15) 649-651

Deane-Gray T 1985
Pegs for support
Midwives Chronicle 98: 100

Denzin NK (ed) 1970
Sociological methods: a sourcebook
Purdue University

Department of Health and Social Security 1974a
The family in society, dimensions of parenthood
HMSO London

Department of Health and Social Security 1974b
The family in society, preparation for parenthood
HMSO London

Department of Health and Social Security 1976a
Prevention and health: everybody's business
A reassessment of public and personal health
HMSO London

Department of Health and Social Security 1976b
Priorities for health and personal social services in England
HMSO London

Department of Health and Social Security 1976c
The future role of the midwife in the maternity services
Discussion paper Annex to CNO (7c) 20

Diers D Leonard RC 1966
Interaction analysis in nursing research
Nursing research 15:255-258

Dingwall R 1983
Working together?
Maternal Child Health 8: 153-157

Dingwall R McIntosh J 1979
Teamwork in theory and practice
In: Dingwall R and McIntosh J
Readings in the sociology of nursing
Churchill Livingstone Edinburgh

Donabedian A 1969
Some issues in evaluating the quality of nursing care
American Journal of Public Health 59 1833-1836

Dormody Clark M 1981
The utilisation of theoretical concepts in patient education
Nursing Administration Quartley 55-60

Draper J Field S Thomas H Hare MJ 1982
The level of preparedness for parenthood
Maternal and Child Health 7: 44-47

Draper J Farmer S Field S Thomas H Hare MJ 1984a
The working relationship between the health visitor and community midwife
Health Visitor 57: 366-368

Draper J Farmer S Field S Thomas H Hare MJ 1984b
The working relationship between the general practitioner and the health visitor
Journal of the Royal College of General Practitioners 34: 264-268

Duffy ME 1985
Designing nursing research: the qualitative - quantitative debate
Journal of Advanced Nursing 10: 225-232

Dunnell K Dobbs J 1982
Nurses working in the community
Office of Population, Censuses and Surveys Social Survey Division, HMSO

Dyck AJ 1963
The social contacts of some Midwest children with their parents and teachers
IN: Barker RG (ed) The stream of behavior
Appleton-Century New York p78-98

Ebner M 1967
Physiotherapy in obstetrics (including education for childbirth and post natal restoration)
3rd ed Churchill Livingstone, Edinburgh.

Eggleston J Galton MJ Jones M 1975
A conceptual map for interaction studies
IN: Chanan G Delmont S (eds) 1975
Frontiers of classroom research
NFER Publishing Company

Elkind AK 1980
The nurse as health educator: the prevention and early detection of cancer
Journal of Advanced Nursing 5: 417-426

English National Board for Nursing, Midwifery and Health Visiting 1983
Approved midwifery training syllabus (adoption of the CMB 1980 syllabus)
London

English National Board for Nursing, Midwifery and Health Visiting 1985a
Syllabus and guidelines post registration course in health visitng
London

English National Board for Nursing, Midwifery and Health Visiting 1985b
Professional education/training courses
A consultation paper

Enkin M 1982
Antenatal classes
IN: Enkin M Chalmers I (ed)
Effectiveness and satisfaction in antenatal care
Clinics in Development Medicine Nos 81/82
Spastics International Medical Problems
Heinemann Medical Books Ltd London

Faulkner A 1979
Monitoring nurse-patient conversation in a ward.
Nursing Times Occasional Papers 75 (35): 95-96

Faulkner A 1980
Communication and the nurse.
Nursing Times Occasional Papers 76 (21): 93-95

Faulkner A 1981a
The communicator as a person.
Nursing 27: 1162-1163.

Faulkner A 1981b
Aye, there's the rub
Nursing Times 77 7 332-336

Faulkner MA 1984a
Teaching non-specialists nurses assessment skills in the after care of mastectomy patients
Unpublished PhD thesis University of Manchester

Faulkner A 1984b
Communication of information to patients.
IN: Faulkner A (ed) Communication.
Churchill Livingstone Edinburgh.

Faulkner A 1984c
Health education and nursing.
Nursing Times 80:9 45-46

Faulkner A Bridge W MacLeod Clark J 1983
Teaching communication in schools of nursing: a survey of directors of nurse education.
Paper presented to the RCN Research Society Conference Brighton March 1983.

Faulkner A Maguire P 1984a
Teaching ward nurses to monitor cancer patients.
Clinical Oncology 10: 383-389

Faulkner A Maguire P 1984b
Teaching assessment skills.
IN: Faulkner A 1984
Communication
Churchill Livingstone, Edinburgh.

Faulkner A Ward L 1983
Nurses as health educators in relation to smoking.
Nursing Times Occasional Papers 79:15 47-48.

Fiddes SA 1980
"..faith as a grain of mustard seed..."
Midwives Chronicle 93: 121-123

Field SM Draper J Kerr N Hare MJ 1982a
Interaction with health care personnel
Part 1 The antenatal period.
Midwife, Health Visitor & Community Nurse 18: 197-198

Field SM Draper J Kerr N Hare MJ 1982b
Interaction with health care personnel
Part 3 The postnatal period.
Midwife, Health Visitor & Community Nurse 18: 279 287

Flanders NA 1967
The problems of observer training and reliability
IN: Amidon EJ and Hough JB (eds)
Interaction analysis: theory, research and application. Addison-Wesley Pub. Co.

Flanders NA 1970
Analyzing Teaching Behaviour. Addison-Wesley Publishing Co. Reading, Massachusetts.

Flanders NA Simon A 1970
Teaching effectiveness: a review of research 1960-66
IN: Ebel RL (ed) Encyclopedia of educational research
Rand McNally Chicago

Forgan Morle KM 1984
The problems in evaluating student nurses.
Nurse Education Today 4: 80-85

Freudenberg N 1978
Shaping the future of health education: from behavior change to social change.
Health Education Monographs 6: 372-377.

Furst N 1967
The effects of training in interaction analysis on the behavior of student teachers in secondary schools.
IN: Amidon EJ and Hough JB (eds)
Interaction analysis: theory, research and application. Addison-Wesley Pub. Co.

Gallagher JJ Aschner MJ 1963
A preliminary report on analysis of classroom interaction
Merrill Palmer Quarterly 9: 183-94

Garcia J 1982
Women's view of antenatal care
IN: Enkin M Chalmers I ed
Effectiveness and satisfaction in antenatal care
Clinics in Development Medicine Nos 81/82
Spastics International Medical problems
Heinemann Medical Books Ltd London

Gardiner A Taylor E Carson C Orr J Robinson M Armstrong J 1981
Smokescreen: a survey of smoking in pregnancy
Health Visitor 54: 24

Genest M 1981
Preparation for childbirth - a review
Journal of Obstetric Gynecologic and Neonatal Nursing 12: 82-85

Giefer MA Nelson C 1981
A method to help new fathers develop parenting skills.
Journal of Obstetric Gynecologic and Neonatal Nursing 12: 455-457

Gillett J 1976
A report on the survey on preparation for childbirth within the catchment area of Copthorne Maternity Unit, Shewsbury
International Journal of Nursing Studies 13: 25-46

Gillett J 1985a
Preparation for childbirth
Senior Nurse 2 (9) 8-11

Gillett J 1985b
A childbirth preparation course
Senior Nurse 3 (3) 12-15

Goodwin LD Goodwin WL 1984
Qualitative vs. quantitative research or qualitative and quantitative research
Nursing Research 33: 378-380

Gosnell DJ 1984
Evaluating continuing nursing education
The Journal of Continuing Education in Nursing 15: 9-11

Graham H 1976
Smoking in pregnancy: attitudes of expectant mothers
Social Science and Medicine 10: 399-405

Green LW 1978
Evaluation and measurement: some dilemmas for health education
Nursing Digest 6: 69-76

Greenberg JS Sullivan R 1977
The need for prenatal health education
Health Education Journal 36: 84-87

Greenwood J 1983
"Whose baby?"
Midwives Chronicle 96: 334-338

Greenwood J 1984
Nursing research: a position paper
Journal of Advanced Nursing 9: 77-82

Griffiths CS Jenner AM 1985
An evaluation of dental health education for parentcraft groups
Health Education Journal 44: 120-123

Grimes DA Stritter FT Flair MD Hendricks CA 1975
A residency elective in medical education
Journal of Medical Education 50: 473-475

Haggerty RJ 1977
Changing lifestyles to improve health
Preventive Medicine 6: 276-289

Haggerty L Kiddzma EC 1980
Expectant parents' classes: an alternative environment for learning health maintenance
Journal of Nurse Education 19:2 13-19

Harrison J Saunders ME Sims A 1977
Some structural considerations in modular education for basic nursing students.
Journal of Advanced Nursing 2: 383-391

Hawkes P 1981
A midwifery clinical teaching course
Midwives Chronicle 94: 311-312

Hawthorn PJ 1974
Nurse - I want my mummy!
RCN London

Hayward JC 1975
Information: a prescription against pain
RCN London

Hayes SH Patterson M 1975
Interaction between students in multidisciplinary health teams
Journal of Medical Education 50: 473-475

Health Education Council Output Committee 1981

Health Education Council Annual Report 1980 - 81

Health Visitors Association and Royal College of Midwives 1982
Joint statement on antenatal preparation
June 1982

Heardman M 1982
Relaxation and exercise for childbirth 5th Ed
Churchill Livingstone Edinburgh

Helmstadter GC 1970
Research concepts in human behavior: education, pyschology, sociology
Appleton-Century-Crofts, New York

Hibbard BM Robinson JO Pearson JF Rosen M Taylor A 1979
The effectiveness of antenatal education
Health Education Journal 38: 39-46

Hockey L 1977
Indicators in nursing research with emphasis on social indicators
Journal of Advanced Nursing 2: 239-250

Hoinville G Jowell R and associates 1977
Survey Research Practice
Heinemann Educational Books London

Homans HY 1980
Pregnant in Britain: a sociological approach to Asian and British women's experiences
Unpublished PhD thesis University of Warwick

Hopkins R and Wright V 1978
The best way to lecture in rheumatology
Nursing Times 74 (51) 2115-2116

House V 1977a
Evaluation research; the need for multiple criteria
Journal of Advanced Nursing 2:15-20

House V 1977b
Survival of the fittest: a summary of an attempt to evaluate experimental schemes of nurse training
Journal of Advanced Nursing 2:157-170

House E 1978
Assumptons underlying evaluation models
Educational Researcher 7: 4-12

Hough JB 1967
An observation system for the analysis of classroom instruction
IN Amidon EJ Hough JB 1967
Interaction analysis: theory research and application
Addison-Wesley Reading Mass

Hough JB Ober R 1967
The effect of training in interaction analysis on the verbal behaviour of pre-service teachers
IN Amidon EJ Hough JB 1967
Interaction analysis: theory, research and application
Addison-Wesley Reading Mass

Howarth MH 1976
Activity sampling in nursing
International Journal of Nursing Studies 13: 47-53

Huckaby LM 1978
Cognitive and affective consequences of formative evaluation in graduate nursing students
Nursing Research 27: 190-194

Huckabay LMD 1980
A strategy for patient teaching
Nursing Administration Quarterly 4: 47-54

Hult M Lennung SA 1980
Towards a definiton of action research: a note and bibliography
Journal of Management Studies May pp241-250

Hunter of Newington 1981
Health education - whose responsibility?
Community Medicine 3: 191-198

Huntingford P 1965
Objective results on training for labour
In: The effects of education for childbearing on the mothers wellbeing
Conference report pp21-27
Obstetrice Association of Chartered Physiotherpists

Hurst K 1985
Traditional versus progressive nurse education
Nurse Education Today 5: 30-36

Husband L 1983
Antenatal education: its use and effectiveness
Health Visitor 56 409-410

Hyde BI 1981
Curriculum planning for antenatal health education

Nurse Education Today 1 6 6 -10

Hyde BI 1982
A shared experience
Nursing Mirror pp34-35 (4.8.82)

Jacobs MK 1979
Equilibrium theory applied to small nurse groups
Association of Nursing Science, Practice
Orientated Theory: Part 2 pp23-39

James DE 1981
Midwifery education: the way forward
Proceedings of the 19th Congress of the ICM UK
1981

Jamieson L 1981
Education means teamwork
Nursing Focus April 1981 pp260-263

Jamieson L 1982
Paper for the Health Education Council
(unpublished)

Jamieson L 1986
Education for parenthood
Nursing 3: 13-16

Jimenez SLM 1980
Education for the childbearing year: comprehensive
application of psychoprophylaxis
Journal of Obstetric, Gynecologic & Neonatal
Nursing 11: 97-99

Johnson BS 1964
Relationships between verbal patterns of nursing
students and therapeutic effectiveness
Nursing Research 13: 339-342

Johnson M 1983
Some aspects of the relation between theory and
research in nursing
Journal of Advanced Nursing 8:21-28

Joint Board of Clinical Nursing Studies 1978
Course Evaluation Package
JBCNS London

Jones P 1983
Teaching communication
Nursing Times Community Outlook p229-230 (10.8.83)

Jones P Barnes D 1985a
Health visitors as group leaders
Midwife, Health Visitor & Community Nurse 21:
396-404

Jones P Barnes D 1985b
Listening to mother
Nursing Times p46 (27.3.85)

Jones WT Grahame H 1974
Research in health education
British Medical Bulletin 30: 276-281

Kaplan A 1964
The conduct of inquiry
Chandler San Francisco

Kappeli S 1984
Towards a practice theory of the relationships of self-care needs, nursing needs and nursing care in the hospitalised elderly
Unpublished PhD thesis Univeristy of Manchester

Kasch CR 1984
Interpersonal competence and communication in delivery of nursing care
Advances in Nursing Science January pp71-88

Katona CLE 1981
Approaches to antenatal education
Social Science in Medicine 15a 25-33

Kelmer Pringle M 1975
The needs of children
Hutchinson London

Kenner C 1985
No time for women
Pandora Press London

Kerrigan MR 1957
Analysis of conversations between selected students and their assigned patients
Nursing Research 6: 43-45

Kirk J 1967
Elementary school student teachers and interaction analysis
IN Amidon EJ Hough JB 1967
Interaction analysis: theory, research and application
Addison-Wesley Reading Mass

Kippax C 1980
Where did they go right?
Nursing Mirror p14 (27.11.80)

Kirkham MJ 1983
Labouring in the dark: limitations on the giving of information to enable patients to orientate themselves to the likely events and timescale in labour
IN: Wilson-Barnett J 1983
Nursing Research: ten studies in patient care
John Wiley and Sons Chichester

Kishi KI 1983
Communication patterns of health teaching and information recall
Nursing Research 32: 230-235

Kohner N 1984
Pregnancy Book
Health Education Council London

Kitzinger S 1972
The experience of childbirth 3rd edition
Penguin Books

Kitzinger S 1977
Education and counselling for childbirth
Bailliere Tindall London

Kratz CR 1985
Health education is our business
Nursing Times Community Outlook April 1985 p6

Kuczynski HJ 1984
Benefits of childbirth education - the first stage of life
Midwives Chronicle 97: 188-192 June 1984

Kuczynski HJ Thompson L 1985
Be prepared. Nursing Mirror 160: 26-28 (6.3.85)

Lahiff M 1977
Health visiting
IN: Owen G Health visiting
Bailliere Tindall London

Layton Jones E Bridge W Chatfield K Finn B Rice M 1981
Course evaluation in post-basic education
Journal of Advanced Nursing 6: 179-188

Laughran M 1973
A project on antenatal health education in Manchester
Midwife and Health Visitor 9: 195-197

Lewin K Lippitt R White R 1967
Patterns of aggressive behavior in experimentally created "social climates"
IN: Amidon EJ and Hough JB 1967
Interaction analysis: theory research and application
Addison-Wesley Publishing Company Reading Massachusetts

Lilley MJ 1974
Emotional needs of parents
Nursing Mirror p62-63 (19.7.74)

Lockhart B 1982
When couples adopt, they too need parenting classes
Maternal Child Nursing 7: 116-118

Lofthouse B 1980
The promotion and maintenance of health
Nursing Times p536 (27.3.80)

Logan WW Grosvenor PA 1972a
Students reactions to an educational programme: I
Nursing Times Occasional papers 66: 10 33-35

Logan WW Grosvenor PA 1972b
Students reactions to an educational programme: II
Nursing Times Occasional papers 66: 10 37-39

Lohman E Ober R Hough JB 1967
A study of the effect of pre-service training in interaction analysis on the verbal behaviour of student teachers
IN: Amidon EJ and Hough JB 1967
Interaction analysis: theory research and application
Addison-Wesley Publishing Company Reading Massachusetts

Luker KA 1981
An overview of evaluation research in nursing
Journal of Advanced Nursing 6 87-93

Luker KA 1985
Evaluating health visiting practice.
IN: Liker K Orr J Health visiting
Blackwell Scientific Publications

Lythgoe E 1983
Teaching health visitor students to communicate
Health Visitor 56: 368-369

Macilwaine H 1980
The nursing of female neurotic patients in pyschiatric units of general hospitals
Unpublished PhD thesis University of Manchester

Macilwaine H 1983
The communication patterns of female neurotic patients with nursing staff in pyschiatric units of general hospitals
IN: Wilson-Barnett J 1983
Nursing research: ten studies in patient care
John Wiley and Sons Chichester

Macintyre S 1982
Communications between pregnant women and their medical and midwifery attendants
Midwives Chronicle 95: 387-395

Macleod Clark J 1981a
Patients' needs and nurses' skills
Nursing 27: 1164-1165

Macleod Clark J 1981b
Communication in nursing
Nursing Times 77 (1): 12-18

Macleod Clark J 1983
Nurse-patient communication in surgical wards
IN Wilson-Barnett J
Nursing Research: ten studies in patient care
John Wiley and Sons Chichester

Macleod Clark J 1984
Verbal communication in nursing
IN: Faulkner A (ed) Communication
Churchill Livingstone Edinburgh

Maguire P 1982
Psychosocial aspects and rehabilitation
Clinics in Oncology 3 833-852

Maguire P 1984
Interviewing skills
Medical Teacher 6: 128-133

Maguire P Rutter DR 1976
Training medical students to communicate
IN Bennett AE (ed) Communication between doctors and patients
Oxford University Press

Maguire P Roe P Goldberg F Jones S Hyde C O'Dowd T 1978
The value of feedback in teaching interviewing skills to medical students
Psychological Medicine 8 695-704

Mandelstram DA 1971
The value of antenatal preparation - a statistical survey
Midwife and Health Visitor 7: 217-224

Mander R 1986
Refresher courses: unfulfilled potential?
Midwives Chronicle 99: 4-5

Mann RD Arnold SM Binder JL Cytrynbaum S Newman BM Ringwald BE Ringwald JW and Rosenwein R 1970
The college classroom: conflict change and learning
John Wiley and Sons Inc New York

Marson SA 1984
Developing the 'teaching' role of the ward sister
Nurse Education Today 4: 13-15

Marteau L 1981
The midwife as counsellor
Proceedings of the 19th Congress of the International Confederation of Midwives Brighton

Maternity Services Advisory Committee, 1982
(chairman Mrs Alison Munro)
Maternity Care in Action Part 1 Antenatal Care
HMSO London

Mayes M 1970
Mayes' handbook of midwifery
revised by Da Cruz V
Bailliere Tindall and Cassell London

McCabe F Rocheron Y Dickson R McCron R 1984
Antenatal education in primary care a survey of general practitioners, midwives and health visitors
Centre for Mass Communicaton Research, University of Leciester

McKee L 1980
Fathers and childbirth: 'Just hold my hand'
Health Visitor 53: 368-372

McKenna J 1976
Antenatal preparation and epidural anaesthesia
Midwife, Health Visitor and Community Nurse 12 (3): 78-80

McNeil JD Popham WJ 1973
The assessment of teacher competence
IN: Travers RMW (ed)
Second handbook of research on teaching
Rand McNally Publishing Co, Chicago

Medley DM and Mitzel HE 1963
Measuring classroom behavior by systematic observation
IN: Gage NL (ed) Handbook of research on teaching
Rand McNally Chicago

Melia KM 1982
'Tell it as it is' - qualitative methodology and nursing research: understanding the student nurse's world
Journal of Advanced Nursing 7: 327-335

Metcalf CA 1982
A study of a change in the method of organising the delivery of nursing care in a ward in a maternity hospital
Unpublished PhD thesis University of Manchester

Metcalf C 1983
A study of change in the method of organising the delivery of nursing care in a ward in a maternity hospital
IN: Wilson-Barnett J 1983
Nursing research: ten studies in patient care
John Wiley and Sons Chichester

Methven RC 1982
The antenatal booking interview: recording an obstetric history or relating with a mother-to-be
Unpublished MSc thesis University of Manchester

Meyers SL Grossen NE 1974
Behavioral research: theory, procedure and design
WH Freeman and Co San Franciso

Miles MB Huberman MA 1984
Qualitiative data analysis - a source book of new methods
Sage Publications Beverly Hills

Milne MA 1980
Training for team care
Journal of Advanced Nursing 5: 579-589

Mitchie MM 1980
Prenatal education - parentcraft classes
Midwives Chronicle 93: 326-327

Morgan J 1984
Effect of antenatal education on expectant parents' knowledge and attitudes regarding infant nutrition
Health Education Journal 43: 104-107

Morris N 1980
The baby book
Newbourne Publications Ltd London

Moser C Kalton G 1971
Survey methods in social investigation
Heinemann London

Moustakas CE Siegal IE and Schalock HD 1956
An objective method for the measurement and analysis of child-adult interaction
Child Development 27 109-134

Munro BH 1983
A useful model of program evaluation
The Journal of Nursing Administration 13: 3: 23-26

Myles MF 1975
Textbook for midwives (8th edition)
Churchill Livingstone Edinburgh

Myles MF 1985
Textbook for midwives (10th edition)
Churchill Livingstone Edinburgh

Narayanasamy SA 1985
Evaluation of a training curriculum for nursing assistants
Nurse Education Today 5: 124-129

Newbourne Publications Ltd 1980
Your first baby
Newbourne Publications Ltd London

Newson J Newson E 1965
Patterns of infant care in an urban community
Pelican Books

Newson K 1981
Direct entry method of training midwives in three countries 2 Denmark
Midwives Chronicle 94: 83-86

Nightingale F 1859
Notes on nursing: what it is and what it is not
G Duckworth and Co, London (1970 edition)

Niven C 1984
Labour pain
Research and the Midwife Conference Proceedings

Norman J 1980
A mother's fears
Counselling news July 1980 p21-22

Oakley A 1981a
Adjustment of women to motherhood
Nursing 1st series 21: 899-901

Oakely A 1981b
Subject woman
Fontana Paperbacks

O'Brien M Smith C 1981
Women's views and experiences of antenatal care
Practitioner 225: 123-125

O'Connell P 1978
Health visitor education at univeristy
RCN London

Ogundeyin WM 1980
Effectiveness of self instructional units in post basic nursing education
Journal of Advanced Nursing 5:169-178

Oppenheim AN 1966
Questionnaire design and attitude measurement
Heinemann London

Orr J 1980
Health visiting in focus
RCN London

Orr J 1985
Assessing individual and family health needs
IN: Luker K Orr J (ed) 1985
Health visiting
Blackwell Scientific Publications.

Osgood CE Suci GJ Tannenbaum PH 1957
The measurement of meaning
University of Illnois Press

Pankratz R 1967
Verbal interaction patterns in the classroom in selected physics teachers
IN: Amidon EJ Hough JB (eds)
Interaction analysis: theory research and application
Addison-Wesley Reading Mass

Parlett M 1977
The new evaluation
In: Child D (ed) Readings in psychology for the teacher
Holt Rinehart and Winston, London

Parlett M Hamiliton D 1977
Evaluation as illumination: a new approach to the study of innovatory programmes
In: Hamiltion D King C MacDonald B Parlett M 1977
Beyond the numbers game, a reader in educational evaluation
Macmillan Education Ltd London

Parson WD Perkins ER 1982
Why don't women attend for antenatal care?
Midwives Chronicle October 1982

Patton MQ 1982
Practical evaluation
Sage publications Beverley Hills

Peck RF Tucker JA 1973
Research on teacher education
IN: Travers RMW (ed)
Second handbook of research on teaching
Rand McNally Publishing Co Chicago

Pensivy BA 1977
Traditional versus individualised nursing instruction
Journal of Nurse Education 16:14-23

Perkins ER 1978a
Antenatal classes in Nottinghamshire, the pattern of offical provision
Leverhulme Health Education Project Occasional Papers No 9

Perkins ER 1978b
Attendance at antenatal classes A district study
Leverhulme Health Education Project Occasional Papers No 13

Perkins ER 1978c
Having a baby: an educational experience?
Leverhulme Health Education Project Occasional Papers No 6

Perkins ER 1979a
'And did you go to classes, Mrs Brown?'
Midwives Chronicle 92: 422-425

Perkins ER 1979b
Parentcraft: a comparative study of teaching method
Leverhulme Health Education Project Occasional Papers No 16

Perkins ER 1979c
Defining the need: an analysis of varying teaching goals in antenatal classes
International Journal of Nursing Studies 16: 275-282

Perkins ER 1979d
What do clients need? Towards a responsive health education programme
IN: Anderson DC Perkins ER Spencer NJ
Who knows best in health education?
Leverhulme Health Education Project Occasional Papers No 19

Perkins ER 1979e
Monitoring antenatal classes: the development of a research tool
Nursing Times p2163-2169 13 12 1979

Perkins ER 1980a
Education for childbirth and parenthood
Croom Helm Ltd London

Perkins ER 1980b
Men on the labour ward
Leverhulme Health Education Project Occasional Papers No 22

Perkins ER 1981a
Evaluating in-service training: a practical approach
Nottingham Practical Papers in Health Education No 3
University of Nottingham Department of Adult Education /Nottinghamshire Health Education Unit

Perkins ER 1981b
The individual teacher: learning to improve
Paper for limited circulation

Perkins ER 1982
Developing parentcraft teaching
Paper for limited circulation

Perkins ER Craig E 1981
Parentcraft teaching, the basic skills
Paper for limited circulation

Perkins ER Morris B 1979
Preparation for parenthood: a critque of the concept
Leverhulme Health Education Project Occasional Papers No 17

Perkins ER Morris B 1981
Should we prepare for parenthood?
Health Education Journal 40: 107-110

Phillip L Rahman A 1971
The effect of group dynamics on student personality
International Journal of Health Education, 14: 75-86

Phillips A Rakusen J 1978
Our bodies ourselves
Penguin Books

Pirie S 1984
Evaluating learning skills of innumerate learners
Notes of a paper presented to the RCN Research Society
RCN London

Pirong GG Smith MS 1982
An in-house program of continuing education for perinatal nurses
Journal of Obstetric Gynecologic and Neonatal Nursing 13: 109-111

Pohl ML 1965
Teaching activities of the nursing practitioner
Nursing Research 14:4-11

Pope V 1981
Communicating clinical skills
Proceedings of the 19th International Congress of the ICM UK

Prowse R 1981
A statistical survey of patient opinion concerning antenatal instruction
Association of Chartered Physiotherapists in Obstetrics and Gynaecology Newsletter No: 49 Summer 25-29

Pugh G 1980
Preparation for parenthood - some current initiatives
National Children's Bureau London

Quirk TJ Steen MT Lipe D 1971
Development of the 'Program for Learning in Accordance with Needs' teaching observation scale
Journal of Educational Psychology 62:185-200

Rajan D 1986
Weaning onto solid foods: mothers' beliefs and practices
Health Visitor 59: 41-44

Randell J Farmer D 1976
A survey of student on the Certificate in Health Education courses in England and Wales
Health Education Journal 35:238-246

Randell J Sutherland I 1978
British health education - some long term aims
International Journal of Health Education 21: 232

Rapoport RN 1970
Three dilemmas in action research
Human Relations 23: 499-513

Rathbone B 1973
Focus on new mothers: a study of antenatal classes
RCN London

Rees C (ed) 1979
Preparation for parenthood: report of a day conference
S Glamorgan HA (T) Health Education Unit

Rees C (ed) 1981
A review of antenatal education in South Glamorgan
The findings of three working groups
S Glamorgan HA (T) Health Education Unit

Rees C 1982a
Antenatal services; The views of midwives and health visitors
Proceedings of RCN Research Society XXII Annual Conference

Rees C 1982b
Antenatal classes: time for a new approach
Nursing Times 78(34):1446-1448

Rees C 1982c
"What did we learn?" An assessment of an antenatal education group skills workshop
S Glamorgan HA (T) Health Education Unit

Reilly DE 1975
Behavioral objectives in nursing: evaluation of learner attainment
Appleton Century Crofts New York

Report on the committee on Nursing 1972
Chairman A Briggs
HMSO Cmnd 5115 London

Reynolds W Cormack DFS 1985
Clinical teaching of group dynamics: and evaluation of a trial clinical teaching programme
Nurse Education Today 5: 101-108

Rezler AG Giannini G 1981
Interprofessional education in medical school
Medical Education 15: 237-241

Ritchie JE 1970
The fathers' role in family centred childbirth
Midwife and Health Visitor 6: 302-307

Roberts H Wotten IDP Kane KM Harnett WE 1953
The value of antenatal preparation
Journal of Obstetrics and Gynaecology of the British Empire 60: 404-408

Roberts JE 1976
Priorities in prenatal education
Journal of Obstetric, Gynecologic and Neonatal Nursing 84: 17-20

Roberts Y 1986
Mothers in arms
Sunday Times, 20th July 1986, p39

Robinson S 1986
The 18 month training: what difference has it made?
Midwives Chronicle 99: 22-29

Robinson S Golden J and Bradley S 1983
The role and responsibilities of the midwife
NERU Report no 1 Chelsea College University of London

Rodin J 1983
Preparing children for hospital
IN: Wilson Barnett J (ed) Nursing research: ten studies in patient care
John Wiley and Sons Chichester

Rodway HE 1947
A statistical study on the effects of exercise for childbearing
Journal of Obstetrics and Gynaecology of the British Empire 54: 77-85

Roethlisberger FJT Dickson WT 1966
Management and the worker
Havard University Press

Rogers J 1971
Adults learning
Penguin Books Ltd Middlesex

Rosenshine B Furst N 1973
The use of direct observation to study teaching
IN: Travers RM (ed) Second handbook of research on teaching
Rand McNally Chicago

Rossi PH Freeman HE 1982
Evaluation: a systematic approach 2nd edn
Sage publications Beverly Hills

Roth J 1970
Hired hand research
IN:Denzin NK (ed) Sociological methods: a sourcebook
Purdue University

Royal College of Midwives 1960
Report of the conference on human relationships in the care of the mother and baby Oxford 1960
RCM London

Royal College of Midwives 1964
Statement of policy on the maternity services
RCM London

Royal College of Midwives 1966
Preparation for parenthood
RCM London

Royal College of Midwives 1983
Report of the Joint RCM/HVA workshop on parent education in the antenatal period
RCM 64/83 February 1983

Royal College of Midwives Scottish Board 1986
Annual report
RCM Edinburgh

Royal College of Nursing 1983
Thinking about health visiting
Discussion paper produced by the RCN Health Visitors Advisory Group
RCN London

Royal Commission on the NHS 1979 chairman A Merrison
Cmnd 7615 HMSO London

Runciman PJ 1983
Ward sister at work
Churchill Livingstone Edinburgh

Runswick H Davis CC 1976
Health education: practical teaching techniques
HM+M Publishers Aylesbury

Russell J 1982
Perinatal mortality: the current debate
Sociology of Health and Illness 4: 302-319

Rutman L 1977
Evaluation research methods: a basic guide
Sage Publications Beverley Hills

Sachs H 1982
Health visitors as other professionals see them
Health Visitor 55: 292-295

Sasmor JL Grossman E 1981
Childbirth education in 1980
Journal of Obstetric, Gynecologic & Neonatal
Nursing 10: 155-160

Satow A Evans M 1983
Working with groups
Joint HEC/TACADE publication

Sayle D M 1979
'Preparing the midwife for the 1980s - is safety
enough?'
Midwives Chronicle, 92: 306-309

Scott WA 1955
Reliability of content analysis: the case for
nominal coding
Public Opinion Quarterly 19: 321-325

Scottish National Nursing and Midwifery Consultative
Committee 1976
A new concept of nursing 3
Nursing Times Occasional Papers pp57-60 (22.4.76)

Scottish Health Visitors Association 1982
The health visitor in the antenatal period A
report of a research committee
Nursing Times Occasional Papers 78 2:5-7

Scottish Home and Health Department 1981
Continuing education for the nursing profession -
Scotland
Edinburgh 1981

Scriven M 1967
The methodology of evaluation
In: Tyler R and Gagne R
Perspectives in curriculum evaluation Rand McNally
Publishing Co Chicago

Sellitz C Johada M Cook SW 1963
Research methods in social relations
Holt Rinehart and Winston New York

Shaver JP Larkins AG 1973
Resarch on teaching social studies
IN: Travers RMW (ed)
Second handbook of research on teaching
Rand McNally Publishing Co Chicago

Sheehan J 1985
Learning to teach: teaching practice aims and experiences
Nurse Education Today 4: 28-29

Siegal S 1956
Nonparametric statistics for the behavioral sciences
McGraw-Hill International Book Co London

Simon A Boyer G 1970a
Mirrors for behavior 1 An anthology of observation instruments Volume A
Research for Better School Inc Philadelphia

Simon A Boyer G 1970b
Mirrors for behavior 2 An anthology of observation instruments Volume B
Research for Better School Inc Philadelphia

Skelton I 1984
Acupuncture in labour
Research and the Midwife Conference Proceedings

Slack P 1985
Cost effective advice
Nursing Times p26 (3 4 85)

Smiddy J 1981
Creating a team
IN: Nixon J (Ed) 1981
A teachers' guide to action research: evaluation, enquiry and development in the classroom

Smith DG 1977
College classroom interactions and critical thinking
Journal of Educational Psychology 64:299-305

Smith HW 1975
Strategies for social research: the methodological immagination
Open University Press

Smith JP 1979
The challenge of health education for nurses in the 1980s
Journal of Advanced Nursing 5:531-543

Smith NL 1981
Criticism and meta evaluation
IN: Smith NL New techniques for evaluation
Sage Publications

Smith VA Bass TA 1982
Communication for the health care team
Harper and Row London

Snell M 1983
A plan for birth
Nursing Times p62 (16 2 83)

Social Services Committee Second Report 1980 chairman Mrs R Short
Perinatal and neonatal mortality
HMSO London

Statutory Instrument 1983
Nurses, Midwives and Health visitors Rules
Approval order 1983 No 873 (H83/1175) HMSO
London

Stewart A 1981
The present state of midwifery training
Midwife Health Visitor and Community Nurses 17:
270-272

Stufflebeam DL 1971
Educational evaluation and decision making
Phi Delta Kappa National Study Centre on
Evaluation
FE Peacock Publishers Inc Illnois

Sweet B 1984
Midwives in clinical practice
Nursing Times pp60-62 (6 6 84)

Syred MEJ 1981
The abdication of the role of health education by
hospital nurses
Journal of Advanced Nursing 6:27-33

Tawney D 1976
Curriculum evaluation today; trends and
implications
Schools Council Macmillian

Taylor A 1985
Antenatal classes and the consumer: mothers'
fathers' views.
Health Education Journal 44: 79-82

Taylor K Copstick S 1985
Psychological care in labour
Nursing Mirror 161 (4) 42-43

Thomson AM 1980
Planned or unplanned? are midwives ready for the 1980s?
Midwives Chronicle 93: 68-72

Thomson B Bridge W 1981
Teaching patient care: guidance for the practising nurse
HM+M Publishers London

Tittmar HG Hargie OWD Dickson D 1978
Health visitor training: the moulding of the health visitor
Health Visitor 51: 130-134

Tomlinson A MacLeod Clark J Faulkner A 1984a
Learning to relate
Nursing Times pp48-51 (19 9 84)

Tomlinson A MacLeod Clark J Faulkner A 1984b
Planning and preparing
Nursing Times pp45-47 (26 9 84)

Tones BK 1981
Health education: prevention or subversion?
Royal Society of Health 3: 114-117

Tones K Davison L 1979
Health education in the National Health Service
IN: Anderson DC (ed) 1979
Health education in practice
Croom Helm London

Turner GM 1980
The changing role of the midwife
Midwives Chronicle 93: 155-156

Turton P 1982
District nursing
Nursing 2nd series pp51-52

Turton P 1983
Health education and the district nurse
Nursing Times Community Outlook pp222-229 (10 8 83)

Tyler RW 1950
Basic principles of curriculum and instruction
Syllabus for education 360 University of Chiago Press

Upshaw HS 1968
Attitude measurement
IN: Blalock HM Blalock AB (ed)
Methodology in Social Research
Mc Graw-Hill Book Co New York

Vehvilainen K 1984
Interaction, labour, midwife, mother
Paper presented to WENR/RCN Research Society
Conference London 1984

Wagner AC 1973
Changing teaching behaviour: a comparison of micro teaching and cognitive discrimination training
Journal of Educational Psychology 64:299-305

Walker R Adelman C 1975
Interaction analysis in informal classrooms: a critical comment on the Flanders system
British Journal of Educational Psychology 45: 73-76

Walker J 1976
Improving maternity care by midwifery research
Discussion paper for the RCN Research Society September conference 1976

Ward L Faulkner A 1983
Nurses as health educators in relation to smoking. The tutor's perspective.
Nursing Times Occasional Papers 79: 26.

Ward ME Adams ME 1979
A masters degree in midwifery
Midwives Chronicle 92: 37-38

Watson F 1962
Theory into practice Vol 1 5: 279 Ohio State University Press

Watson F 1963
Novack's research
Journal of Research in Science Teaching 1: 133

Watson M Morrison EM 1979
Health education and infant feeding - does mother know best?
Midwives Chronicle 92: 220-221

Webb C 1983
A study of recovery from hysterectomy
IN: Wilson-Barnett J Nursing research: ten studies of patient care
John Wiley and Sons Chichester

Webber A Janzen R 1982
Antenatal education - does it work?
Midwives Chronicle 95: 94-97

Weick KE 1968
Systematic observational methods
IN: Lindsey G Aronson E (eds)
The handbook of social psychology 2nd edition
Vol 2 Research methods
Addison-Wesley Publishing Co Reading
Massachusetts

While AE 1983
Teaching those in need in the community
IN: Wilson-Barnett J 1983 (ed)
Patient Teaching
Churchill Livingstone Edinburgh

Whitley N 1979
A comparison of prepared childbirth couples and conventional prenatal class couples
Journal of Obstetric, Gynecologic & Neonatal Nursing 8: 109-111

Wiley DE 1970
The evaluation of instruction: issues and problems
IN: Wittrock MC Wiley DE 1970
Holt Rinehart and Winston New York

Wilkening W 1981
Towards a reality-orientated concept of health education
International Journal of Health Education 24: 11-19

Williams M Booth D 1974
Antenatal Education - guidelines for teachers
Churchill Livingstone Edinburgh

Williams SA Fairpo CG 1984
Health visitors and dental health awareness
Midwife, Health Visitor & Community Nurse 20: 43-50

Williamson JA 1975
Hypnosis in obstetrics
Nursing Times p1895-1897 (27.11.75)

Willmuth R Weaver L Borenstein J 1978
Satisfaction with prepared childbirth and locus of control
Journal of Obstetric, Gynecologic & Neonatal Nursing 5: 33-37

Wilson-Barnett J 1983 (ed)
Patient Teaching
Churchill Livingstone Edinburgh

Wilson-Barnett J and Osborne J 1980
Studies evaluating patient teaching: implications for practice
International Journal of Nursing Studies 20:33-44

Withall J 1967
The devlopment of a technique for the measurement of social-emotional climate in classrooms
IN: Amidon EJ and Hough JB 1967
Interaction analysis: theory research and application
Addison-Wesley Publishing Company Reading Massachusetts

Working party on Inequalities in Health Chairman Sir D Black
HMSO London

World Health Organisation 1958
Expert committee on training of health personnel in health education of the public.
WHO Technicial Report Series No 156
WHO Geneva.

World Health Organisation 1978
Primary health care.
Report of the International conference on primary health care.
Alma-Ata USSR, September 1978.
WHO Geneva.

Worthington EL Martin GA Shumate M
Which prepared-childbirth coping strategies are effective?
Journal of Obstetric, Gynecologic & Neonatal Nursing 11: 45-51

Wragg EC 1970
Interaction analysis as a feedback system for student teachers
Education for Teaching 81: 38-47

Wragg EC 1972
An analysis of the verbal classroom interaction between graduate student teachers and children
Unpublished PhD thesis University of Exeter

Wragg EC 1975
The first generation of British 'interaction' studies
IN: Chanan G and Delmont S (eds) 1975
Frontiers of classroom research
NFER Publishing Company

Young C 1981
The need for parentcraft
Nursing Mirror Parentcraft Supplement pi-v (29.9.77)

Zacharias JF 1981
Childbirth education classes: effects on attitudes toward childbirth in high risk indigent women
Journal of Obstetric, Gynecologic & Neonatal Nursing 10: 165-267

Zusman J Bissonette R 1973
The case against evaluation (with some suggestions for improvement)
International Journal of Mental Health 2:111-125

Zax M Sameroff AJ Farnum JE 1975
Childbirth education, maternal attitudes and delivery
American Journal of Obstetrics and Gynecology 123: 185-190

APPENDICES

A Pre course questionnaire

B Course questionnaire

C Post course questionnaire

D The pilot study

E Explanation of statistical tests used.

F Pilot study - scores for sessions.

G Observation study - data collection sheet

H Checklist data collection sheet

I Explanatory letter for pre course questionnaire

J Explanatory letter for post course questionnaire.

K Main study - raw data of questionnnaire study.

K.1 To show the reasons given by the subjects for attending the course, cross tabulated by centre.

K.2 To show the reasons given by the subjects for attending the course, cross tabulated by occupation.

K.3 To show the skills & information the subjects hoped to gain from the course, cross tabulated by centre.

K.4 To show the skills & information the subjects hoped to gain from the course, cross tabulated by occupation.

K.5 To show the reasons given by the subjects for the skills & information they hoped to gain from the course, cross tabulated by centre.

K.6 To show the reasons given by the subjects for the skills & information which they hoped to gain from the course, cross tabulated by occupation.

K.7 To show the topics which a subset of the subjects felt most confident or least confident about teaching.

K.8 To show the aspects of antenatal education which caused concern to the subjects, cross tabulated by centre & occupation.

K.9 To show the aspects of the course which the subjects considered would be most useful, cross tabulated by centre, & occupation.

K.10 To show the total scores, means, & medians of the subjects' reactions to each day's sessions, Centre A1 only.

K.11 Session 1. "Introduction to the course & each other." To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.12 Session 2. "Individual & group teaching." To show the comments of the Centre A subjects only, cross tabulated by occupation.

K.13 Session 3. "The environment/ Creating an environment" To show the comments of the Centre A & Centre B subjects, cross tabulated by centre & occupation.

K.14 Session 4. "Communications - I never told them that." To show the comments of the Centre B subjects, cross tabulated by occupation.

K.15 Session 5. "Communciations."
To show the comments of the Centre A & Centre B subjects, cross tabulated by centre & occupation.

K.16. Session 6. "What preparations should be made - pre course knowledge." To show the comments of the Centre A subjects, cross tabulated by occupation.

K.17 Session 7. "Aims & objectives." To show the comments of the Centre A & Centre B subjects, cross tabulated by centre & occupation.

K.18 Session 8. "Teaching methods / choosing teaching methods. " To show the comments of the Centre A & Centre B subjects, cross tabulated by centre & occupation.

K.19 Session 9. "Instructional techniques / teaching a skill." To show the comments of the Centre A & Centre B subjects, cross tabulated by centre & occupation.

K.20 Session 10. "Planning a session." To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.21 Session 11. "How do groups work." To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.22 Session 12. "Triggers for discussion / visual aids." To show the comments of the Centre A2 & Centre B subjects, cross tabulated by centre & occupation.

K.23 Session 13. "Asking questions." To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.24 Session 14. "Keeping up to date, I" To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.25 Session 15. "Keeping up to date, II" To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.26 Session 16. "A mother's view" (group work with individual mothers).
To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.27 Session 17. "Evaluation / importance of feedback"
To show the comments of the Centre A & Centre B subjects, cross tabulated by centre & occupation.

K.28 Session 18. "Group discussion / awkward people." To show the comments of the Centre A & Centre B subjects, cross tabulated by centre & occupation.

K.29 Session 19. "Free discussion" To show the comments of the Centre A subjects only, cross tabulated by occupation.

K.30 Session 20. "Relaxation & exercises, 1" To show the comments of the Centre A subjects only, cross tabulated by occupation.

K.31 Session 21. "Relaxation & exercises, 2" To show the comments of the Centre A subjects only, cross tabulated by occupation.

K.32 Session 22. "Relaxation & exercises, 3" To show the comments of the Centre A subjects only, cross tabulated by occupation.

K.33 Session 23. "Relaxation & exercises - labour talk." To show the comments of the Centre A subjects only, cross tabulated by occupation.

K.34 Session 24 . "Relaxation & exercises - post natal." To show the comments of the Centre A subjects only, cross tabulated by occupation.

K.35 Session 25. "Theory into practice." To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.36 Session 26. "Presentation of local research." To show the comments of the Centre A2 & Centre B subjects, cross tabulated by centre & occupation.

K.37 Session 27. "Report by previous course members of changes to antenatal classes." To show the comments of the Centre B subjects only, cross tabulated by occupation.

K.38 Session 28. "Presentation of prepared topics." To show the comments of the Centre A subjects only, cross tabualted by occupation.

K.39 Session "Discussion about topics to be presented at the end of the week." To show the comments of Centre A1 only, cross tabulated by occupation.

K.40 Session "Counselling"
To show the comments of the Centre A1 subjects only, cross tabulated by occupation.

K.41 To show the number of responses, total scores & range of scores for the organisation of the course, Centres A & B.

K.42 To show the number of responses, total scores, means, medians & range of scores for the aims of the course, Centre A only.

K.43 To show the number of responses, total scores, means, medians & range of scores for the aims of the course, Centre B only.

K.44 To show the reasons given post course by the subjects for attending the course, cross tabulated by centre & occupation.

K.45 To show the number of responses, total score, means, medians, & range of scores for the post course reasons for attending the course, Centres A & B, midwives & health visitors.

L Main study - raw data of the observation study.

L.1 To show the mean, standard deviation, median & Mann Whitney U test of the pre & post course FIAC, Centres A & B, midwives & health vistors.

L.2 To show the results of the Wilcoxon matched-pairs signed ranks test of FIAC for 9 pre & post course classes, matched for teacher & topic.

L.3 To show the mean, standard deviation, median & Mann Whitney U test of FIAC comparing post course observations with a subset without previous teaching experience before attending the course.

L.4 To show the mean, standard deviation, median & Mann Whitney U test of FIAC comparing post course observations with a subset observed only post course.

L.5 To show the mean, standard deviation, median & Mann Whitney U test of the pre & post course FIAC, self selected & manager selected groups.

L.6 To show the mean, standard deviation, median & Mann Whitney U test of the pre & post course FIAC, midwives & health vistors.

L.7 To show the mean, standard deviation, corrected Chi Square & the probability of the Kruskal-Wallis 1 way analysis of variance of the FIAC observation for the 6 different topics taught in the antenatal classes.

L.8 To show the mean, standard deviation, median & Mann Whitney U test of FIAC for non-feeding topics, cross tabulated by breast feeding topics.

L.9 To show the mean, standard deviation, median & Mann Whitney U test of FIAC for classes held in the community, cross tabulated with classes held in hospital.

L.10 To show the mean, standard deviation, median & Mann Whitney U test of FIAC for noisy suroundings, cross tabulated by quiet surroundings.

L.11 To show the mean, standard deviation, median & Mann Whitney U test of FIAC for semi-circular seating, cross tabulated with other seating arrangements.

L.12 To show the mean, standard deviation, median & Mann Whitney U test of FIAC for classes without babies present, cross tabulated by classes with babies present.

L.13 To show the mean, standard deviation, median & Mann Whitney U test of FIAC for classes without fathers present, cross tabulated by classes with fathers present.

L.14 To show the number, mean standard deviation, median & Mann Whitney U test of the teachers' questions, centres & occupations

APPENDIX A.

PRE COURSE QUESTIONNAIRE.

PILOT STUDY VERSION

Directions:
Where there is a box provided please tick the answer that is nearest to your situation or experience.
Where no box is provided, please write your answer directly under the question.
Please do not write in the column at the side.

1. Do you work in
   a) hospital
   b) community
   c) both
   d) other - please state

2. Please give the year in which you qualified as a midwife.

3. How long have you practised as a midwife without a break in service?

4. Have you taught antenatal classes since you qualified?
   yes
   no

If yes, please answer questions 5 and 6
If no, please proceed to question 7.

5. What year did you start to teach antenatal classes?

6. Do you teach antenatal classes
   a) full time (ie. it is your only responsibility
   b) part time (ie. it is one of your responsibilities)
   c) occasional sessions
   d) other - please state

7. Why have you come on this course?

8. How was the decision made for you to come on this course?
   a) it was suggested by a senior member of staff
   b) you asked to be sent
   c) you decided yourself
   d) other - please state.

If you have previously taught antenatal classes - please answer questions 9-11. If not please proceed to questions 12-15.

9. Which topics or subject would you say you are most confident in teaching?

10. Which topics or subjects are you least confident in teaching?

11. What skills or information do you hope to gain from this course?

Please proceed to question 16.

If you have not ever taught antenatal classes since qualifying, please answer questions 12-15.

12. What skills or information do you hope to gain from this course?

13. Are there any aspects of teaching antenatal classes which cause you concern?

yes
no

14. If yes, please state.

15. What aspects of teaching antenatal classes do you feel most confident about?

For all course attenders.

16. What do you think will be the most useful aspect of this course?

THANK YOU FOR YOUR HELP AND CO-OPERATION.

MAIN STUDY VERSION - CENTRE A1

Directions:
Where there is a box provided please tick the answer that is nearest to your situation or experience.
Where no box is provided, please write your answer directly under the question.
Please do not write in the column at the side.

1. Do you work as a
   a) midwife
   b) health visitor

2. How long have you been in your present post without a break in service?

3. Have you taught antenatal classes since you qualified?
   yes
   no

If yes, please answer questions 4 - 8
If no, please proceed to question 7.

4. Have you taught antenatal classes as
   a) a midwife
   b) a health visitor
   c) both
   d) other - please state

5. Please give the year you started to teach antenatal classes?

6. Do you teach antenatal classes
   a) full time (ie. it is your only responsibility
   b) part time (ie. it is one of your responsibilities)
   c) occasional sessions
   d) other - please state

7. Why have you come on this course?

8. How was the decision made for you to come on this course?
   a) it was suggested by a senior member of staff
   b) you asked to be sent
   c) you decided yourself
   d) other - please state.

If you have previously taught antenatal classes - please answer questions 9-11
If not - please proceed to questions 12-15
9. Which topics or subject would you say you are most confident in teaching?

10. Which topics or subjects are you least confident in teaching?

11. What skills or information do you hope to gain from this course?

Please proceed to question 16.

If you have never taught antenatal classes since qualifying, please answer questions 12-15.

12. What skills or information do you hope to gain from this course?

13. Are there any aspects of teaching antenatal classes which cause you concern?

yes
no

14. If yes, please state.

15. What aspects of teaching antenatal classes do you feel most confident about?

For all course attenders.
16. What do you think will be the most useful aspect of this course?

17. Please list all the courses (professional or otherwise) you have attended since leaving school, and give the year of attendance

COURSE	YEAR

THANK YOU FOR YOUR HELP AND CO-OPERATION.

MAIN STUDY VERSION - CENTRES A2 AND B

Directions:
Where there is a box provided please tick the answer that is nearest to your situation or experience.
Where no box is provided, please write your answer directly under the question.
Please do not write in the column at the side.

1. Do you work as a
   a) midwife
   b) health visitor

2. How long have you been in your present post without a break in service?

3. Have you taught antenatal classes since you qualified?
   yes
   no

If yes, please answer questions 4 - 6
If no, please proceed to question 7.

4. Have you taught antenatal classes as
   a) a midwife
   b) a health visitor
   c) both
   d) other - please state

5. Please give the year you started to teach antenatal classes?

6. Do you teach antenatal classes
   a) full time (ie. it is your only responsibility
   b) part time (ie. it is one of your responsibilities)
   c) occasional sessions
   d) other - please state

7. Why have you come on this course?

8. How was the decision made for you to come on this course?
   a) it was suggested by a senior member of staff
   b) you asked to be sent
   c) you decided yourself
   d) other - please state.

9. What skills or information do you hope to gain from this course?

10. Please give reasons for your answer.

11. Are there any aspects of teaching antenatal classes which cause you concern?

yes
no

12. If yes, please state.

13. What do you think will be the most useful aspect of this course?

14. Please list all the courses (professional or otherwise) you have attended since leaving school, giving the year and place of attendance and state the source of funding.

COURSE	DATES	PLACE	FUNDS

THANK YOU FOR YOUR HELP AND CO-OPERATION.

REASONS FOR CHANGES TO THE PRE COURSE QUESTIONNAIRE.

Details of changes between the pilot questionnaires, and the versions used in Centre A1 and Centres A2 and B are given below, with the reasons for the changes.

The directions were satisfactory and remained unchanged.

Question 1. Do you work in hospital, community, both or other?
which was changed in the subsequent versions to
"Do you work as a midwife or a health visitor."
as there would be health visitors attending the main study courses.
This question was retained as it was thought to be an unthreatening start to the questionnaire.

Question 2. Please give the year in which you qualified as a midwife.
was removed from the second and third versions as some of the midwives who answered the pilot questionnaire, expressed their dislike of this question.

Question 3. How long have you practised as a midwife without a break in service?
This was reworded to
"How long have you been in your present post without a break in service?"
to allow for the differences between the occupations.

Question 4. Have you taught antenatal classes since you qualified?
This remained unchanged.

Question 5. What year did you start to teach antenatal classes? was reworded to
"Please give the year you started to teach antenatal classes?" for stylistic reasons.

Question 6. Do you teach antenatal classes full time, part time, occasional sessions, or other, please state?
Question 7. Why have you come on this course?
Question 8. How was the decision made for you to come on this course?
Questions 6,7 and 8 remained unchanged in all three versions.

Question 9. Which topics or subjects would you say you are most confident in teaching?
Question 10. Which topics or subjects are you least confident in teaching?

The data obtained from Questions 9 and 10 in the pilot and second questionnaires consisted of one or two topics with each individual giving different topics. There was no common ground and it did not reflect the need of the subjects in teaching and group work skills. These questions were not used in the final version.

Question 11. What skills or information do you hope to gain from this course?
Question 12. What skills or information do you hope to gain from this course? (for those with no previous teaching experience)

This question remained unchanged in all three versions, except that it was combined into one question for all subjects rather than splitting it into two parts for those who had previous teaching

experience and those who did not. The third version had an additional question asking for the reasons for the answer given to Question 11 to provide more information about their perceived needs.

Question 13. Are there any aspects of teaching antenatal classes which cause you concern?
Question 14. If yes, please state.

Question 15. What aspects of teaching antenatal classes do you feel most confident about?
Question 16. What do you think will be the most useful aspect of this course?
Questions 13, 14, 15,and 16 remained unchanged in all three versions.

In the second version of the questionnaire, details of courses attended since leaving school, with the year of attendance were requested; in the third version it was also asked where the courses were held and the source of funding for these courses as the data from the pilot and second demonstrated differences between the occupational groups.

APPENDIX B.

COURSE QUESTIONNAIRE.

PILOT STUDY VERSION FOR EACH SESSION

Directions.
For questions 1-6 please score on the seven points by circling the one of your choice. 1 = low and 7 = high.
eg. On question 1, if you found the ideas 'very interesting' you might circle 7, 'less interesting' a lower number, down to 1 for not interesting at all.

Session title.....

	Low						High
1. How interesting did you find the ideas in this session?	1	2	3	4	5	6	7
2. How practical or relevant were the suggestions made by the speakers?	1	2	3	4	5	6	7
3. To what extent do you feel you will make use of the information/ideas/suggestions?	1	2	3	4	5	6	7
4. How productive was the group work (if used)	1	2	3	4	5	6	7
5. How productive was the report back session?	1	2	3	4	5	6	7
6. Did you learn something from this session?	1	2	3	4	5	6	7

For questions 7-10, please put your comments in the space provided below the questions.

7. Please give examples of new information or skills you learnt from this session.

8. Please give examples if this session improved or updated your existing knowledge.

9. Please give examples if you think you will be able to use the skills/information/techniques from this session in your class.

10 Please add any other comments you may have about this session.

THANK YOU FOR YOUR HELP AND CO-OPERATION.

MAIN STUDY VERSION FOR EACH DAY

CENTRE A1

Directions. Date.....

For questions 1-6 please score on the seven points by circling the one of your choice. 1 = low and 7 = high.
eg. On question 1, if you found the ideas 'very interesting' you might circle 7, 'less interesting' a lower number, down to 1 for not interesting at all.

	Low						High
1. How interesting did you find the ideas in the sessions?	1	2	3	4	5	6	7
2. How practical or relevant were the suggestions made by the speakers?	1	2	3	4	5	6	7
3. To what extent do you feel you will make use of the information/ideas/suggestions?	1	2	3	4	5	6	7
4. Did you learn something today?	1	2	3	4	5	6	7

GROUP WORK ONLY

5. How productive was the group work?	1	2	3	4	5	6	7
6. How productive was the report back session?	1	2	3	4	5	6	7

Please write your answers in the space provided.

Please comment on the individual sessions.

7. Before coffee

8. Before lunch.

9. After lunch.

10 After tea.

THANK YOU FOR YOUR HELP AND CO-OPERATION.

MAIN STUDY VERSION FOR EACH DAY

CENTRES A2 and B.

Please complete the code number with the number you were given for the pre course questionnaire.

Section 1.

Thinking about the sessions held today, please give one title under each of the following descriptions:

Most interesting	least interesting
Most practical	least practical
Most useful	least useful
Learnt most	learnt least

Section 2.

Thinking about the group-work you were involved with today, please give one title under each of the following:

Most useful	least useful
Most productive report back	least productive report back

Please write your answers in the space provided.
Please comment about each of the sessions held today.

1st

2nd

3rd

4th

5th

THANK YOU FOR YOUR HELP AND CO-OPERATION.

REASONS FOR CHANGES TO THE COURSE QUESTIONNAIRES.

The questionnaires to assess the subjects' reaction to the content of the course underwent considerable modification in the light of experience and consisted of the three separate formats on p422-427

During the pilot study a questionnaire was administered to each subject after each session. The decision to use this format was based on the successful use of a simliar questionnaire (Rees 1982c).

The questionnaire consisted of:

1) a seven point Likert-type scale and the subjects were asked to circle the number which represented their choice, eg:

	Low						High
How interesting did you find the ideas in this session?	1	2	3	4	5	6	7

There were 6 themes explored in this section:

level of interest;

practicality or relevance;

usefulness of information;

productivity of group work;

productivity of report back from group work;

how much had been learnt.

2) The second section of the questionnaire consisted of three open questions which asked for examples:

a.) of new information or skills learnt from this session.

b.) if this session improved or updated existing knowledge.

c.) if the skills/information/techniques from this session will be used in class.

3) The final section was uncued and asked for any further comments about the sessions.

This format of the questionnaire was revised in three ways:

1. It was administered on a daily basis as opposed to a sessional basis.
2. The modification of the rating system.

a) The seven point scoring system was retained for the second version as it was the part of the pilot questionnaire which caused the least problems. One small adaptation was made which put the question "Did you learn something" before the questions which referred to the group work.

b) When the seven point scoring system was applied to the whole day, however, the subjects found it difficult to quantify all the sessions under one score; some of them 'spoilt' their responses by giving two different scores for morning or afternoon or specifing which of the sessions warranted a particularaly high or low score. As a result this section was further adapted in the third version. This listed opposing statements maintaining the 6 themes mentioned for the pilot questionnaire;

for example:

most interesting	least interesting:
most practical	least practical.

For each double statement, the subjects were asked to name the session which fitted under each heading. This also caused problems. The subjects were reluctant to specify a session in the 'least' category of each theme. The rate of response from in Centre B varied but there were some of the categories which had less than a 50% response rate.

3. The removal of three questions asking for examples of new information, updated information and skills which would be used in class. There were only 25.8% of the questions which were answered correctly.

APPENDIX C.

POST COURSE QUESTIONNAIRE.

PILOT STUDY VERSION

Directions.

Where there is a box provided pleas tick the answer that is nearest to your situation or experience. For those questions with a seven point scoring system, please circle the number of your choice: 1 = low; 7 = high. For all other questions, please write your answer directly under the question. Please do not write in the column at the side.

1. Please give the date on which you are answering this questionnaire.

2. Did you have enough information about the following aspects of the course/workshop before you started

	low						high
travel directions	1	2	3	4	5	6	7
course/workshop itself	1	2	3	4	5	6	7

3. Is there any way the information could have been improved?

4. Please give any comments you have about the arrangements of the course/workshop (length timing, residential, non-residential etc).

5. Please give your reasons for the answer to Question 4.

6. Please score your overall reaction to the following about:

	low						high
sleeping accomodation	1	2	3	4	5	6	7
setting of the course	1	2	3	4	5	6	7
parking facilities	1	2	3	4	5	6	7
rooms used for lectures	1	2	3	4	5	6	7
rooms used for groupwork	1	2	3	4	5	6	7
eating arrangements	1	2	3	4	5	6	7
the staff of the college	1	2	3	4	5	6	7

7. Please expand on the above if you have any further comments

8. The aims of the course/workshop are set out below. Please score from 1-7 on how you feel these aims were met:

	low						high
a) to show the basic requirements of a parentcraft course	1	2	3	4	5	6	7
b) to give the rudiments of the teaching methods which could be used in such a course	1	2	3	4	5	6	7
c) to give you guidance on the use of audio-visual equipment and the preparation of audio - visual aids	1	2	3	4	5	6	7
d) to work out in a practical way how the information you received can be used	1	2	3	4	5	6	7

9. From the list of sessions below please choose the five sessions you found the most useful. Please rank these five sessions in the box provided so that the most useful session = No.1.

A list of the sessions held in the pilot centre was given with title, day and time of each.

10 Please give reasons for your choice of the session which is no.1

11. Have you given a written or verbal report?
yes
no

12. If yes - to whom did you give the report?

13. If no, please give brief reasons.

14 Have you taught antenatal classes since attending the course?
yes
no

15. If yes, have you made any changes since the course

16. Please give details of these changes

17. Please give reasons if there are any changes you are unable to make.

18. Please give up to three reasons why you wanted to attend the course

1 ----------

2 ----------

3 ----------

19. Please follow the list you made for question 19, and score 1-7 if you felt you were given the help and information you required.

	low						high
1).....	1	2	3	4	5	6	7
2).....	1	2	3	4	5	6	7
3).....	1	2	3	4	5	6	7

20. Please comment on the most important reason for attending the course/workshop.

21. Do you have any comments on the information received on the course (handouts etc)

22. Thinking about the week as a whole, please give an overall comment.

23. Would you recommend the course to a friend or colleague?

THANK YOU VERY MUCH FOR YOUR HELP AND CO-OPERATION.

MAIN STUDY VERSION - CENTRE A1

Directions
Where there is a box provided please tick the answer that is nearest to your situation or experience. For those questions with a seven point scoring system, please circle the number of your choice: 1 = low; 7 = high. For all other questions, please write your answer directly under the question. Please do not write in the column at the side.

1. Please give the date on which you are answering this questionnaire.

2. Did you have enough information about the following aspects of the course/workshop before you started

	low						high
travel directions	1	2	3	4	5	6	7
course/workshop itself	1	2	3	4	5	6	7

3. Is there any was the information could have been improved?

4. Please give any comments you have about the arrangements of the course/workshop (length timing and place etc).

5. Please give your reasons for the answer to Question 4.

6. Please score your overall reaction to the following about the

	low						high
course/workshop:	1	2	3	4	5	6	7
setting of the course	1	2	3	4	5	6	7
parking facilities	1	2	3	4	5	6	7
rooms used for lectures	1	2	3	4	5	6	7
eating arrangements	1	2	3	4	5	6	7

7. Please expand on the above if you have any further comments

8. The aims of the course/workshop are set out below. Please score from 1-7 on how you feel these aims were met:

	low						high
1. to instruct experienced midwives and health visitors in:							
a) methods of parentcraft teaching	1	2	3	4	5	6	7
b) relaxation	1	2	3	4	5	6	7
c) exercises	1	2	3	4	5	6	7
2) to improve the uptake of antenatal education	1	2	3	4	5	6	7
3) to improve the knowledge of parents to enable them to promote:							
a) their health and well being	1	2	3	4	5	6	7
b) health & well being of their families	1	2	3	4	5	6	7
4) to reduce the perinatal and maternal morbidity	1	2	3	4	5	6	7

9. From the list of sessions below please choose the five sessions you found the most useful. Please rank these five sessions in the box provided so that the most useful session = No.1.

A list of the sessions held in centre A was given with title, day and time of each.

10. Please give reasons for your choice of the session which is no.1

11. Have you given a written or verbal report?
yes
no
12. If yes - to whom did you give the report?

13. If no please give brief reasons.

14. Have you taught antenatal classes since attending the course?
yes
no

15. If yes, have you made any changes since the course

16. Please give details of these changes
17. Please give reasons if there are any changes you are unable to make

18. Please give up to three reasons why you wanted to attend the course

19. Please follow the list you made for question 19, and score 1-7 if you felt you were given the help and information you required.

	low						high
1).....	1	2	3	4	5	6	7
2).....	1	2	3	4	5	6	7
3).....	1	2	3	4	5	6	7

20. Please comment on the most important reason for attending the course/workshop.

21. Do you have any comments on the information received on the course (handouts etc)

22. Thinking about the week as a whole, please give an overall comment.

23. Would you recommend the course to a friend or colleague?

THANK YOU VERY MUCH FOR YOUR HELP AND CO-OPERATION.

MAIN STUDY VERSION - CENTRES A2 and B

Directions
Where there is a box provided please tick the answer that is nearest to your situation or experience. For those questions with a seven point scoring system, please circle the number of your choice: 1 = low; 7 = high. For all other questions, please write you answer directly under the question.
Please do not write in the column at the side.

1. Please give the date on which you are answering this questionnaire.

2. Did you have enough information about the following aspects of the course/workshop before you started

	low						high
travel directions	1	2	3	4	5	6	7
course/workshop itself	1	2	3	4	5	6	7

3. Is there any way the information (travel directions, course) could have been improved?

4. Please give any comments you have about the arrangements of the course/workshop (length timing and place etc).

5. Please give your reasons for the answer to Question 4.

6. Please score your overall reaction to the following about the:

	low						high
course/workshop:	1	2	3	4	5	6	7
setting of the course	1	2	3	4	5	6	7
parking facilities	1	2	3	4	5	6	7
rooms used for lectures	1	2	3	4	5	6	7
eating arrangements	1	2	3	4	5	6	7

7. Please expand on the above if you have any further comments

8. The aims of the course/workshop are set out below. Please score from 1-7 on how you feel these aims were met:
CENTRE A ONLY
1. to instruct experienced midwives and health visitors in:

	low						high
a) methods of parentcraft teaching	1	2	3	4	5	6	7
b) relaxation	1	2	3	4	5	6	7
c) exercises	1	2	3	4	5	6	7
2) to improve the uptake of antenatal education	1	2	3	4	5	6	7
3) to improve the knowledge of parents to enable them to promote:							
a) their health and well being	1	2	3	4	5	6	7
b) health & well being of their families	1	2	3	4	5	6	7

4) to reduce the perinatal and maternal morbidity	1	2	3	4	5	6	7

CENTRE B ONLY

	low						high
1.a) to review the function of antenatal classes	1	2	3	4	5	6	7
b) to review the organisation of antenatal classes	1	2	3	4	5	6	7
c) to identify areas of personal strength	1	2	3	4	5	6	7
d) to consider new ideas and approaches to teaching	1	2	3	4	5	6	7
2 at the end, to have increased understanding of							
a) group teaching	1	2	3	4	5	6	7
b) the most suitable way to 'put over' information on various topics	1	2	3	4	5	6	7
c) meeting the information needs of those in a class	1	2	3	4	5	6	7

9. From the list of session below please choose the five sessions you found the most useful. Please rank these five sessions in the box provided so that the most useful session = No.1.

CENTRE A ONLY
A list of the sessions held in centre A was given with title, day and time of each.

CENTRE B ONLY
A list of the sessions held in centre B was given with title, day and time of each.

10. Please give reasons for your choice of the session which is no.1

11. Have you given a written or verbal report?
yes
no

12. If yes - to whom did you give the report?

13. If no please give brief reasons.

14. Have you taught antenatal classes since attending the course?
yes
no

15. If yes, have you made any changes since the course

16. Please give details of these changes

17. Please give reasons if there are any changes you are unable to make

18. If you are employed as a midwife please answer a) and b). If you are employed as a health visitor please answer c) and d)

a) Please describe how you see your role in antenatal education.

b) Please describe how you see a health visitor's role in antenatal education.

c) Please describe how you see your role in antenatal education.

d) Please describe how you see a midwife's role in antenatal education.

19.Please give up to three reasons why you wanted to attend the course

20. Please follow the list you made for question 19, and score 1-7 if you felt you were given the help and information you required.

	low						high
1).....	1	2	3	4	5	6	7
2).....	1	2	3	4	5	6	7
3).....	1	2	3	4	5	6	7

21. Please comment on the most important reason for attending the course/workshop.

22. Thinking about the week as a whole, please give an overall comment.

23. Would you recommend the course to a friend or colleague?

THANK YOU VERY MUCH FOR YOUR HELP AND CO-OPERATION.

REASONS FOR CHANGES TO THE POST COURSE QUESTIONNAIRE.

Of the three types of questionnaire, the post course questionnaire underwent the least change. This may have been due to the lack of verbal response about the questionnaire itself, as it was postal. The pilot study post course questionnaire was only sent to those who provided their addresses and indicated that they were willing to return it (17, 51.5%). Of these 10 (30.3%) were returned. The modifications are detailed below.
The directions and questions 1 - 3 remained unchanged.

Question 4 asked for comments about the arrangements of the course such as the "length, timing, residential, non-residential etc" - the words 'residential and non-residental' were removed from the main study questionnaires as the courses were all non-residential.

Question 6 asked for a score from the seven point Likert-type scale. The pilot questionnaires included

sleeping accomodation

rooms used for groupwork

the staff of the college

which were not included in the main study questionnaires as these comments were not applicable to Centres A and B.
This question and the others which requested scores did not appear to present any problems to the subjects.

Question 8 had the same format for all three versions, requesting a score for each of the aims of the course, which had been listed in the programme. As the aims for each course were different, the

words used in the programme were those that appeared in the questionnaires.

Question 9 gave a list of the sessions held in each centre with title, day and time of each. As with Question 8 this used the same format but the details were adapted for each centre. From the list of sessions, they were asked to choose the 5 most useful and rank them. In the pilot study all the subjects did this successfully.

The following was added to the third version:
Question 18 asked each attender to describe her own role in antenatal education and the role of her opposite number (ie, if a midwife was answering she was asked to detail a health visitor's role in antenatal education as well as her own).
This was included as there was some evidence, both from the responses to the questionnaires from Centre A1 as well as identified during the observation of the courses, that there was conflict between the two professional groups and that there was not a full appreciation of the role of the other in antenatal education. As this theme had also emerged in the literature, it was considered useful to explore this aspect further. This, however, demonstrates the problems of pretesting on a single occupational group for a main study which will consist of two occupational groups.

Question 21. "Do you have any comments on the information received on the course (handouts, etc)" was not included in the third version. In the pilot questionnaire 6 of 10 had replied to this question, however only 1 of 12 from Centre A1 replied.

APPENDIX D.

THE PILOT STUDY

D.1 Access and administration.

Access for the pilot study was negotiated through the senior tutor of the professional organisation responsible for the course. Permission was given to attend the course as a member and to administer the questionnaires. Prior to the course, the questionnaires were shown to the senior tutor and verbal agreement was given to the format and the questions.

The course, entitled "teaching in preparation for parenthood" is held 2-3 times a year as a residential one week course. It was situated in a local authority residential college in the North West of England.

The pre course questionnaire was distributed to the subjects as they arrived on the first afternoon of the course, prior to registration and introduction to the course. An explanation of the role of the researcher and the reason for the questionnaire was given verbally to support the explanatory letter that went with the questionnaire. Each member was given a code number and asked to remember it for the session questionnaires.

D.2 The profile of the subjects.

There were 33 midwives, most of whom were seconded by their Health Authority, although 4 were self funded, of whom 3 had won a scholarship to pay their fees. There is a London based day release course with similar aims, so most of these subjects came from the north of England (17) but there were 3 from S.Wales, 2 from the Midlands and 8 from the

South. One of the self funded midwives came from the north of Scotland.

All but one subject completed the questionnare giving a response rate of 96.9%. In the following results and tables the number refer to the 32 who responded to the questionnaire. The place of work is shown in table D1

TABLE D1
To show place of work of the subjects.

Place of work	No.
hospital	15
community	10
both	5
GP Units	2
total	32

While over half had qualified in the last ten years, the longest serving midwife had been working for 31 years. Fourteen had worked continuously since qualification. The incidence of teaching experience before attending the course is shown in table D2

TABLE D2
To show the previous teaching experience of the subjects.

Teaching experience.	No.
Yes	25
No	7
Total	32

There were equal numbers among the hospital and community midwives who had teaching experience and all who worked jointly for hospital and community as well as those working in the GP Units, had taught before coming on this training course.

TABLE D3
To show the subjects involvement in teaching.

	No.
Full time	1
Part time	22
Occasional	9
Total	32

There were 17 had been sent on the course following a suggestion or decision by a senior member of staff. One subject commented that it was 'policy' for all the community staff to attend the course while another implied it was part of staff development and their attendance at the course was because they had recently or would be soon taking on new duties which would include teaching antenatal patients. Ten had asked to be sent on the course and 4 said they had decided themselves - this last group included the three who won a scholarship to pay the course fee.

D.3 The results of the pilot study.

D.3.1 The pre course questionnaire.

When the subjects were asked why they wanted to come on the course, the majority of replies fell into two categories:

1. to learn teaching methods, some of it specifically referring to relaxation and exercises;
2. to gain further knowledge either general or in relation to antenatal education.

There were 5, however, whose sole reason for attending was that they were sent on the course as part of the policy of their managers. see table D4.

TABLE D4
To show the reasons for attending course (multiple response).

number	32
not answered	2
improve teaching skills	13
gain further knowledge	6
because it is unit policy	5
exchange ideas with others	4
learn use of visual aids	3
learn presentation	3
preparation for new job	3
gain confidence	2
how to approach parents	2
keen to teach parentcraft	1
want to start inservice training	1
interest in the extended role of the midwife	1
total	44

The majority of the topics or subjects which they felt most confident about teaching were those which were in the daily experience of the midwife, for instance general baby care and feeding, see table D5

TABLE D5
To show the aspects of antenatal classes the subjects feel most confident in teaching, cross tabulated by previous teaching experience (multiple response).

	previous experience	no previous experience
number	25	7
not answered	7	2
breast feeding	11	
bottle feeding	5	
general baby care	5	
relaxation and exercises	1	4
preparation for labour	1	4
parentcraft (unspecified)	1	3
postnatal care	3	
analgesia	2	
use of visual aids	0	1
father's role	1	
family planning	1	
going into hospital	1	
most subjects	1	
total	33	12

Only those who had taught before attending this course were asked which topics or subject they felt least confidence in teaching. Relaxation and exercises was the most frequently mentioned, with discussions about social and welfare benefits as the second topic, see table D6. The midwife who had felt confident about teaching most subjects added the comment "I'm a grand multip!" but it was she who did not feel confident about the topic of family planning.

TABLE D6
To show the aspects of antenatal classes the subjects feel least confident in teaching, previous teaching experience only (multiple response).

number	25
not answered	3
relaxation	10
exercises	6
social and welfare benefits	3
baby care	2
father's role	2
group teaching	1
safety in the home	1
family planning	1
total	26

The skills and information which they hoped to gain from the course had the greatest number of responses (53) and demonstrated that a third of those who had taught previously felt the need to learn how to teach.

TABLE D7
To show the skills and information hoped to gain from the course, cross tabluated by previous teaching experience (multiple response).

	previous experience	no previous experience	total
n.	25	7	32
not answered	4	2	6
teaching methods	8	5	13
use of audio visual aids	7	1	8
relaxation and exercises	6	2	8
group work skills	5	0	5
up to date information	5	0	5
presentation of topics	2	4	6
exchange of ideas	4	0	4
how to plan a class	1	0	1
parents' needs	1	0	1
general improvement of all aspects	2	0	2
total	41	12	53

There were four of the seven without any previous teaching experience who felt concerned about teaching antenatal classes. Two were worried about teaching relaxation and exercises while the others expressed their concern as

> "How to instill confidence in the patient while being honest about what is about to happen in their lives."
> "The types of information which will be useful to expectant parents."

The final question asked before they started the course was what aspect would they find most useful. Meeting other midwives involved in antenatal education and exchanging ideas "picking up good, practical ideas" was mentioned most frequently, see table D8

TABLE D8
To show the expectations of the most useful aspect of the course (multiple response).

n	32
not answered	1
exchange of ideas	17
how to teach relaxation and exercises	11
basic understanding of parentcraft	4
teaching methods	4
use of audio visual aids	3
to gain confidence in teaching	2
psychological and emotional needs	1
not sure/don't know	4
total	46

D.3.2 The course questionnaire.

The first section of the questionnaire for each session was the 7 point scoring system on 6 themes - these results are in appendix F.

The responses to questions 7, 8 and 9 (asking for examples of new information, updated information and skills which would be used in class) had 74.2% incorrect, partial or no responses (see table 4.1 p133 in the main text. As the decision was made not to use this format in subsequent questionnaires, the data were not analysed. Question 10 produced data with very wide ranging categories with small frequencies. The initial analysis provided a coding framework, for use with the main study, which is not presented here.

D.3.3 The post course questionnaire.

There were 17 post course questionnaires sent out 6 weeks after the course to those who had volunteered to complete it. It was necessary to

ask them for their addresses as this information was not provided by the course organiser. There were 10 who replied, and their answers are given below.

Much of the post course questionnaire was designed to examine how satisfied the subjects were with the general organisation of the course. The pre course information is shown in table D9.

TABLE D9
To show means, median and ranges of scores for provision of information before the course.

	n.	total	mean	median	range
travel directions	10	68	6.8	7	6-7
accommodation	10	54	5.4	7	3-7
the course itself	10	54	5.4	6	3-7

A request for improvements to the information which had been provided produced the following responses:

two did not reply and 3 said 'no', and one felt everything was satisfactory. There was a request for more reading material before the course and one, who had difficulty in getting some of the suggested books would have liked a source. There were two comments about the accommodation, which involved sharing dormitories or twin bedded rooms, one who was sharing with only one other person did not mind, but another would have like more information about the dormitory rooms. The final three comments involved the teaching; one wanted a breakdown of the day by day activities; one would have like more about the approach to the teaching and the last requested that they should have been told about the 'workshop' they would be presenting on the last day so that they could have brought suitable teaching material with them.

The comments about the arrangements of the course (length, timing, residential, non-residential) and the reasons for the comments produced

considerable agreement on one aspect. There were 6 who felt that the days were too long, and that it made it difficult to concentrate; these replies are typified by the midwife who said:

> "Exhausting to go onto another lecture from 8-9pm although the 8-9pm lectures were the relaxing ones and very interesting. These would have been better before the evening meal - to allow us to unwind before our meal."

Additional comments included appreciation of the course being residential as it gave everyone the chance to get to know each other; there was too much time spent on group work, although one approved of it being a week's length, others felt some of the material to be irrelevant, while 2 thought it should be spread over a longer time span.

Aspects of the organisation of the course during the week were listed and the subjects asked to score from 1-7, see table D10

TABLE D10
To show means, median and ranges of scores of the overall reactions to the organisation of the course.

	n.	total	mean	median	range
sleeping quarters	10	53	5.3	5	1-7
the college	10	70	7.0	7	7
rooms for lectures	10	62	6.2	7	4-7
rooms for groupwork	10	64	6.4	7	5-7
eating arrangements	10	70	7.0	7	7
staff of college	10	70	7.0	7	7

Expansion of these points produced the following comments. Those commenting on the staff (4) and the food (5) agreed that the staff were very welcoming and the food excellent. The room sharing received a variety of comments, some objecting strongly while others were thankful that they only had to share with someone they knew or one other. For example:

> "I thought it was rather unfair on the people who were seven to a room, but I only shared with one person. Before going on the course, if I

had been asked, of course I would have said 'I prefer not to share, even with someone I knew' but I, in fact, shared with a stranger and I enjoyed the experience immensely."

The surroundings of the college, in its own grounds within lovely countryside, was praised but regret was expressed that there was not enough time to enjoy it.

The scores given by the subjects for how they felt the course met the stated aims are shown in table D11

TABLE D11
To show the means, median and ranges of scores relating to meeting the aims of the course.

	n.	total	mean	median	range
a) to show the basic requirements of a parentcraft course	10	55	5.5	6	3-7
b) to give the rudiments of the teaching methods which could be used in such a course	10	57	5.7	7	2-7
c) to give you guidance on the use of audio visual equipment and the preparation of audio-visual aids	10	52	5.2	6	3-7
d) to work out in a practical way how the information you received can be used	10	60	6.0	7	3-7

All the sessions of the course were itemised in the questionnaire, and the subjects were asked to rank 5 of them in order of usefulness. The most useful was then given a score of 5 and the fifth, 1, so that an overall ranking could be obtained. Thus the maximum score any one session could have obtained, if everyone had ranked it as the most useful, would be 50. The sessions, with their scores, are listed in table D12

Table D12
To show the sessions ranked by subjects in order of usefulness, with score (maximum possible = 50)

Physical preparation for parenthood - theory	20
Relaxation and exercises:	
Teaching practice	28
labour	20
2nd stage of labour and postnatal care	20
variations of relaxation	18
group teaching	14
Audio visual aids	7
Workshops:	
fathers eve	
postnatal class	6
Teaching methods	5
Workshops:	
breast feeding;	
labour	4
Group work - needs of parents,	
define motherhood, parentcraft teaching;	3
Adults learning	3

NOT MENTIONED:
Emotional needs of the family
Report back from group work session
Films and tape/slides as teaching aids in parentcraft education

All but one of the sessions which were ranked number 1 were those taught by the physiotherapist. The reasons given for their choice as number 1 included:

4 stated it was the information which they needed; 2 learnt most from it or found it most useful; it was a good practical session and easy

to remember (2); the theoretical introduction gave the background and explanation required (2); the last comments were that the sessions realised their expectations and that they are now happy and confident teaching relaxation and exercises.

The only reason for a choice of number one not in this category was the midwife who chose the session on audio-visual aids because it gave her good ideas to use in her classes.

All but 2 midwives had given a report to colleagues and immediate superiors, one gave the name of the course tutor, referring to the evaluation at the end of the course, which may have indicated that she did not understand the question in the same way as the others. Two did not give a report which they said was because it was not required or no-one was interested. Of those who had returned the questionnaire within 5-7 weeks since the end of the course, 6 had taught antenatal classes, 1 had not and 1 did not reply. The two who did not return their questionnaires until 11-13 weeks since the end of the course had not been involved in teaching.

Of those who had been involved with classes since their return, 3 would have liked to make changes. These included:

making classes more stimulating, by the better use of visual aids; deciding an aim for each class and try to achieve it; change her approach (unspecified) to the classes and one would have liked to start early in pregnancy classes.

Those unable to make changes commented that the health visitors controlled the conduct of the classes and decided changes (2); one had not taught and another could only supply for the absence of other; she

would like to start her own classes.

The subjects were asked to give up to three reasons why they wanted to attend the ccurse and score between 1-7 if they felt they were given the information they required. All made use of the opportunity to give three reasons, see table D13

TABLE D13
To show the means and medians for reasons for attending the course.

reason	n	total	mean	median
how to teach *rel/ex.	6	37	6.2	7
exchange of ideas	6	37	6.2	7
make teaching interesting	3	18	6	6
how to teach in antenatal classes	3	16	5.3	7
use of audio visual aids	2	10	5	
confidence to teach	2	10	5	
postnatal exercises	1	7		
learn/understand *rel/ex	1	7		
presentation of material	1	6		
update midwifery knowledge	1	4		
update with new methods	1	4		

* rel/ex = relaxation and exercises

In addition there was one who commented

"Eventually all the midwives in my area will have attended this course; this will provide for standardisation of techniques throughout the area."

but did not score this reason; and one very honest member who said she fancied a week in the country and gave it a score of 7!

Comments on the most important reasons for attending fell into three categories; those relating to teaching, relaxation and exercises and exchange of ideas. Of those commenting on teaching one felt a need to reappraise her own teaching; another wanted to improve her teaching

because of the high standard expected by parents and another felt her knowledge of teaching was increased.

One felt there was not enough emphasis on relaxation and exercises but two were satisfied with what they had learnt. Those giving the exchange of ideas as their most important reason for attending the course (2) felt they made use of opportunity for new ideas and gaining in enthusiasm for their jobs.

Of the 6 who answered the question about the information received on the course such as handouts, booklists etc, four said they had no comment, while the other two found the booklists and references useful. There was one who slightly misunderstood the question:

> "Patients appear to be very confused and overwhelmed with the varied number of booklets, phamplets etc, on all aspects of childbirth, some with conflicting ideas which could be quite worrying to a new and anxious mother."

The overall comments of the subjects are shown in table D14

TABLE D14
To show the overall comments of the subjects when thinking about the week as a whole.

enjoyed/ stimulating/worthwile	4
lots of hard work	3
good to meet other midwives	2
more confident teaching	1
learnt a lot	1
aims were satisfied	1
fell into place at the end of the week	1
total	13

One member who was not so happy commented:

> "Disappointed it lacked content on how to teach but I gained much from meeting different midwives and hearing their comments"

The final question asked if they would recommend the course to a friend. All but one said yes and the midwife who said 'yes and no' qualified her statement with:

> "If my friend had had experience of parentcraft teaching it might be useful as a refresher course but if she had little or no experience I would answer no as I felt there was not enough structured work or adequate time to practise what was being taught."

EXPLANATORY LETTER, PRE COURSE QUESTIONNAIRE

PILOT STUDY.

May 1982

Dear

I am currently involved in a research project at Manchester University, which is evaluating the preparation of parentcraft teachers. Enclosed is a questionnaire which I would be grateful if you could complete. As this is the pre-course questionnaire, please fill it in before the first session on Monday afternoon and put it in the box provided.

Each day during the course you will be given short questionnaires to complete after each session. I am interested in your own feelings and opinions.

These questionnaires are entirely confidential, and you have been given a code number to ensure this confidentiality. Please remember your code number so that you can put it on all the questionnaires you complete.

There is no obligation to complete these forms but I would be grateful if you would do so. Please do not hesitate to contact me if you have any queries.

Thank you for your help.

Yours sincerely

Tricia Black, Research Officer.

APPENDIX E.

EXPLANATION OF STATISTICAL TESTS.

1. The Chi square test for two independent samples.

This test is used with data which consists of frequencies in discrete categories, to determine the significance of differences between the two groups. The hypothesis tested is that the two groups will differ as will the relative frequency with which the members of the group occur in certain categories. The proportion of cases from one group is compared with the proportion of cases in the other group. If the number of frequencies is small, the relaxed rule of Cochran is used (Siegal,1956).

2. The Fisher exact probability test.

This may be used to analyse discrete data, either nominal or ordinal, where the two independent samples are small in size. It is used when the scores from two independent random samples all fall into one or the other of two mutually exclusive classes (Siegal,1956).

3. The Kolmogorov-Smirnov one-sample test.

This is a test for goodness of fit and as such examines the degree of agreement between the distribution of a set of sample values and some specified theoretical distribution. (Siegal, 1956). The theoretical distribution which it was used for in this study was to determine if the scores from the interaction analysis were normally distributed.

4. The Mann Whitney U test

The Mann Whitney U test is a useful alternative to the parametric t test where the data are not normally distributed. It is used to test whether two independent groups have been drawn from the same population (Siegal,1956).

5. The Kruskal-Wallis one way analysis of variance by ranks.

This is a test to decide whether independent samples are from different populations. It measures whether differences in the population are genuine or whether the differences represent chance variations, which could occur among several random samples from the same population (Siegal,1956).

6. Friedman two way analysis of variance by ranks.

This is a test used with matched samples, which have an ordinal scale, when the null hypothesis is that the samples have been drawn from the same population. As the samples are matched, the number of cases is the same for each of the samples (Siegal,1956).

7. Wilcoxon matched-pairs signed-ranks test

A test which identifies the direction and magnitude of differences between pairs (Siegal 1956).

APPENDIX F.

PILOT STUDY

SCORES FORM THE SESSION QUESTIONNAIRES

TABLE F.1
Session title. Emotional needs of the family

category	n.	sum	x	md	range
How interesting did you find the ideas?	28	168	6.0	6	3-7
How practical or relevant were the suggestions?	27	149	5.5	6	3-7
To what extent will you use the information/ideas/suggestions?	27	152	5.6	6	3-7
How productive was the group work?	*	*	*	*	*
How productive was the report back session?	*	*	*	*	*
Did you learn something from this session?	31	140	4.5	5	1-7

* does not apply - no group work but a score provided by one person.

TABLE F.2
Session title. Group work - needs of parents

category	n.	sum	x	md	range
How interesting did you find the ideas?	25	140	5.6	6	1-7
How practical or relevant were the suggestions?	22	123	5.6	6	1-7
To what extent will you use the information/ideas/suggestions?	24	121	5.0	6	1-7
How productive was the group work?	24	137	5.7	6	2-7
How productive was the report back session?	*	*	*	*	*
Did you learn something from this session?	24	124	5.2	5	3-7

* = does not apply .

TABLE F.3
Session title. Report back session

category	n.	sum	x	md	range
How interesting did you find the ideas?	10	50	5.0	5	4-7
How practical or relevant were the suggestions?	10	51	5.1	5	4-7
To what extent will you use the information/ideas/suggestions?	10	46	4.6	5	3-7
How productive was the group work?	9	47	5.2	5	4-7
How productive was the report back session?	10	53	5.3	5	4-7
Did you learn something from this session?	10	49	4.9	5	3-7

TABLE F.4
Session title. Adults learning

category	n.	sum	x	md	range
How interesting did you find the ideas?	17	90	5.3	5	2-7
How practical or relevant were the suggestions?	17	91	5.4	5	3-7
To what extent will you use the information/ideas/suggestions?	17	83	4.8	5	3-7
How productive was the group work?	11	56	5.1	5	3-7
How productive was the report back session?	10	50	5.0	5	3-7
Did you learn something from this session?	16	76	4.8	5	1-7

TABLE F.5
Session title. Teaching methods

category	n.	sum	x	md	range
How interesting did you find the ideas?	13	72	5.5	5.5	4-7
How practical or relevant were the suggestions?	13	72	5.5	6	4-7
To what extent will you use the information/ideas/suggestions?	13	68	5.2	5.5	4-7
How productive was the group work?	8	46	5.8	6	4-7
How productive was the report back session?	5	29	5.8	6	5-7
Did you learn something from this session?	11	54	4.9	5	3-7

TABLE F.6
Session title. Relaxation and exercises: theory

category	n.	sum	x	md	range
How interesting did you find the ideas?	29	196	6.8	7	5-7
How practical or relevant were the suggestions?	29	200	6.9	7	6-7
To what extent will you use the information/ideas/suggestions?	29	195	6.7	7	5-7
How productive was the group work?	18	116	6.4	7	4-7
How productive was the report back session?	10	66	6.6	7	5-7
Did you learn something from this session?	26	173	6.7	7	5-7

TABLE F.7
Session title. Relaxation and exercises: teaching practice

category	n.	sum	x	md	range
How interesting did you find the ideas?	24	149	6.2	6.5	4-7
How practical or relevant were the suggestions?	23	139	6.0	6	4-7
To what extent will you use the information/ideas/suggestions?	24	149	6.2	6.5	4-7
How productive was the group work?	24	150	6.3	7	4-7
How productive was the report back session?	14	79	5.6	6	2-7
Did you learn something from this session?	24	151	6.3	6	5-7

TABLE F.8
Session title. Relaxation and exercises: group teaching

category	n.	sum	x	md	range
How interesting did you find the ideas?	27	168	6.2	7	2-7
How practical or relevant were the suggestions?	27	167	6.2	7	3-7
To what extent will you use the information/ideas/suggestions?	27	166	6.2	7	3-7
How productive was the group work?	25	155	6.2	7	4-7
How productive was the report back session?	22	138	6.3	7	4-7
Did you learn something from this session?	26	161	6.2	7	2-7

TABLE F.9
Session title. Relaxation and exercises: variations - relaxation

category	n.	sum	x	md	range
How interesting did you find the ideas?	25	169	6.8	7	6-7
How practical or relevant were the suggestions?	26	172	6.6	7	2-7
To what extent will you use the information/ideas/suggestions?	25	166	6.6	7	5-7
How productive was the group work?	16	104	6.5	7	5-7
How productive was the report back session?	12	78	6.5	7	5-7
Did you learn something from this session?	24	158	6.6	7	5-7

TABLE F.10
Session title. Films and tape/slides as teaching aids in parentcraft education.

category	n.	sum	x	md	range
How interesting did you find the ideas?	19	85	4.8	5	1-7
How practical or relevant were the suggestions?	14	62	4.4	5	1-7
To what extent will you use the information/ideas/suggestions?	19	77	4.1	4	1-7
How productive was the group work?	*	*	*	*	*
How productive was the report back session?	*	*	*	*	*
Did you learn something from this session?	17	58	3.4	2.5	1-7

* = does not apply; however two people did score these sections.

TABLE F.11
Session title. Relaxation and exercises: labour

category	n.	sum	x	md	range
How interesting did you find the ideas?	21	142	6.8	7	5-7
How practical or relevant were the suggestions?	21	146	6.9	7	6-7
To what extent will you use the information/ideas/suggestions?	21	144	6.9	7	6-7
How productive was the group work?	18	115	6.4	7	3-7
How productive was the report back session?	8	53	6.6	7	5-7
Did you learn something from this session?	21	143	6.8	7	5-7

TABLE F.12
Session title. Relaxation and exercises: 2nd stage of labour and postnatal care.

category	n.	sum	x	md	range
How interesting did you find the ideas?	20	136	6.8	7	5-7
How practical or relevant were the suggestions?	20	137	6.8	7	5-7
To what extent will you use the information/ideas/suggestions?	20	137	6.8	7	5-7
How productive was the group work?	14	95	6.8	7	5-7
How productive was the report back session?	9	61	6.8	7	6-7
Did you learn something from this session?	18	120	6.7	7	4-7

TABLE F.13
Session title. Audio visual aids

category	n.	sum	x	md	range
How interesting did you find the ideas?	18	80	4.4	5	1-7
How practical or relevant were the suggestions?	18	92	5.1	5	3-7
To what extent will you use the information/ideas/suggestions?	17	86	5.1	5	3-7
How productive was the group work?	11	33	3.0	3	1-7
How productive was the report back session?	6	10	1.7		1-3
Did you learn something from this session?	17	68	4.0	4	1-7

TABLE F.14
Session title. Workshops: breast feeding and labour

category	n.	sum	x	md	range
How interesting did you find the ideas?	26	175	6.7	7	5-7
How practical or relevant were the suggestions?	26	177	6.8	7	5-7
To what extent will you use the information/ideas/suggestions?	26	170	6.5	7	4-7
How productive was the group work?	22	148	6.7	7	5-7
How productive was the report back session?	22	144	6.5	7	5-7
Did you learn something from this session?	26	168	6.5	7	4-7

TABLE F.15
Session title. Workshops: father's evening and postnatal class.

category	n.	sum	x	md	range
How interesting did you find the ideas?	26	172	6.6	7	4-7
How practical or relevant were the suggestions?	26	161	6.2	7	5-7
To what extent will you use the information/ideas/suggestions?	25	162	6.5	7	3-7
How productive was the group work?	22	149	6.7	7	6-7
How productive was the report back session?	24	157	6.5	7	5-7
Did you learn something from this session?	26	171	6.6	7	3-7

APPENDIX G.

DATA COLLECTION SHEET FOR INTERACTION ANALYSIS CODES.

MANCHESTER UNIVERSITY — FACULTY OF MEDICINE — SPSS CODING SHEET

USERNAME | NAME | DEPARTMENT | DATE | PAGE | TITLE

STUDY NO. | DATE | TIME | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 | 45 | 48 | 51 | 54 | 57 | 60

SECONDS PER MINUTE

TEACHER | PUPIL | QUESTIONS

APPENDIX H.

OBSERVATION CHECKLIST FOR ANTENATAL TEACHING

For Office Use

1. Teacher — 1 2 3

2. 1) Midwife 2) Health Visitor — 4

3. Place Study Centre 1) 2) — 5 6 7

4. 1) Health Centre 2) Hospital — 8

5. Session title — 9 10

6. Date — 11 12 13 14 15

7. 1) Pre course 2) Post course — 17

8. Session sequence no. of sessions — 18 19

9. Teacher sequence no. of sessions — 20 21

10. Mothers number in class — 22 23

11. Parity 1) primigravid only
    2) primigravid and multigravid
    3) multigravid only
    4) dont know — 24

12. Post natal mothers - number — 25 26

13. Are they the same A.N. mothers as last session? — 27
    1) Yes 2) No 3) Does not apply
    4) Dont know

For Office Use

14. Number of additional A.N. mothers [28] [29]

15. Number of drop outs [30] [31]

16. Reasons - 1) delivered - number [32]

2) in-patient - number [33]

3) other - number [34]

4) dont know [35]

17 Fathers - number [36] [37]

18 Friends/relations - number [38] [39]

19. Babies - number [40] [41]

20. Other people - teachers - number [42] [43]

Observers - number [44] [45] Other number [46] [47]

21. Film - 1) Used 2) Not used [48]

22. - Name [49] [50]

Environment

23. Room - 1) Screened off area of clinic [67] [68]

2) Used for other purposes, available for classes [51]

3) Used only for classes

4) Specify

For Office Use

24. Size - 1) Crowded 52
2) Sufficient for those attending
3) Spacious
4) Specify

25. Noise - 1) Background noise disrupts class 53
2) Little background noise
3) No noticable noise
4) Specify

26. Seating - 1) Hard seats only 54
2) Hard and soft seats
3) Soft seats only
4) Specify

27. Seating arrangements (talk only) 55
Fixed 1) Yes 2) No

28. 1) Straight line 56
2) 2 or more rows
3) Semi circle
4) Circle
5) Horseshoe
6) Specify

For Office Use

Audio Visual Aids/Equipment

29. A.V. equipment - prepared before class 57
    1) Yes 2) No 3) Does not apply

30. 1) Does not work - disrupts class 58
    2) Needs some preliminary adjustment
    3) Works without hitch
    4) Specify

31. 'Baby' equipment - prepared before class 59
    1) Yes 2) No 3) Does not apply.

32. 1) Does not work - disrupts class 60
    2) Needs some preliminary adjustment
    3) Works without hitch
    4) Specify

Information re Teachers

33. Wears uniform - 1) Yes 2) No 61

34. Use of notes - 1) Reads from notes 62
    2) Refers to notes
    3) Uses no notes

35. Personal knowledge of mothers 63
    Asks names - 1) Yes 2) No

36. Knows names - 1) Yes 2) No 64

37. Uses names - 1) Yes 2) No 65

38. Remembers names from previous week. 66
    1) Yes 2) No
    3) Does not apply

APPENDIX I.

EXPLANATORY LETTERS, PRE COURSE QUESTIONNAIRE

MAIN STUDY, BOTH CENTRES.

April 1983

Dear

I am currently involved in a research project at Manchester University, which is evaluating the preparation of parentcraft teachers. Enclosed is a questionnaire which I would be grateful if you could complete. As this is the pre-course questionnaire, please fill it in before the first session on Monday morning and put it in the box provided.

At the end of each day you will be given another questionnaire - it is short but asks for comments about each session. I am interested in your own feelings and opinions.

These questionnaires are entirely confidential, and you have been given a code number to ensure this confidentiality. Please remember you code number so that you can put it on all the questionnaires you complete.

There is no obligation to complete these forms but I would be grateful if you would do so. Please do not hesitate to contact me if you have any queries.

Thank you for your help.

Yours sincerely

Tricia Black,

Research Officer.

APPENDIX J.

EXPLANATORY LETTER, POST COURSE QUESTIONNAIRE

MAIN STUDY, BOTH CENTRES.

June 1983

Dear

Following the parentcraft teaching course, which was held at ..... in April 1983, I would be very grateful if you would complete the enclosed questionnaire. As with the previous questionnaires, any information you will give me will be confidential. The opinions of the course members have been very useful in the evaluation of the course, so your help with this final questionnaire will be greatly appreciated.

There are no 'correct' answers, as it is your opinion which is important. Please answer according to how you feel about the course now, rather than trying to remember your reactions in April.

A stamped addressed envelope is provided for your reply.

With many thanks for your help and co-operation.

Yours sincerely

Tricia Black,

Research Officer.

(same wording used for the course in Centre A1, with appropriate dates)

REMINDER LETTER - POST COURSE QUESTIONNAIRES.

August 1983

Dear

Following the antenatal education course held at ..... in April 1983, I sent you a questionnaire to find out how you felt about the course.

I realise that by sending it in June it came at a busy time because either you were on holiday or else you had extra work with your colleagues being on holiday. It is not too late, however, to return the questionnaire and I would be very grateful if you could find the time to fill it in and send it back to me.

It is only by having the feelings and opinions of as many people as possible, that the course can be improved for others. The comments you have already made have been very useful and show the importance of asking those who attend the course.

Thank you very much for all your help.

Yours sincerely,

Tricia Black,

Research Officer.

(same wording used for the course in Centre A1, with appropriate dates)

APPENDIX K.

MAIN STUDY - RAW DATA OF THE QUESTIONNAIRE STUDY.

APPENDIX K.1

To show the reasons given by the subjects for attending the course, cross tabulated by centre.

	Centre A	Centre B	TOTAL
number returned	26	36	62
not answered	3	6	9
GENERAL			
sent on the course	1	13	14
volunteered	1	2	3
ASPECTS OF TEACHING			
no previous training or experience	3	1	4
to learn how to teach	7	2	9
update antenatal education or health education teaching skills	6	6	12
FOR UPDATING			
skills	4	0	4
antenatal care	0	1	1
antenatal education	3	3	6
unspecified	3	0	3
TEACHING FUNCTION			
part of role	3	3	6
preparation for new job	4	5	9
OTHER COMMENTS			
exchange ideas	5	5	10
to help/benefit mothers	2	1	3
learn/learn to teach relaxation/exercises	8	0	8
improve communication	1	0	1
increase confidence	1	0	1
self evaluation	1	0	1
TOTAL	53	42	95

APPENDIX K.2

To show the reasons given by the subjects for attending the course, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	27	35	62
not answered	2	7	9
GENERAL			
sent on the course	8	6	14
volunteered	1	2	3
ASPECTS OF TEACHING			
no previous training or experience	4	0	4
to learn how to teach	5	4	9
update antenatal education or health education teaching skills.	6	6	12
FOR UPDATING			
skills	3	1	4
antenatal care	1	0	1
antenatal education	2	4	6
unspecified	1	2	3
TEACHING FUNCTION			
part of role	3	3	6
preparation for new job	5	4	9
OTHER COMMENTS			
exchange ideas	5	5	10
to help/benefit mothers	2	1	3
learn/learn to teach relaxation/exercises	1	7	8
improve communication	1	0	1
increase confidence	1	0	1
self evaluation.	0	1	1
TOTAL	49	46	95

APPENDIX K.3

To show the skills and information the subjects hoped to gain from the course, cross tabulated by centre.

	Centre A	Centre B	TOTAL
number returned	26	36	62
not answered	1	0	1
TEACHING SKILLS			
knowledge of teaching skills; new/improved	12	19	31
relaxation and/or execises	12	0	12
presentation of subjects/materials	1	3	4
evaluate previous teaching	2	0	2
improved ideas on planning /organisation	0	2	2
to clarify objectives	0	1	1
COMMUNICATION SKILLS			
improve communication skills with individuals; groups	8	13	21
GROUP WORK SKILLS			
meeting needs of mothers	5	1	6
discussion skills	1	1	2
to gain/improve confidence	3	1	4
how to attract mothers to classes	0	2	2
how to make pregnant women confident	1	2	3
UPDATING			
general updating: antenatal education, antenatal care; midwifery; unspecifed.	8	9	17
GENERAL			
exchange of ideas	2	3	5
develop new skills	0	1	1
any useful information, as much as possible	1	2	3
discover gaps in knowledge	0	1	1
improve understanding of HV role	2	0	2
TOTAL	58	61	119

APPENDIX K.4

To show the skills and information the subjects hoped to gain from the course, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	27	35	62
not answered	1	0	1
TEACHING SKILLS			
knowledge of teaching skills; new/improved	15	16	31
relaxation and/or exercises	4	8	12
presentation of subjects/materials	1	3	4
evaluate previous teaching	1	1	2
improved ideas on planning/organisation	0	2	2
to clarify objectives	0	1	1
COMMUNICATION SKILLS			
improve communication skills with individuals; groups	14	7	21
GROUP WORK SKILLS			
meeting needs of mothers	3	3	6
discussion skills	1	1	2
to gain/improve confidence	4	0	4
how to attract mothers to classes	0	2	2
how to make pregnant woman confident	1	2	3
UPDATING			
general updating; antenatal education; care; midwifery; unspecified	7	10	17
GENERAL			
exchange of ideas	0	5	5
develop new skills	0	1	1
any useful information, as much as possible	0	3	3
discover gaps in knowledge	0	1	1
improve understanding of HV role	1	1	2
TOTAL	52	67	119

APPENDIX K.5

To show the reasons given by the subjects for the skills or information they hoped to gain from the course, cross tabulated by centre.

	Centre A	Centre B	TOTAL
number returned	26	36	62
did not apply	9	0	9
not answered	1	8	9
TEACHING SKILLS			
do not know how; little experience teaching	7	5	12
many years since course; teaching	0	2	2
to be a better teacher	0	2	2
feel teaching is inadequate	3	1	4
to increase effectiveness of teaching	3	7	10
asked to teach relaxation/exercises*	2	0	2
UPDATING SKILLS			
to learn new skills; ideas	0	3	3
gain from experience of others	0	4	4
out of date with midwifery	0	1	1
GENERAL			
increase confidence	1	1	2
to improve up take of classes	1	1	2
involved with antenatal mothers; antenatal care important	1	1	2
to cope with SEG 4 & 5	1	1	2
to improve/assess service	7	1	8
assist colleagues	1	1	2
difficult to assess own potential.	0	1	1
TOTAL	27	32	59

One unclassified comment:
"I am of the belief that normal deliveries could be more in evidence if all the mothers attended antenatal classes; and certainly, the experience of childbirth could be satisfying and help build better bond between mother and child." (Centre B)

APPENDIX K.6

To show the reasons given by the subjects for the skills or information they hoped to gain from the course, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	25	37	62
did not apply	3	6	9
not answered	2	7	9
TEACHING			
do not know how; little experience teaching	3	9	12
many years since course; teaching	2	0	2
to be a better teacher	1	1	2
feel teaching is inadequate	4	0	4
to increase effectiveness of teaching	7	3	10
asked to teach relaxation/exercises	1	1	2
UPDATING SKILLS			
to learn new skills; ideas	2	1	3
gain from experience of others	1	3	4
out of date with midwifery	0	1	1
GENERAL			
increase confidence	2	0	2
to improve up take of classes	0	2	2
involved with antenatal mothers; antenatal care important	2	0	2
to cope with SEG 4 & 5	1	1	2
to improve assess service	4	4	8
assist colleagues	0	2	2
difficult to asses own potential.	0	1	1
TOTAL	30	29	59

One unclassified comment:
"I am of the belief that normal deliveries could be more in evidence if all the mothers attended antenatal classes; and certainly, the experience of childbirth could be satisfying and help build better bond between mother and child." (Centre B)

APPENDIX K.7
To show the topics which a subset of the subjects (Centre Al only) felt most or least confident about teaching, (n=10).

	Most Confident	Least Confident
not asked	52	52
antenatal care/preparation	2	1
antenatal benefits/services		2
relaxation		2
exercises	1	1
labour talk	1	1
role of the new mother	1	
father's evening, father's role	2	
relationships	1	
screening	1	
feeding (unspecified)	2	
breast feeding	3	
bottle feeding	1	1
bathing a baby	2	
care of a baby	1	
child care	1	
family planning	1	1
post natal services		1
role of HV	2	
HV topics	2	
those not requiring practical demonstration	1	
need to refresh all	1	1
TOTAL	26	11

APPENDIX K.8a
To show the aspects of antenatal teaching which caused concern to the subjects, cross tabulated by centre.

CENTRE	A.	B.	TOTAL
number returned	26	36	62
did not answer	11	10	21
own lack of knowledge, confidence	5	12	17
meeting the needs of mothers	3	9	12
coping with groups	0	8	8
peer conflict	2	5	7
all aspects	1	0	1
TOTAL	11	34	45

APPENDIX K.8b
To show the aspects of antenatal teaching which caused concern to the subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	27	35	62
did not answer	7	14	21
own lack of knowledge, confidence	6	11	17
meeting the needs of mothers	5	7	12
coping with groups	4	4	8
peer conflict	4	3	7
all aspects	1	0	1
TOTAL	20	25	45

APPENDIX K.9a
To show the apects of the course which the subjects considered would be most useful, cross tabulated by centre.

CENTRE	A.	B.	TOTAL
number returned	26	36	62
not answered	4	3	7
TEACHING			
improve teaching technique/skills	4	4	8
never taught how to teach	2	1	3
learn relaxation/exercises	9	0	9
presentation of classes	1	2	3
COMMUNICATION			
improve communication	3	7	10
how to stimulate discussion	0	1	1
EXCHANGE IDEAS			
sharing experiences; exchange of ideas; how others cope	10	18	28
INSPIRATION			
new/further ideas; knowledge	5	3	8
revise/helpful ideas	0	2	2
stimulation and enthusiasm	0	1	1
to gain confidence	3	1	4
SELF EVALUATION			
opportunity to reconsider work	1	2	3
GENERAL			
reaffirmation of my beliefs.	0	1	1
TOTAL	38	43	81

APPENDIX 9b

To show the apects of the course which the subjects considered would be most useful, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	27	35	62
not answered	3	4	7
TEACHING			
improve teaching technique/skills	2	6	8
never taught how to teach	1	2	3
learn relaxation/exercise	2	7	9
presentation of classes	2	1	3
COMMUNICATION			
improve communication	6	4	10
how to stimulate discussion	0	1	1
EXCHANGE IDEAS			
sharing experiences; exchange of ideas; how others cope	12	16	28
INSPIRATION			
new/further ideas; knowledge	3	5	8
revise/helpful ideas	2	0	2
stimulation and enthusiasm	0	1	1
to gain confidence	1	3	4
SELF EVALUATION			
opportunity to reconsider work	1	2	3
GENERAL			
reaffirmation of my beliefs	0	1	1
TOTAL	32	49	81

APPENDIX K.10
To show the total scores, means and medians of the subjects' reactions to each day's sessions, Centre A1 only.

10.1 How interesting did you find the sessions?

	n.	TOTAL SCORE	MEAN	MEDIAN	N/A	S*
Day 1	12	46	3.8	4	0	0
Day 2	8	41	5.1	5	2	2
Day 3	11	58	5.3	6	1	0
Day 4	11	65	5.9	6	0	1
Day 5	12	73	6.1	6	0	0

S* = Spoilt responses, ie the scores were split between morning and afternoon or between sessions; not used.

10.2 How practical or relevant were the suggestions made by the speakers?

	n.	TOTAL SCORE	MEAN	MEDIAN	N/A	S*
Day 1	12	54	4.5	5	0	0
Day 2	8	39	4.9	5	2	2
Day 3	11	57	5.2	7	1	0
Day 4	12	71	5.9	6	0	0
Day 5	12	72	6.0	6	0	0

S* = Spoilt responses, ie the scores were split between morning and afternoon or between sessions; not used.

10.3 To what extent do you feel you will make use of the information/ideas/suggestions?

	n.	TOTAL SCORE	MEAN	MEDIAN	N/A	S*
Day 1	12	53	4.4	5	0	0
Day 2	9	46	5.1	5	2	1
Day 3	11	59	5.3	6	1	0
Day 4	12	72	6.0	6	0	0
Day 5	12	70	5.8	6	0	0

S* = Spoilt responses, ie the scores were split between morning and afternoon or between sessions; not used.

10.4 Did you learn something to day?

	n.	TOTAL SCORE	MEAN	MEDIAN	N/A	S*
Day 1	12	44	3.6	4	0	0
Day 2	9	53	5.9	6	2	1
Day 3	11	55	5.0	6	1	0
Day 4	12	73	6.1	6	0	0
Day 5	12	68	5.6	6	0	0

GROUP WORK ONLY.

The following scores refer only to the group work.

10.5 How productive was the group work?

	n.	TOTAL SCORE	MEAN	MEDIAN	N/A
Day 1	12	51	4.2	4	0
Day 2	10	49	4.9	5	2
Day 3	11	47	4.2	4	1
Day 4	12	57	4.7	5	0
Day 5	12	73	6.1	6	0

10.6 How productive was the report back session?

	n.	TOTAL SCORE	MEAN	MEDIAN	N/A
Day 1	12	56	4.6	5	0
Day 2	10	43	4.3	5	2
Day 3	11	48	4.3	4	1
Day 4	12	59	4.9	5	0
Day 5	12	73	6.1	6	0

APPENDIX K.11
Session 1. "Introduction to the course and each other." Comments of the Centre B subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	13	19	32
not answered	5	6	11
REACTION TO SESSION			
approved/liked	4	3	7
disapproved/disliked	2	3	5
uncertain/faint praise	1	2	3
REACTION TO SPEAKER			
approved / liked	0	1	1
REACTION TO CONTENT			
useful,	2	2	4
revision, repetitive	1	1	2
approved of content	1	0	1
appreciated need; but disliked	1	4	5
GROUP WORK			
approved of/liked	2	1	3
practical, helpful	1	1	2
GENERAL COMMENTS			
artificial, not enjoyed, stage managed	0	1	1
Total no. of comments.	15	19	34

APPENDIX K.12
Session 2: Individual and group teaching. Comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	12	16	28
REACTION TO SESSION			
approved/liked	4	8	12
disapproved/disliked	1	1	2
uncertain/faint praise.	2	2	4
REACTION TO SPEAKER			
approved / liked	0	1	1
disapproved / disliked	0	1	1
REACTION TO CONTENT			
useful	0	1	1
revision, repetitive	2	2	4
approved of content	0	1	1
disapproved of content	2	1	3
GROUP WORK			
approved of/liked	0	1	1
disapproved of /disliked	1	0	1
practical, helpful	1	0	1
TEACHING			
appreciated help with preparation for class.	0	1	1
COMMUNICATIONS			
illustrated needs of the individual	0	1	1
illustrated difficulties with communication	0	1	1
illustrated methods of communication	0	1	1
appreciated exchange of ideas	3	3	6
enjoyed/appreciated discussion	1	0	1
GENERAL COMMENTS			
can't remember session	1	0	1
too long	1	0	1
Total no. of comments.	19	26	45

APPENDIX K.13

Session 3: "The environment / Creating an environment."
To show the cross tabulated comments of Centre A and Centre B subjects.

	Centre A	Centre B	TOTAL
n.	28	32	60
not answered	10	9	19
REACTION TO SESSION			
approved/liked	8	6	14
disapproved/disliked	0	3	3
uncertain/faint praise	1	0	1
REACTION TO SPEAKER			
approved / liked	1	0	1
REACTION TO CONTENT			
useful	5	5	10
learnt something	0	1	1
confused/did not learn	1	1	2
approved / liked	0	2	2
disapproved / disliked	0	2	2
GROUP WORK			
approved of/liked	1	2	3
appreciated how groups work	1	2	3
learnt from feedback	1	0	1
practical, helpful	2	0	2
not practical, not helpful	1	1	2
TEACHING			
aware of need to reappraise own teaching	1	0	1
appreciated help with preparation for class	1	0	1
approved of teaching method chosen	1	0	1
practical ideas for classes	0	5	5
COMMUNICATIONS			
illustrated needs of the individual	1	1	2
appreciated exchange of ideas	3	0	3
enjoyed/appreciated discussion	2	0	2
total no. of comments	31	31	62

Session 3: 'The environment / Creating an environment.'
To show the comments of Centre A and Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	27	33	60
not answered	9	11	19
REACTION TO SESSION			
approved/liked	8	6	14
disapproved/disliked	1	2	3
uncertain/faint praise	0	1	1
REACTION TO SPEAKER			
approved / liked	0	1	1
REACTION TO CONTENT			
useful	5	5	10
learnt something	0	1	1
confused/did not learn	1	1	2
approved / liked	0	2	2
disapproved / disliked	2	0	2
GROUP WORK			
approved of/liked	1	2	3
appreciated how groups work	2	1	3
learnt from feedback	0	1	1
practical, helpful	1	1	2
not practical, not helpful	1	1	2
TEACHING			
aware of need to reappraise own teaching	1	0	1
appreciated help with preparation for class	1	0	1
approved of teaching method chosen.	0	1	1
practical ideas for classes	1	4	5
COMMUNICATIONS			
illustrated needs of the individual	1	1	2
appreciated exchange of ideas	0	3	3
enjoyed/appreciated discussion	1	1	2
total no. of comments	27	35	62

APPENDIX K.14

Session 4: "Communications - 'I never told them that."
Comments of the Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	12	18	32
not answered	4	1	5
REACTION TO SESSION			
approved/liked	8	8	16
disapproved/disliked	0	1	1
uncertain/faint praise	1	1	2
REACTION TO SPEAKER			
approved / liked	3	1	4
disapproved / disliked	0	2	2
REACTION TO CONTENT			
useful	2	4	6
revision, repetitive	2	1	3
useful refresher	0	1	1
learnt something	1	0	1
approved of content	0	1	1
TEACHING			
appreciated training in teaching methods	0	1	1
need to reappraise own teaching	1	2	3
illustrated problems with techniques	1	0	1
practical ideas	1	0	1
COMMUNICATIONS			
illustrated needs of the individual	0	1	1
illustrated difficulties with communication	2	2	4
illustrated methods of communication	2	3	5
GENERAL COMMENTS			
relevant to antenatal education	1	0	1
can't remember session	0	1	1
sleepy,lost interest, got tired	2	1	3
too long	1	2	3
Total no. of comments.	28	33	61

APPENDIX K.15
Session 5: "Communications"
To show the cross tabulated comments of the Centre A and Centre B subjects.

	Centre A	Centre B	TOTAL
number returned	26	32	58
not answered	1	0	1
REACTION TO SESSION			
approved/liked	10	12	22
disapproved/disliked	2	0	2
uncertain/faint praise	5	2	7
REACTION TO SPEAKER			
approved / liked	2	0	2
disapproved / disliked	2	0	2
REACTION TO CONTENT			
useful	4	10	14
revision, repetitive	5	2	7
useful refresher	2	2	4
learnt something	0	2	2
approved of content	0	1	1
appreciated need; but disliked	0	3	3
GROUP WORK			
approved of/liked	0	6	6
disapproved of /disliked	1	1	2
appreciated how groups work	0	1	1
practical, helpful	0	1	1
TEACHING			
need to reappraise own teaching	0	1	1
appreciated help with preparation for class	0	2	2
practical ideas	1	2	3
criticised teaching methods chosen	2	0	2
COMMUNICATIONS			
illustrated needs of the individual	0	1	1
illustrated difficulties with communication	1	6	7
illustrated methods of communication	1	5	6
VISUAL AIDS			
appreciated use of	0	1	1
GENERAL COMMENTS			
appreciated time out to think	1	0	1
relevant to antenatal education	1	0	
lsleepy,lost interest, got tired	1	1	2
too long	0	1	1
not relevant to antenatal education	1	0	1
good fun	0	1	1
Total no. of comments.	42	74	106

Session 5: "Communications"
To show the comments of the Centre A and Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	26	32	58
not answered	1	0	1
REACTION TO SESSION			
approved/liked	12	10	22
disapproved/disliked	0	2	2
uncertain/faint praise	3	4	7
REACTION TO SPEAKER			
approved / liked	2	0	2
disapproved / disliked	0	2	2
REACTION TO CONTENT			
useful	6	8	14
revision, repetitive	4	3	7
useful refresher	2	2	4
learnt something	0	2	2
approved of content	0	1	1
appreciated need; but disliked	1	2	3
GROUP WORK			
approved of/liked	2	4	6
disapproved of /disliked	1	1	2
appreciated how groups work,	0	1	1
practical, helpful	0	1	1
TEACHING			
need to reappraise own teaching	0	1	1
appreciated help with preparation for class	2	0	2
practical ideas	1	2	3
criticised teaching methods chosen	0	2	2
COMMUNICATIONS			
illustrated needs of the individual	1	0	1
illustrated difficulties with communication	3	4	7
illustrated methods of communication	4	2	6
VISUAL AIDS			
appreciated use of	0	1	1
GENERAL COMMENTS			
appreciated time out to think	0	1	1
relevant to antenatal education	0	1	1
sleepy,lost interest, got tired	2	0	2
too long	0	1	1
not relevant to antenatal education	0	1	1
good fun	0	1	1
Total no. of comments.	47	59	106

APPENDIX K.16
Session 6: "What preparations should be made? Pre course knowledge."
Comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	12	16	28
REACTION TO SESSION			
approved/liked	6	6	12
disapproved/disliked	1	0	1
uncertain/faint praise	1	1	2
REACTION TO SPEAKER			
disapproved / disliked	0	1	1
REACTION TO CONTENT			
useful	0	5	5
revision, repetitive	2	1	3
appreciated need for; but disliked	1	0	1
GROUP WORK			
approved of/liked	0	3	3
practical, helpful	1	2	3
TEACHING			
need to reappraise own teaching	1	1	2
appreciated help with preparation for class	2	1	3
COMMUNICATIONS			
illustrated difficulties with communication	0	1	1
appreciated exchange of ideas	1	1	2
enjoyed/appreciated discussion	1	0	1
GENERAL COMMENTS			
relevant to antenatal education	0	1	1
Total no. of comments	17	24	41

APPENDIX K.17

Session 7: "Aims and objectives" To show the cross tabulated comments of the Centre A and Centre B subjects.

	Centre A	Centre B	TOTAL
number returned	28	37	65
not answered	0	1	1
REACTION TO SESSION			
approved/liked	11	11	22
disapproved/disliked	2	2	4
uncertain/faint praise	4	2	6
REACTION TO SPEAKER			
approved / liked	1	3	4
disapproved / disliked	1	1	2
REACTION TO CONTENT			
useful	6	8	14
revision, repetitive	2	2	4
useful refresher	3	1	4
learnt something	3	5	8
confused,did not learn	2	5	7
approved of content	2	0	2
appreciated need; but disliked	2	1	3
GROUP WORK			
approved of/liked	0	4	4
disapproved of /disliked	1	0	1
practical, helpful	1	0	1
not practical, not helpful	1	1	2
TEACHING			
appreciated training in teaching methods	0	1	1
need to reappraise own teaching	0	1	1
appreciated help with preparation for class	0	5	5
criticised teaching methods chosen	0	2	2
COMMUNICATIONS			
appreciated exchange of ideas	1	0	1
VISUAL AIDS			
need for critical review	0	1	1
GENERAL COMMENTS			
approval of summary; tied up loose ends	1	0	1
neutral - does not give any information re reactions or feelings	0	3	3
too short	0	3	3
not relevant to antenatal education	1	0	1
artificial, not enjoyed, stage managed	1	0	1
Total no. of comments.	46	62	108

Session 7: "Aims and objectives"
To show the comments of the Centre A and Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	30	35	65
not answered	1	0	1
REACTION TO SESSION			
approved/liked	12	10	22
disapproved/disliked	1	3	4
uncertain/faint praise	1	5	6
REACTION TO SPEAKER			
approved / liked	2	2	4
disapproved / disliked	0	2	2
REACTION TO CONTENT			
useful	6	8	14
revision, repetitive	2	2	4
useful refresher	0	4	4
learnt something	7	1	8
confused, did not learn	4	3	7
approved of content	0	2	2
appreciated need; but disliked	2	1	3
GROUP WORK			
approved of/liked	1	3	4
disapproved of /disliked	1	0	1
practical, helpful	1	0	1
not practical, not helpful	0	2	2
TEACHING			
appreciated training in teaching methods	1	0	1
need to reappraise own teaching	0	1	1
appreciated help with preparation for class	4	1	5
criticised teaching methods chosen	1	1	2
COMMUNICATIONS			
appreciated exchange of ideas	0	1	1
VISUAL AIDS			
need for critical review	1	0	1
GENERAL COMMENTS			
approval of summary; tied up loose ends	1	0	1
neutral - does not give any information re reactions or feelings	1	2	3
too short	1	2	3
not relevant to antenatal education	0	1	1
artificial, not enjoyed, stage managed	0	1	1
Total no. of comments.	50	58	108

APPENDIX K.18
Session 8: "Teaching methods / choosing teaching methods." Cross tabulated comments of the Centre A and Centre B subjects.

	Centre A	Centre B	TOTAL
n.	26	37	63
not answered	2	0	2
REACTION TO SESSION			
approved/liked	12	9	21
disapproved/disliked	0	2	2
uncertain/faint praise	4	2	6
REACTION TO CONTENT			
useful	5	9	14
revision, repetitive	4	3	7
useful refresher	0	4	4
confused, did not learn	0	1	1
disapproved of content	0	2	2
appreciated need; but disliked	0	1	1
GROUP WORK			
approved of/liked	2	1	3
disapproved of /disliked	0	2	2
appreciated how groups work	0	2	2
appreciated/learnt from feedback	1	0	1
practical, helpful	0	4	4
TEACHING			
appreciated training in teaching methods	1	3	4
need to reappraise own teaching	1	2	3
illustrated problems with techniques	1	0	1
appreciated help with preparation for class	4	0	4
practical ideas	1	2	3
ideas on presentaton of classes	0	1	1
criticised teaching methods chosen	0	1	1
COMMUNICATIONS			
appreciated exchange of ideas	1	0	1
enjoyed/appreciated discussion	1	0	1
VISUAL AIDS			
criticised use of	1	0	1
GENERAL COMMENTS			
relevant to antenatal education	1	0	1
better than yesterday/previous session	0	1	1
can't remember session	0	1	1
too short	1	1	2
Total no. of comments.	41	54	95

Session 8: "Teaching methods / choosing teaching methods."
Comments of the Centre A and Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	29	34	63
not answered	1	1	2
REACTION TO SESSION			
approved/liked	7	14	21
disapproved/disliked	1	1	2
uncertain/faint praise	3	3	6
REACTION TO CONTENT			
useful	6	8	14
revision, repetitive	2	5	7
useful refresher	0	4	4
confused,did not learn	0	1	1
disapproved of content	1	1	2
appreciated need; but disliked	1	0	1
GROUP WORK			
approved of/liked	2	1	3
disapproved of /disliked	1	1	2
appreciated how groups work	1	1	2
appreciated/learnt from feedback	1	0	1
practical, helpful	0	4	4
TEACHING			
appreciated training in teaching methods	3	1	4
need to reappraise own teaching	1	2	3
illustrated problems with techniques	1	0	1
appreciated help with preparation for class	4	0	4
practical ideas	2	1	3
ideas on presentaton of classes	1	0	1
criticised teaching methods chosen	0	1	1
COMMUNICATIONS			
appreciated exchange of ideas	0	1	1
enjoyed/appreciated discussion	1	0	1
VISUAL AIDS			
criticised use of	0	1	1
GENERAL COMMENTS			
relevant to antenatal education	0	1	1
better than yesterday/previous session	0	1	1
can't remember session	0	1	1
too short	0	2	2
Total no. of comments.	38	57	95

APPENDIX 19
Session 9: "Instructional technique /Teaching a Skill."
Cross tabulated comments of the Centre A and Centre B attenders.

	Centre A	Centre B	TOTAL
number returned	27	33	60
not answered	0	1	1
REACTION TO SESSION			
approved/liked	15	8	23
disapproved/disliked	0	1	1
uncertain/faint praise	6	0	6
REACTION TO SPEAKER			
approved / liked	2	0	2
disapproved / disliked	2	1	3
REACTION TO CONTENT			
useful	5	3	8
revision, repetitive	2	0	2
useful refresher	1	1	2
learnt something	2	1	3
confused, did not learn	0	13	13
disapproved of content	0	4	4
GROUP WORK			
approved of/liked	1	3	4
disapproved of /disliked	0	5	5
appreciated how groups work	1	1	2
appreciated/learnt from feedback	0	2	2
practical, helpful	1	3	4
TEACHING			
appreciated training in teaching methods	0	1	1
appreciated help with preparation for class	0	1	1
session a good 'role model'	1	0	
lcriticised teaching methods chosen	0	1	1
COMMUNICATIONS			
appreciated exchange of ideas	0	1	1
VISUAL AIDS			
appreciated use of	1	0	1
GENERAL COMMENTS			
sleepy,lost interest			
got tired	1	2	3
too short	0	4	4
enjoyed the chance to practice	2	0	2
amusing	2	0	2
Total no. of comments.	45	56	101

Session 9: "Instructional technique /Teaching a Skill."
Comments of the Centre A and Centre B attenders, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	26	34	60
not answered	0	1	1
REACTION TO SESSION			
approved/liked	14	9	23
disapproved/disliked	0	1	1
uncertain/faint praise	2	4	6
REACTION TO SPEAKER			
approved / liked	0	2	2
disapproved / disliked	2	1	3
REACTION TO CONTENT			
useful	3	5	8
revision, repetitive	1	1	2
useful refresher	2	0	2
learnt something	2	1	3
confused, did not learn	7	6	13
disapproved of content	2	2	4
GROUP WORK			
approved of/liked	2	2	4
disapproved of /disliked	3	2	5
appreciated how groups work	0	2	2
appreciated/learnt from feedback	0	2	2
practical, helpful	2	2	4
TEACHING			
appreciated training in teaching methods	1	0	1
appreciated help with preparation for class	1	0	1
session a good 'role model'	1	0	1
criticised teaching methods chosen	0	1	1
COMMUNICATIONS			
appreciated exchange of ideas	0	1	1
VISUAL AIDS			
appreciated use of	0	1	1
GENERAL COMMENTS			
sleepy,lost interest, got tired.	2	1	3
too short	2	2	4
enjoyed the chance to practice	0	2	2
amusing	0	2	2
Total no. of comments	49	52	101

APPENDIX K.20
Session 10: "Planning a session."
Comments of the Centre B subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	18	19	37
REACTION TO SESSION			
approved/liked	2	1	3
disapproved/disliked	3	4	7
uncertain/faint praise	5	3	8
REACTION TO SPEAKER			
disapproved / disliked	5	4	9
REACTION TO CONTENT			
useful	1	2	3
revision, repetitive	3	2	5
approved of content	1	0	1
disapproved of content	1	1	2
appreciated need; but disliked	2	0	2
GROUP WORK			
approved of/liked	4	2	6
disapproved of /disliked	4	0	4
practical, helpful	1	0	1
not practical, not helpful	1	0	1
TEACHING			
appreciated help with preparation for class	1	0	1
practical ideas	0	1	1
criticised teaching methods chosen	0	1	1
GENERAL COMMENTS			
neutral - does not give any information re reactions or feelings	1	1	2
sleepy,lost interest, got tired	1	0	1
appreciated hand out	0	2	2
Total no. of comments.	36	24	60

APPENDIX K.21
Session 11: 'How do groups work'
Comments of the Centre B subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	18	19	37
REACTION TO SESSION			
approved/liked	8	8	16
disapproved/disliked	0	2	2
REACTION TO SPEAKER			
approved	1	2	3
REACTION TO CONTENT			
useful	4	6	10
approved	1	0	1
confused, did not learn	1	0	1
revision, repetative	1	3	4
learnt something	0	2	2
useful refresher	1	0	1
appreciated need; but disliked	2	0	2
GROUP WORK			
approved of/liked	4	2	6
disapproved of /disliked	1	2	3
appreciated how groups work	2	2	4
practical, helpful	3	0	3
TEACHING			
need to reappraise own teaching	0	1	1
practical ideas	1	0	1
relevant to antenatal education	1	0	1
OTHER:			
sleepy,lost interest, got tired	1	0	1
don't like/ understand "statistics" or "figures"	1	0	1
total no. of comments	33	30	63

APPENDIX K.22
Session 12: "Triggers for discussion/ Visual aids."
To show the cross tabulated comments of the Centre A2, and Centre B subjects.

	Centre A2	Centre B	TOTAL
n.	11	37	48
not answered	1	0	1
REACTION TO SESSION			
approved/liked	2	11	13
disapproved/disliked	2	3	5
uncertain/faint praise	2	4	6
REACTION TO SPEAKER			
disapproved / disliked	0	2	2
REACTION TO CONTENT			
useful	2	10	12
revision, repetitive	2	4	6
GROUP WORK			
approved of/liked	0	4	4
practical, helpful	1	9	10
TEACHING			
appreciated training in teaching methods	0	1	1
appreciated help with preparation for class	1	1	2
practical ideas	0	9	9
useful to see equipment available for teaching purposes	0	5	5
GENERAL COMMENTS			
relevant to antenatal education	0	1	1
interesting use of visual aids	0	1	1
have 'done' visual aids before	0	1	1
too short	0	3	3
amusing	0	1	1
Total no. of comments	12	70	82

Session 12: Triggers for discussion/ visual aids.
To show the comments of the Centre A2 and Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	22	26	48
not answered	0	1	1
REACTION TO SESSION			
approved/liked	6	7	13
disapproved/disliked	3	2	5
uncertain/faint praise	3	3	6
REACTION TO SPEAKER			
disapproved / disliked	2	0	2
REACTION TO CONTENT			
useful	4	8	12
revision, repetitive	3	3	6
GROUP WORK			
approved of/liked	1	3	4
practical, helpful	4	6	10
TEACHING			
appreciated training in teaching methods	1	0	1
appreciated help with preparation for class	2	0	2
practical ideas	4	5	9
useful to see equipment available for teaching purposes	3	2	5
GENERAL COMMENTS			
interesting use of visual aids	0	1	1
have 'done' visual aids before	0	1	1
relevant to antenatal education	1	0	1
too short	2	1	3
amusing	1	0	1
Total no. of comments.	40	42	82

APPENDIX K.23
Session 13: "Asking questions."
To show the comments of the Centre B subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	18	19	37
not answered	1	1	2
REACTION TO SESSION			
approved/liked	12	10	22
uncertain/faint praise	1	0	1
REACTION TO SPEAKER			
approved / liked	3	2	5
REACTION TO CONTENT			
useful	3	6	9
revision, repetitive	0	1	1
learnt something	1	0	1
approved of content	5	2	7
GROUP WORK			
approved of/liked	2	0	2
disapproved of /disliked	1	1	2
appreciated how groups work	0	1	1
appreciated/learnt from feedback	0	1	1
practical, helpful	5	2	7
TEACHING			
appreciated training in teaching methods	0	1	1
need to reappraise own teaching	1	1	2
appreciated help with preparation for class	2	0	2
practical ideas	2	0	2
COMMUNICATIONS			
enjoyed/appreciated discussion	0	1	1
VISUAL AIDS			
appreciated use of	0	1	1
GENERAL COMMENTS			
appreciated time out to think	0	1	1
relevant to antenatal education	1	0	1
best session so far	1	0	1
too short	1	0	1
appreciated hand out	1	1	2
Total no. of comments.	42	32	74

APPENDIX K.24
Session 14: "Keeping up to date I (midwifery)."
Comments of the Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	16	15	31
not answered	0	1	1
REACTION TO SESSION			
approved/liked	12	11	23
disapproved/disliked	0	1	1
REACTION TO SPEAKER			
approved / liked	5	1	6
REACTION TO CONTENT			
useful	3	3	6
revision, repetitive	2	1	3
useful refresher	2	0	2
approved of content	1	2	3
GROUP WORK			
practical, helpful	1	0	1
TEACHING			
need to reappraise own teaching	1	2	3
GENERAL COMMENTS			
relevant to antenatal education	1	2	3
better than yesterday/previous session	0	1	1
too long	1	3	4
research useful, interesting, beneficial	0	1	1
confidence booster	1	0	1
need for/ how about updating HVs	1	1	2
Total no. of comments.	31	29	60

APPENDIX K.25
Session 15: "Keeping up to date II (midwifery)."
Comments of the Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	16	15	31
not answered	0	1	1
REACTION TO SESSION			
approved/liked	5	8	13
disapproved/disliked	0	1	1
uncertain/faint praise	1	1	2
REACTION TO SPEAKER			
approved / liked	0	2	2
REACTION TO CONTENT			
useful	4	3	7
useful refresher	2	0	2
approved of content	2	0	2
GROUP WORK			
approved of/liked	4	1	5
disapproved of /disliked	1	0	1
appreciated/learnt from feedback	0	1	1
practical, helpful	0	1	1
TEACHING			
need to reappraise own teaching	0	2	2
practical ideas	0	1	1
VISUAL AIDS			
appreciated use of	0	1	1
appreciated need for critical review	2	3	5
GENERAL COMMENTS			
appreciated exchange of ideas	2	1	3
relevant to antenatal education	0	1	1
can't remember session	0	1	1
too short	0	1	1
need for/ how about updating health visitors	1	0	1
Total no. of comments.	24	29	53

APPENDIX K.26
Session 16 'A mother's view' (group work with individual mothers.)
Comments of the Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	16	15	31
not answered	0	1	1
REACTION TO SESSION			
approved/liked	6	7	13
disapproved/disliked	1	3	4
uncertain/faint praise	0	1	1
REACTION TO SPEAKER			
approved / liked	1	0	1
REACTION TO CONTENT			
useful	1	1	2
learnt something	0	1	1
GROUP WORK			
approved of/liked	3	1	4
disapproved of /disliked	1	0	1
practical, helpful	1	0	1
TEACHING			
need to reappraise own teaching	1	0	
1practical ideas	1	1	2
COMMUNICATIONS			
illustrated needs of the individual	1	0	1
appreciated exchange of ideas	1	3	4
GENERAL COMMENTS			
relevant to antenatal education	1	1	2
too short	0	1	1
artificial, not enjoyed, stage managed	0	1	1
increased confidence	1	0	1
valued mothers' views	6	4	10
these are motivated mothers	2	0	2
Total no. of comments.	28	25	53

APPENDIX K.27
Session 17: "Evaluation/ Importance of Feedback." To show the cross tabulated comments of the Centre A and Centre B subjects.

	Centre A	Centre B	TOTAL
number returned	28	31	59
not answered	0	2	2
REACTION TO SESSION			
approved/liked	7	2	9
disapproved/disliked	3	5	8
uncertain/faint praise	5	2	7
REACTION TO SPEAKER			
disapproved / disliked	2	0	2
REACTION TO CONTENT			
useful	6	3	9
revision, repetitive	9	2	11
approved of content	1	0	1
GROUP WORK			
approved of/liked	2	3	5
disapproved of /disliked	0	1	1
appreciated/learnt from feedback	0	3	3
practical, helpful	2	0	2
TEACHING			
need to reappraise own teaching	0	1	1
GENERAL COMMENTS			
approval of summary; tied up loose ends	3	0	3
relevant to antenatal education	1	0	1
too long	0	4	4
too short, rushed, hurried	0	7	7
not relevant to antenatal education	1	0	1
artificial, not enjoyed, stage managed	0	1	1
disliked feedback; poor, didn't learn from	0	6	6
need to update health visitors	0	1	1
Total no. of comments.	42	41	83

Session 17: "Evaluation/ Importance of Feedback."
To show the comments of the Centre A and Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	28	31	59
not answered	0	2	2
REACTION TO SESSION			
approved/liked	3	6	9
disapproved/disliked	2	6	8
uncertain/faint praise	3	4	7
REACTION TO SPEAKER			
disapproved / disliked	1	1	2
REACTION TO CONTENT			
useful	5	4	9
revision, repetitive	4	7	11
approved of content	1	0	1
GROUP WORK			
approved of/liked	2	3	5
disapproved of /disliked	1	0	1
appreciated/learnt from feedback	2	1	3
practical, helpful	1	1	2
TEACHING			
need to reappraise own teaching	1	0	1
GENERAL COMMENTS			
approval of summary; tied up loose ends	2	1	3
relevant to antenatal education	1	0	1
too long	3	1	4
too short, rushed, hurried	1	6	7
not relevant to antenatal education	0	1	1
artificial, not enjoyed, stage managed	1	0	1
disliked feedback; poor, didn't learn from	5	1	6
need to update health visitors	0	1	1
Total no. of comments.	39	44	83

APPENDIX K.28
Session 18: "Group discussion; awkward people."
To show the cross tabulated comments of the Centre A and Centre B subjects.

	Centre A	Centre B	TOTAL
n.	25	31	56
did not answer	1	1	2
REACTION TO SESSION			
approved/liked	17	23	40
disapproved/disliked	3	0	3
uncertain/faint praise	2	1	3
REACTION TO SPEAKER			
approved / liked	2	0	2
disapproved / disliked	1	0	1
REACTION TO CONTENT			
useful	3	8	11
revision, repetitive	0	3	3
learnt something	0	1	1
disapproved of content	2	0	2
GROUP WORK			
approved of/liked	2	7	9
disapproved of /disliked	1	0	1
appreciated how groups work	4	3	7
appreciated/learnt from feedback	0	2	2
practical, helpful	2	4	6
TEACHING			
need to reappraise own teaching	0	3	3
practical ideas	0	3	3
criticised teaching methods chosen	1	0	1
COMMUNICATIONS			
illustrated needs of the individual	2	0	2
illustrated methods of communication	1	0	1
appreciated exchange of ideas	0	3	3
VISUAL AIDS			
appreciated use of	1	0	1
GENERAL COMMENTS			
approval of summary; tied up loose ends	0	1	1
relevant to antenatal education	0	1	1
sleepy,lost interest, got tired	0	1	1
placed rather late in the week	0	1	1
ROLE PLAY			
enjoyed role play	7	0	7
did not enjoyed	1	0	1
Total no of comments	52	65	117

Session 18: "Group discussion; awkward people."
To show the comments of the Centre A and Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
n.	27	34	56
did not answer	1	1	2
REACTION TO SESSION			
approved/liked	24	16	40
disapproved/disliked	1	2	3
uncertain/faint praise	0	3	3
REACTION TO SPEAKER			
approved / liked	1	1	2
disapproved / disliked	0	1	1
REACTION TO CONTENT			
useful	5	6	11
revision, repetitive	0	3	3
learnt something	1	0	1
disapproved of content	0	2	2
GROUP WORK			
approved of/liked	3	6	9
disapproved of /disliked	1	0	1
appreciated how groups work,	2	5	7
appreciated/learnt from feedback	1	1	2
practical, helpful	2	4	6
TEACHING			
need to reappraise own teaching	2	1	3
practical ideas	2	1	3
criticised teaching methods chosen	0	1	1
COMMUNICATIONS			
illustrated needs of the individual	0	2	2
illustrated methods of communication	1	0	1
appreciated exchange of ideas	2	1	3
VISUAL AIDS			
use of by tutor	0	1	1
GENERAL COMMENTS			
approval of summary; tied up loose ends	1	0	1
relevant to antenatal education	1	0	1
sleepy,lost interest, got tired	1	0	1
placed rather late in the week	1	0	1
ROLE PLAY			
enjoyed role play	3	4	7
not enjoyed	1	0	1
Total no. of comments.	56	61	117

APPENDIX K.29
Session 19: "Free discussion." To show the comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	12	16	28
not answered	1	0	1
REACTION TO SESSION			
approved/liked	7	5	12
uncertain/faint praise	0	2	2
REACTION TO CONTENT			
useful	1	3	4
GROUP WORK			
appreciated/learnt from feedback	0	1	1
practical, helpful	2	0	2
COMMUNICATIONS			
appreciated exchange of ideas	2	3	5
enjoyed/appreciated discussion	3	5	8
GENERAL COMMENTS			
relevant to antenatal education	1	0	1
Total no. of comments.	16	19	35

APPENDIX K.30
Session 20: "Relaxation and exercise, 1." To show the comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	12	14	26
not answered	0	0	0
REACTION TO SESSION			
approved/liked	6	10	16
REACTION TO CONTENT			
useful	2	4	6
learnt something	2	2	4
approved of content	0	1	1
GROUP WORK			
approved of/liked	1	0	1
practical, helpful	1	2	3
TEACHING			
appreciated training in teaching methods	1	0	1
practical ideas	0	1	1
GENERAL COMMENTS			
relevant to antenatal education	0	2	2
sleepy,lost interest, got tired	1	0	1
enjoyed exercises/relaxation from a personal point of view	2	2	4
needed more explanation of exercises	1	1	2
Total no. of comments.	17	25	42

APPENDIX K.31

Session 21: "Relaxation and exercises, 2." To show the comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	12	15	27
not answered	0	0	0
REACTION TO SESSION			
approved/liked	6	8	14
disapproved/disliked	1	0	1
uncertain/faint praise	2	0	2
REACTION TO SPEAKER			
approved / liked	1	0	1
REACTION TO CONTENT			
useful	0	4	4
revision, repetitive	3	1	4
useful refresher	0	2	2
learnt something	1	2	3
GROUP WORK			
approved of/liked	1	1	2
practical, helpful	1	0	1
TEACHING			
practical ideas	1	0	1
GENERAL COMMENTS			
appreciated exchange of ideas	0	1	1
relevant to antenatal education	0	1	1
sleepy, lost interest, got tired	0	1	1
enjoyed exercises/relaxation from a personal point of view	2	2	4
could no longer relax got very tired, headachy, fed up, hard work	4	1	5
Total no. of comments.	23	24	47

APPENDIX K.32

Session 22: "Relaxation and exercises, 3." To show the comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	12	15	27
not answered	0	0	0
REACTION TO SESSION			
approved/liked	7	12	19
disapproved/disliked	2	0	2
uncertain/faint praise	1	0	1
REACTION TO CONTENT			
useful	1	1	2
revision, repetitive	1	1	2
GROUP WORK			
approved of/liked	0	1	1
practical, helpful	1	1	2
GENERAL COMMENTS			
enjoyed/ appreciated discussion	0	1	1
relevant to antenatal education	0	1	1
sleepy,lost interest, got tired	1	0	1
enjoyed exercises/relaxation from a personal point of view	2	2	4
could no longer relax, got very tired, headachy, fed up, hard work	5	0	5
Total no. of comments.	21	20	41

APPENDIX K.33

Session 23: "Relaxation and exercises - labour talk." To show the comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	12	16	28
not answered	0	0	0
REACTION TO SESSION			
approved/liked	7	11	18
uncertain/faint praise	1	0	1
REACTION TO SPEAKER			
approved / liked	0	2	2
disapproved / disliked	0	1	1
REACTION TO CONTENT			
useful	2	5	7
revision, repetitive	1	0	1
useful refresher	0	1	1
GROUP WORK			
approved of/liked	0	1	1
practical, helpful	1	1	2
TEACHING			
practical ideas	0	1	1
session a good 'role model'	2	3	5
GENERAL COMMENTS			
relevant to antenatal education	1	0	1
too long	0	1	1
enjoyed exercises/relaxation from a personal point of view	1	1	2
hilarious	0	1	1
Total no. of comments.	16	29	45

APPENDIX K.34

Session 24: "Relaxation and exercise - post natal." To show the comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	12	16	28
not answered	0	0	0
REACTION TO SESSION			
approved/liked	8	9	17
uncertain/faint praise	0	1	1
REACTION TO CONTENT			
useful	3	5	8
revision, repetitive	1	1	2
learnt something	1	0	1
approved of content	1	0	1
GROUP WORK			
approved of/liked	1	1	2
practical, helpful	1	1	2
TEACHING			
practical ideas	0	1	1
GENERAL COMMENTS			
approval of summary; tied up loose ends.	2	1	3
relevant to antenatal education	0	1	1
sleepy,lost interest, got tired	0	1	1
too long	1	0	1
enjoyed exercises/relaxation from a personal point of view	0	2	2
had enough of relaxation	0	1	1
appreciated hand out	0	1	1
should have had hand out earlier	0	1	1
traumatic teaching in front of colleagues	0	1	1
Total no. of comments.	19	28	47

APPENDIX K.35

Session 25: "Theory into practice" To show the comments of the Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	15	19	34
not answered	0	2	2
REACTION TO SESSION			
approved/liked	8	5	13
uncertain/faint praise	1	0	1
REACTION TO SPEAKER			
disapproved / disliked	1	0	1
REACTION TO CONTENT			
useful	2	5	7
confused,did not learn	0	1	1
approved of content	1	2	3
disapproved of content	1	0	1
GROUP WORK			
approved of/liked	1	0	1
TEACHING			
practical ideas	1	2	3
COMMUNICATIONS			
illustrated needs of the individual	1	0	1
GENERAL COMMENTS			
approval of summary; tied up loose ends	0	3	3
sleepy,lost interest, got tired	1	0	1
too long	1	4	5
Total no. of comments.	19	22	41

APPENDIX 36

Session 26: "Presentation of local research." Cross tabulated comments of the Centre A2 and Centre B subjects.

	Centre A	Centre B	TOTAL
number returned	16	32	48
not answered	0	2	2
REACTION TO SESSION			
approved/liked	6	9	15
disapproved/disliked	3	0	3
uncertain/faint praise	1	3	4
REACTION TO SPEAKER			
approved / liked	0	2	2
disapproved / disliked	2	0	2
REACTION TO CONTENT			
useful,	8	4	12
revision, repetitive	2	12	14
approved of content	0	2	2
disapproved of content	1	0	1
GROUP WORK			
practical, helpful	0	3	3
not practical, helpful	0	1	1
TEACHING			
need to reappraise own teaching	0	2	2
illustrated problems with techniques	0	1	1
practical ideas	1	1	2
COMMUNICATIONS			
enjoyed/appreciated discussion	1	0	1
GENERAL COMMENTS			
relevant to antenatal education	2	0	2
can't remember session	0	1	1
sleepy,lost interest, got tired	1	0	1
criticism of HEC evaluators questionnaire	0	1	1
too long	1	0	1
not relevant to antenatal education	0	1	1
criticism of research design	3	0	3
don't like/ don't understand "statistics" or "figures"	4	1	5
made aware of need to plan a survey	1	0	1
research useful, interesting, beneficial	0	4	4
Total no. of comments.	37	48	85

Session 26: "Presentation of local research." Comments of the Centre A and Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	21	27	48
not answered	0	2	2
REACTION TO SESSION			
approved/liked	5	10	15
disapproved/disliked	3	0	3
uncertain/faint praise	2	2	4
REACTION TO SPEAKER			
approved / liked	0	2	2
disapproved / disliked	2	0	2
REACTION TO CONTENT			
useful	4	8	12
revision, repetitive	7	7	14
approved of content	0	2	2
disapproved of content	1	0	1
GROUP WORK			
practical, helpful	1	2	3
not practical, helpful	1	0	1
TEACHING			
need to reappraise own teaching	1	1	2
illustrated problems with techniques	0	1	1
practical ideas	1	1	2
COMMUNICATIONS			
enjoyed/appreciated discussion	1	0	1
GENERAL COMMENTS			
relevant to antenatal education	2	0	2
can't remember session	0	1	1
sleepy,lost interest, got tired	1	0	1
criticism of HEC evaluator's questonnaire	0	1	1
too long	1	0	1
not relevant to antenatal education	0	1	1
criticism of research design	2	1	3
don't like/ don't understand "statistics" or "figures"	3	2	5
made aware of need to plan a survey	1	0	1
research useful, interesting, beneficial	1	3	4
Total no. of comments.	40	45	85

APPENDIX K.37
Session 27: "Report by previous course members of changes in antenatal classes." Comments of the Centre B subjects, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	18	19	17
not answered	0	1	1
REACTION TO SESSION			
approved/liked	16	11	27
disapproved/disliked	0	1	1
REACTION TO SPEAKER			
approved / liked	0	6	6
REACTION TO CONTENT			
useful	1	0	1
revision, repetitive	3	0	3
confused,did not learn	1	0	1
disapproved of content	1	0	1
GROUP WORK			
approved of/liked	0	1	1
disapproved of /disliked	1	0	1
practical, helpful	1	2	3
TEACHING			
need to reappraise own teaching	1	0	1
illustrated problems with techniques	6	6	12
practical ideas	1	0	1
session a good 'role model'	0	1	1
COMMUNICATIONS			
appreciated exchange of ideas	3	4	7
GENERAL COMMENTS			
relevant to antenatal education	1	1	2
sleepy,lost interest, got tired	0	1	1
criticism of HEC evaluator's questonnaire	0	1	1
too long	1	0	1
Total no. of comments.	37	35	72

APPENDIX K.38
Session 28: "Presentation of prepared topic." To show the comments of the Centre A subjects only, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	TOTAL
number returned	12	16	28
not answered	0	0	0
REACTION TO SESSION			
approved/liked	7	4	11
disapproved/disliked	1	0	1
uncertain/faint praise	0	1	1
REACTION TO SPEAKER			
disapproved / disliked	1	0	1
REACTION TO CONTENT			
useful	0	2	2
approved of content	1	0	1
appreciated need; but disliked	1	2	3
GROUP WORK			
approved of/liked	1	4	5
TEACHING			
practical ideas	1	2	3
GENERAL COMMENTS			
appreciated exchange of ideas	0	2	2
too long	0	1	1
too short	0	1	1
enjoyed the chance to practice, useful			
enjoyed role play, rewarding	4	2	6
artificial, not enjoyed, stage managed	1	2	3
apprehensive/nervous/ traumatic teaching in front of colleagues	2	3	5
lost confidence	1	0	1
increased confidence, confidence booster	0	1	1
valued mothers' views	1	1	2
Total no. of comments.	22	28	50

APPENDIX K.39
Session: "Discussion about topics to be presented at the end of the week."
Comments of the Centre A1 subjects, cross tabulated by occupation, presented in full.

MIDWIVES number returned 4

(no response)
-evaluation of the day covered most topics.
-very good.
-fair.

HEALTH VISITORS number returned 7

-okay
-very good
-a general discussion on topics for later on in the week.
-fair.
-fairly helpful
-(no reponse)
-enjoyable day meeting other colleagues;
-covered all the topics previously and often in a lot more detail and depth; is going to be a long week at this rate of progress, the time allocated sessms to be a luxury - wonder if it could be better filled.

APPENDIX K.40
Session title: Counselling.
Comments of the Centre A1 subjects only, cross tabulated by occupation. Presented in full

---

MIDWIVES number returned 4

-very interesting.
-excellent - felt I learnt a lot as regards counselling - should have been much longer.
-good
-slightly good session.

HEALTH VISITORS number returned 5

-fair
-active participation by the group, interesting approach by tutor.
-very good.
-very interesting - good speaker; enjoyed this the most so far.

APPENDIX K.41

To show the number of responses, total scores, means, medians, and range of scores for the organisation of the course, Centre A only.

	n	total score	mean	median	range
travel directions	22*	143	6.5	7	4-7
course itself	23	102	4.4	5	2-7
setting of the course	22	116	5.3	6	1-7
parking facilities	22@	58	2.6	2	1-7
rooms used for lectures	23	122	5.3	6	1-7
eating arrangements	23	135	5.9	6	3-7

(@ one person did not have a car)
(* one person worked at the place of the course and did not answer this question.)

To show the number of responses, total scores, means, medians, and range of scores for the organisation of the course, Centre B only.

	n	total score	mean	median	range
travel directions	28	173	6.2	7	1-7
course/workshop itself	28	133	4.7	5	1-7
setting of the course	28	158	5.6	6	2-7
parking facilities	28	161	5.7	7	1-7
rooms used for lectures	28	152	5.4	6	2-7
eating arrangements	28	145	5.2	5	1-7

APPENDIX K.42

To show the number of responses, total scores, means, medians and range of scores for the aims of the course, Centre A only.

	n	total score	mean	median	range
1. to instruct experienced midwives and health visitors in					
a) methods of parentcraft teaching	22	111	5.1	5	2-7
b) relaxation	23	140	6.1	7	1-7
c) exercises	23	136	5.9	7	1-7
2) to improve uptake of antenatal education	23	107	4.7	5	2-7
3) to improve the knowledge of parents to enable them to promote:					
a) their health and well being	22	105	4.8	5	1-7
b) health & well being of their families	22	97	4.4	5	1-7
4) to reduce the perinatal and maternal morbidity	22*	99	4.5	5	1-7

(* one person questioned this and commented:
"The people who attend parentcraft are usually the ones who are getting antenatal care")

APPENDIX K.43
To show the number of responses, total scores, means, medians and range of scores for the aims of the course, Centre B only.

	n	total score	mean	median	range
1a) to review the function of antenatal classes	27	162	6.0	6	4-7
1b) to review the organisation of antenatal classes	28	171	6.1	6	4-7
1c) to identify areas of personal strength	28	150	5.4	6	2-7
1d) to consider new ideas and approaches to teaching	28	157	5.6	6	2-7
2 at the end, to have increased understanding of:					
2a) group teaching	28	163	5.8	6	2-7
2b) the most suitable way to 'put over' information on various topics	28	162	5.8	6	2-7
2c) meeting the information needs of those in a class	28	160	5.7	6	2-7

APPENDIX K.44
To show the reasons given post course by the subjects for attending the course, cross tabulated by centre.

	Centre A	Centre B	TOTAL
number returned	23	28	51
not answered	0	0	0
GENERAL			
sent on the course	0	4	4
ASPECTS OF TEACHING			
to learn how to teach	16	20	36
update antenatal education or health education teaching skills	1	2	3
FOR UPDATING			
skills	1	1	2
antenatal care	1	1	2
antenatal education	2	4	6
unspecified	4	12	16
TEACHING FUNCTION			
part of role	1	1	2
preparation for new job	2	4	6
OTHER COMMENTS			
exchange ideas	9	16	25
to help/benefit mothers	2	3	5
learn/learn to teach relaxation/exercises	22	0	22
improve communication	1	2	3
increase confidence	3	2	5
other comments	1	3	4
TOTAL	66	75	141

To show the reasons given post course by the subjects for attending the course, cross tabulated by occupation.

	MIDWIVES	HEALTH VISITORS	
TOTAL			
number returned	23	28	51
not answered	0	0	0
GENERAL			
sent on the course	2	2	4
ASPECTS OF TEACHING			
to learn how to teach	23	13	36
update antenatal education or health education teaching skills	1	2	3
FOR UPDATING			
skills	2	0	2
antenatal care	2	0	2
antenatal education	3	3	6
unspecified	6	10	16
TEACHING FUNCTION			
part of role	1	1	2
preparation for new job	3	3	6
OTHER COMMENTS			
exchange ideas	13	12	25
to help/benefit mothers	1	4	5
learn/learn to teach relaxation/exercises	8	14	22
improve communication	2	1	3
increase confidence	3	2	5
self evaluation	3	1	4
TOTAL	73	68	141

APPENDIX K.45

To show the number of responses, total scores, means, medians and range of scores for the post course reasons for attending the course, Centre A only.

	n	total score	mean	median	range
learn/learn to teach relaxation/exercises	22	131	5.9	7	0-7
aspects of teaching	16	79	4.9	5	1-7
exchange ideas	9	52	5.7	6	3-7
for updating	9	43	4.8	5	1-7
improve communication or confidence	4	22	5.5	6	4-7
teaching role/new job	3	19	6.3	7	5.7
other reasons	3	11	3.7	4	1-6

To show the number of responses, total scores, means, medians and range of scores for the post course reasons for attending the course, Centre B only.

	n	total score	mean	median	range
aspects of teaching	23	117	5.1	6	0-7
for updating	17	94	5.5	6	3-7
exchange ideas	16	96	6.0	6	3-7
other reasons	6	32	5.3	6	3-7
teaching role/new job	5	29	5.8	6	4-7
improve communication or confidence	4	23	5.8	6	5-6
sent on the course	4	16	4.0	5	0-6

To show the number of responses, total scores, means, medians and range of scores for the post course reasons for attending the course, midwives only.

	n	total score	mean	median	range
aspects of teaching	24	128	5.3	6	1-7
exchange ideas	13	76	5.8	6	3-7
for updating	12	70	5.8	6	4-7
learn/learn to teach relaxation/exercises	8	47	5.9	7	1-7
improve communication or confidence	5	28	5.6	6	4-7
teaching role/new job	4	24	6.0	6	5-7
other reasons	4	21	5.2	7	3-7
sent on the course	2	5	2.5		0-5

To show the number of responses, total scores, means, medians and range of scores for the post course reasons for attending the course, health visitors only.

	n	total score	mean	median	range
aspects of teaching	15	68	4.5	5	0-7
learn/learn to teach relaxation/exercises	14	84	6.0	7	0-7
for updating	14	67	4.8	5	1-7
exchange ideas	12	72	6.0	6	3-7
other reasons	5	22	4.4	6	1-6
teaching role/new job	4	24	6.0	7	4-7
improve communication or confidence	3	17	5.6	6	5-6
sent on the course	2	11	5.5		5-6

APPENDIX L.

MAIN STUDY

RAW DATA OF THE OBSERVATION RESULTS.

APPENDIX L.1
To show the mean, standard deviation, median and Mann Whitney U test of pre and post course FIAC, Centre A only, pre (n=9) and post (n=20)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	pre	14.8	19.5	7.3			
	post	16.7	13.6	15.8	65.0	-1.2	0.23
% Teachers' talk	pre	79.5	19.8	87.4			
	post	75.3	16.3	77.8	67.0	1.1	0.27
% silence	pre	5.9	6.4	3.2			
	post	7.9	11.1	3.6	74.0	-0.7	0.45
TRR	pre	77.9	24.6	93.1			
	post	78.0	29.4	94.6	85.0	-0.2	0.80
TQR	pre	7.8	10.9	4.1			
	post	9.9	10.8	6.5	58.0	-1.5	0.13
PIR	pre	21.9	25.5	20.0			
	post	18.4	24.1	6.7	84.0	0.3	0.77
TRR89	pre	96.2	5.8	99.7			
	post	89.2	18.8	99.6	77.0	0.6	0.49
TQR89	pre	24.3	19.0	18.2			
	post	24.9	18.9	21.5	88.5	-0.1	0.94
CCR	pre	74.4	22.4	80.7			
	post	63.2	20.9	61.1	63.0	1.2	0.20
SSR	pre	84.1	7.6	86.2			
	post	79.3	6.2	78.7	58.0	1.5	0.13
PSSR	pre	55.8	15.6	52.7			
	post	55.3	17.2	55.4	88.0	-0.1	0.94

To show the mean, standard deviation, median and Mann Whitney U test of pre and post course FIAC, Centre B only, pre (n=14) and post (n=33)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	pre	17.7	13.8	17.5			
	post	18.0	12.6	15.3	224.0	-0.2	0.87
% Teachers' talk	pre	76.3	12.3	76.9			
	post	78.9	13.1	81.2	198.0	-0.7	0.44
% silence	pre	5.9	4.7	4.8			
	post	3.1	2.8	2.5	125.0	2.5	0.01
TRR	pre	69.7	34.9	80.9			
	post	84.2	23.7	99.8	156.0	-1.8	0.07
TQR	pre	5.9	3.5	4.9			
	post	7.1	5.3	6.0	211.0	-0.5	0.64
PIR	pre	22.3	26.2	7.7			
	post	17.6	22.9	9.8	211.5	0.4	0.64
TRR89	pre	90.7	26.6	99.8			
	post	97.9	5.6	99.9	197.5	-1.0	0.30
TQR89	pre	25.3	17.3	23.3			
	post	37.1	20.7	36.8	155.5	-1.7	0.07
CCR	pre	70.1	11.9	71.3			
	post	72.8	15.5	73.1	207.5	-0.5	0.58
SSR	pre	79.6	7.4	76.1			
	post	80.9	7.7	81.3	193.0	-0.8	0.37
PSSR	pre	54.5	13.8	48.9			
	post	56.8	14.6	59.4	190.0	-0.9	0.34

APPENDIX L.2

To show the results of the Wilcoxon matched-pairs signed ranks test of FIAC for 9 pre and post course classes, matched for teacher and topic.

	ties	-ranks	$\bar{x}$	+ranks	$\bar{x}$	Z	2-tailed P
% Mothers' talk	0	3	5.0	6	5.0	-0.89	0.37
% Teachers' talk	0	4	4.2	5	5.6	-0.65	0.51
% silence	0	5	5.8	4	4.0	-0.77	0.44
TRR	2	3	5.0	4	3.2	-0.17	0.87
TQR	1	2	4.0	6	4.7	-1.4	0.16
PIR	0	5	4.6	4	5.5	-0.06	0.95
TRR89	6	1	3.0	2	1.5	0.00	1.00
TQR89	0	2	4.0	7	5.3	-1.72	0.08
CCR	0	6	5.1	3	4.8	-0.94	0.34
SSR	0	4	4.2	5	5.6	-0.65	0.51
PSSR	0	4	3.7	5	6.0	-0.88	0.37

APPENDIX L.3

To show the number, mean, standard deviation, median and Mann Whitney U test of FIAC comparing post course observations (n=45) with a subset (n=8) without teaching experience before attending the course.

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	post	17.6	13.7	15.3			
	NPTE	16.6	7.1	19.4	162	-0.4	0.65
% Teachers' talk	post	76.9	14.1	81.2			
	NPTE	69.7	13.9	73.9	103	1.9	0.05
% silence	post	3.4	2.9	2.7			
	NPTE	13.6	16.1	5.4	75	-2.6	0.009
TRR	post	84.4	26.8	99.8			
	NPTE	79.1	22.2	80.7	142	0.9	0.32
TQR	post	7.9	8.3	6.1			
	NPTE	9.3	5.3	7.3	125	-1.4	0.17
PIR	post	17.3	2.9	9.6			
	NPTE	21.4	18.9	13.7	138.5	-1.0	0.30
TRR89	post	94.8	13.3	99.9			
	NPTE	93.3	11.5	98.8	141	1.2	0.23
TQR89	post	32.7	21.1	27.5			
	NPTE	31.2	20.2	28.9	180	0.0	1.00
CCR	post	71.6	16.7	70.9			
	NPTE	55.7	21.4	59.8	105	1.9	0.06
SSR	post	80.9	7.5	81.2			
	NPTE	77.0	4.5	76.5	107	1.8	0.07
PSSR	post	55.7	16.2	58.3			
	NPTE	59.2	11.5	63.5	157	-0.5	0.57

NPTE = no previous teaching experience.

APPENDIX L.4

To show the number, mean, standard deviation, median and Mann Whitney U test of FIAC, comparing a subset (n=9 Centre A1) only observed post course with the remainder of the post course observations (n=44).

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	post	17.5	11.6	15.2			
	A1	17.5	18.9	16.1	171	0.6	0.52
% Teachers' talk	post	78.0	13.2	80.5			
	A1	75.4	19.9	77.8	192	0.2	0.88
% silence	post	4.5	7.6	2.7			
	A1	7.1	6.8	3.9	127	-1.7	0.09
TRR	post	81.4	26.9	99.1			
	A1	84.0	22.5	96.1	184.5	0.3	0.73
TQR	post	7.4	5.2	6.2			
	A1	11.6	15.5	6.1	193.5	-0.1	0.91
PIR	post	16.1	20.8	9.6			
	A1	27.1	32.2	25.0	173	-0.6	0.56
TRR89	post	95.4	12.1	99.9			
	A1	80.6	16.4	98.3	158	1.2	0.24
TQR89	post	34.1	20.3	28.6			
	A1	24.8	21.9	22.2	144	1.3	0.20
CCR	post	70.7	16.5	69.5			
	A1	61.0	24.9	61.1	162	0.8	0.39
SSR	post	80.3	7.4	80.3			
	A1	80.4	6.5	80.0	186	0.3	0.77
PSSR	post	56.8	14.7	58.7			
	A1	53.6	19.2	55.3	175.5	0.5	0.59

A1 = Centre A1

APPENDIX L.5

To show the mean, standard deviation, median and Mann Whitney U test of pre and post course FIAC, in classes led by midwives, pre (n=11) and post (n=21)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	pre	19.4	14.6	17.5			
	post	14.9	11.4	15.3	97.0	0.7	0.46
% Teachers' talk	pre	74.4	13.3	76.7			
	post	80.8	11.5	80.8	84.0	-1.2	0.21
% silence	pre	6.2	6.2	4.3			
	post	4.3	3.6	3.5	100.0	0.6	0.53
TRR	pre	83.5	20.8	94.5			
	post	83.4	28.0	96.9	115.0	0.01	0.98
TQR	pre	5.6	2.9	4.7			
	post	5.8	3.7	5.2	115.0	0.01	0.98
PIR	pre	24.9	27.2	19.0			
	post	14.5	19.3	5.0	83.0	1.3	0.19
TRR89	pre	98.3	4.0	99.8			
	post	91.0	18.1	99.9	96.5	0.8	0.37
TQR89	pre	19.2	15.6	13.9			
	post	29.2	22.7	21.4	82.0	-1.3	0.18
CCR	pre	71.4	14.4	71.3			
	post	73.1	15.5	76.4	108.5	-0.3	0.78
SSR	pre	78.5	7.0	76.0			
	post	81.7	6.7	81.9	85.0	-1.2	0.22
PSSR	pre	54.1	17.3	48.8			
	post	51.0	16.3	55.1	110.0	0.21	0.82

To show the mean, standard deviation, median and Mann Whitney U test of pre and post course FIAC, in classes led by health visitors, pre (n=12) and post (n=32)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	pre	13.9	17.3	7.4			
	post	19.2	13.7	17.6	106.0	-2.3	0.02
% Teachers' talk	pre	80.3	16.9	87.1			
	post	75.5	15.8	77.9	144.0	0.2	0.20
% silence	pre	5.7	4.6	4.0			
	post	5.3	9.2	3.1	132.0	1.6	0.11
TRR	pre	63.2	36.1	66.5			
	post	80.9	25.0	96.3	121.0	-1.9	0.05
TQR	pre	7.6	9.7	4.9			
	post	9.6	9.4	6.6	127.0	-1.7	0.08
PIR	pre	19.5	24.4	7.2			
	post	20.2	25.5	11.5	184.5	-0.2	0.84
TRR89	pre	87.9	28.4	98.9			
	post	96.9	97.4	99.9	155.0	-1.2	0.22
TQR89	pre	30.2	18.1	30.3			
	post	34.6	19.4	28.7	179.0	-0.3	0.73
CCR	pre	72.2	18.8	77.2			
	post	66.7	19.6	68.8	156.0	0.9	0.34
SSR	pre	83.9	7.5	85.5			
	post	79.4	7.5	79.2	126.5	1.7	0.08
PSSR	pre	55.8	11.4	52.8			
	post	59.7	14.2	60.8	149.5	-1.1	0.26

APPENDIX L.6

To show the mean, standard deviation, median and Mann Whitney U test of pre and post course FIAC, self selected subjects, pre (n=5) and post (n=11)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	pre	5.2	3.6	4.7			
	post	20.6	15.9	19.4	6.0	-2.4	0.01
% Teachers' talk	pre	90.2	3.3	89.0			
	post	70.6	18.8	74.9	6.0	2.4	0.01
% silence	pre	4.5	3.5	4.3			
	post	8.7	14.7	3.5	26.0	0.2	0.86
TRR	pre	50.1	46.5	50.0			
	post	74.4	32.3	96.1	16.5	-1.3	0.20
TQR	pre	3.7	2.9	2.7			
	post	12.3	13.8	7.2	10.0	-1.9	0.04
PIR	pre	3.8	6.0	1.9			
	post	26.6	29.1	17.4	10.5	-1.9	0.05
TRR89	pre	76.0	43.4	93.3			
	post	89.2	21.1	99.0	26.0	-0.2	0.85
TQR89	pre	24.2	18.0	23.1			
	post	34.9	19.9	35.7	19.5	-0.9	0.36
CCR	pre	82.5	15.9	88.6			
	post	59.5	24.2	65.8	11.0	1.8	0.06
SSR	pre	88.8	4.2	89.3			
	post	78.7	6.2	77.8	5.0	2.5	0.01
PSSR	pre	46.2	4.9	46.2			
	post	59.2	16.9	64.6	12.0	-1.7	0.07

To show the mean, standard deviation, median and Mann Whitney U test of pre and post course FIAC, manager selected subjects, pre (n=18) and post (n=37)

		mean	SD	median	Mann Whitney U	Z	P
% Mtalk	pre	19.7	16.6	14.9			
	post	17.9	11.9	15.3	328	-0.1	0.92
% Ttalk	pre	73.9	15.4	75.7			
	post	78.3	12.5	80.8	272	-1.1	0.27
% silence	pre	6.3	5.7	4.0			
	post	3.5	3.1	2.6	218	2.1	0.03
TRR	pre	79.2	23.1	88.5			
	post	84.2	24.4	99.8	263	-1.3	0.19
TQR	pre	7.5	7.8	5.0			
	post	7.4	5.3	6.2	293	-0.7	0.47
PIR	pre	27.2	26.3	20.0			
	post	16.9	21.9	9.8	243.5	1.6	0.10
TRR89	pre	97.5	4.4	99.8			
	post	97.5	6.3	99.9	299.5	-0.7	0.43
TQR89	pre	25.1	17.9	18.3			
	post	34.4	20.8	27.8	247	-1.5	0.12
CCR	pre	68.8	15.7	71.4			
	post	71.6	15.3	70.9	309.5	-0.4	0.67
SSR	pre	79.2	7.1	76.1			
	post	80.5	7.4	80.3	281	-0.9	0.35
PSSR	pre	57.4	15.1	55.9			
	post	57.4	14.4	59.4	324.5	-0.2	0.87

APPENDIX L.7

To show the mean ($\bar{X}$), standard deviation (SD), corrected Chi Square (X^2) and probability of the Kruskal-Wallis 1 way analysis of variance of the FIAC observation for the 6 different topics taught in the antenatal classes.

topics		1	2	3	4	5	6	X^2	P
n sessions		12	12	22	13	11	6		
% Mothers' talk	$\bar{X}$	14.6	15.3	24.9	10.4	17.4	12.6		
	SD	7.7	7.3	18.1	6.8	16.9	10.7	9.6	0.086
% Teachers' talk	$\bar{X}$	81.8	80.3	71.8	76.4	80.2	82.1		
	SD	9.7	9.3	17.8	13.9	17.6	10.5	5.1	0.400
% silence	$\bar{X}$	3.6	4.3	3.3	13.2	2.4	5.3		
	SD	3.8	3.0	2.5	12.8	1.8	4.9	20.5	0.001
TRR	$\bar{X}$	91.3	88.7	79.5	46.8	91.9	81.3		
	SD	16.0	16.7	21.2	25.2	16.9	38.3	21.4	0.001
TQR	$\bar{X}$	8.5	7.0	8.0	6.7	9.5	4.9		
	SD	5.1	4.6	8.1	5.1	14.2	2.9	3.2	0.667
PIR	$\bar{X}$	4.0	15.1	33.2	18.4	18.5	9.8		
	SD	4.6	13.6	31.2	16.4	27.6	13.9	13.9	0.016
TRR89	$\bar{X}$	98.4	97.9	94.7	83.7	99.3	88.8		
	SD	4.8	4.2	21.2	14.4	2.3	27.2	20.9	0.001
TQR89	$\bar{X}$	46.8	32.3	27.9	21.0	30.2	20.9		
	SD	18.2	21.9	17.9	16.7	20.8	17.5	13.2	0.021
CCR	$\bar{X}$	78.1	75.3	66.6	56.5	74.6	76.2		
	SD	13.0	14.9	17.6	17.1	18.9	15.2	14.1	0.015
SSR	$\bar{X}$	79.9	79.6	79.9	79.6	83.1	84.3		
	SD	6.5	7.3	9.0	5.4	7.3	5.9	3.3	0.652
PSSR	$\bar{X}$	52.0	53.2	61.5	51.9	60.7	48.3		
	SD	13.4	10.9	16.6	11.9	13.0	23.3	7.7	0.169

Code for the topics

1 = antenatal topics
2 = labour topics
3 = all feeding topics
4 = baby bathing
5 = post natal topics
6 = parents/fathers evening

APPENDIX L.8

To show the number, mean, standard deviation, median and Mann Whitney U test of FIAC for non-feeding topics (n=54) cross tabulated by breast feeding topics (n=14).

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	NF	14.1	10.3	11.3			
	BF	32.1	18.1	29.5	133	-3.7	0.0002
% Teachers' talk	NF	79.8	12.5	82.0			
	BF	65.7	18.2	66.0	189	2.8	0.004
% silence	NF	6.0	7.9	3.5			
	BF	2.2	1.1	2.3	210	2.5	0.01
TRR	NF	79.0	28.2	96.8			
	BF	95.5	6.0	96.3	295	-1.3	0.18
TQR	NF	7.6	7.5	5.8			
	BF	9.9	9.6	6.8	198	-1.2	0.22
PIR	NF	3.5	17.3	7.3			
	BF	36.7	33.6	18.2	217	-2.5	0.01
TRR89	NF	93.9	13.0	99.9			
	BF	99.5	1.0	99.9	315	-1.2	0.23
TQR89	NF	31.1	20.9	24.2			
	BF	30.9	20.6	33.5	376	0.0	0.98
CCR	NF	71.3	17.6	73.5			
	BF	63.3	18.4	57.7	286	1.4	0.16
SSR	NF	80.9	6.6	80.5			
	BF	77.1	9.1	76.1	284	1.4	0.15
PSSR	NF	53.6	13.8	55.9			
	BF	64.9	16.9	67.7	205	-2.6	0.0087

NF = non feeding topics
BF = breast feeding

APPENDIX L.9

To show the number, mean, standard deviation, median and Mann Whitney U test of FIAC for classes held in community (n=57) cross tabulated by classes held in hospital (n=19)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	cmty	17.2	13.8	14.8			
	hosp	17.3	14.1	15.3	524	0.2	0.83
% Teachers' talk	cmty	77.2	15.0	79.8			
	hosp	78.4	13.4	81.2	522	-0.0	0.81
% silence	cmty	5.5	7.3	3.5			
	hosp	4.2	5.2	2.2	426	1.4	0.16
TRR	cmty	78.8	27.7	94.8			
	hosp	80.3	28.4	93.5	534	0.1	0.92
TQR	cmty	8.6	8.6	6.1			
	hosp	4.9	2.4	4.6	394	1.7	0.07
PIR	cmty	18.5	23.0	10.4			
	hosp	21.3	26.4	8.7	535	-0.7	0.94
TRR89	cmty	94.1	15.7	99.9			
	hosp	94.2	15.8	99.8	532	-0.1	0.89
TQR89	cmty	32.1	20.5	28.5			
	hosp	24.5	17.6	18.3	429	1.4	0.17
CCR	cmty	68.9	18.2	70.9			
	hosp	73.0	15.9	73.5	489	-0.6	0.53
SSR	cmty	80.1	7.5	80.3			
	hosp	82.2	6.7	82.2	468	-0.8	0.38
PSSR	cmty	56.6	14.1	57.4			
	hosp	53.7	18.0	53.8	475	0.8	0.42

cmty = classes held in health centres or clinics.
hosp = classes held in hospital and one in a GP unit.

APPENDIX L.10

To show the number, mean, standard deviation, median and Mann Whitney U test of FIAC for noisy surroundings (n=13) cross tabulated by quiet (n=63) surroundings.

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	noisy	17.6	10.8	18.7			
	quiet	17.4	14.4	14.8	352	0.8	0.42
% Teachers' talk	noisy	74.2	15.4	77.8			
	quiet	78.2	14.1	81.2	337	-1.0	0.37
% silence	noisy	8.1	13.6	3.5			
	quiet	4.6	4.3	3.2	400	0.1	0.89
TRR	noisy	80.6	21.3	93.5			
	quiet	78.9	29.0	94.8	380	-0.4	0.67
TQR	noisy	7.7	4.9	6.2			
	quiet	7.7	8.1	5.6	351	0.8	0.42
PIR	noisy	24.4	21.2	17.4			
	quiet	18.1	24.3	8.7	287	1.7	0.09
TRR89	noisy	95.9	9.4	99.5			
	quiet	93.7	16.7	99.9	401	0.1	0.89
TQR89	noisy	33.1	14.7	33.3			
	quiet	29.6	20.9	25.0	336	1.0	0.31
CCR	noisy	63.9	22.3	65.8			
	quiet	71.3	16.4	73.5	330	-1.1	0.27
SSR	noisy	79.8	6.3	79.2			
	quiet	80.8	7.5	80.5	360	-0.7	0.49
PSSR	noisy	59.7	12.0	63.4			
	quiet	55.1	15.6	55.8	343	0.9	0.36

APPENDIX L.11

To show the number, mean, standard deviation, median and Mann Whitney U test of FIAC for semi-circular seating (n=30) cross tabulated by other seating arrangements (n=63)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	semi	19.2	15.1	17.6			
	other	15.9	12.8	14.8	588	1.0	0.27
% Teachers' talk	semi	75.6	15.5	75.8			
	other	78.8	13.9	80.8	598	-0.9	0.32
% silence	semi	5.1	4.7	3.6			
	other	5.2	8.0	2.3	576	1.2	0.22
TRR	semi	71.2	28.3	70.7			
	other	84.4	26.3	97.9	477	-2.3	0.02
TQR	semi	8.2	7.2	6.1			
	other	7.4	8.0	5.6	630	0.6	0.52
PIR	semi	21.5	24.7	11.7			
	other	17.7	23.2	8.7	621	0.7	0.46
TRR89	semi	92.6	15.3	99.9			
	other	95.1	15.9	99.9	563	-1.6	0.10
TQR89	semi	29.8	19.4	28.7			
	other	30.5	20.6	24.2	678	-0.1	0.89
CCR	semi	65.5	17.0	65.4			
	other	72.9	17.5	75.1	506	-1.9	0.05
SSR	semi	80.3	5.9	80.5			
	other	80.9	8.2	80.4	652	-0.4	0.68
PSSR	semi	59.7	13.7	61.7			
	other	53.4	15.5	54.9	508	1.9	0.05

semi = semi circular seating arrangements.
other = rows, straight lines, horse shoe and other seating arrangements.

APPENDIX L.12

To show the number, mean, standard deviation, median and Mann Whitney U test of FIAC for classes without babies present (n=57) cross tabulated by classes with babies present (n=19)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	no babies	14.8	9.3	14.7			
	babies	24.5	21.2	17.5	438	-1.2	0.21
% Teachers' talk	no babies	81.1	10.2	82.5			
	babies	66.8	19.9	75.7	308	2.8	0.005
% silence	no babies	4.1	3.3	3.2			
	babies	8.7	12.1	3.1	471	-0.8	0.39
TRR	no babies	83.7	25.2	98.9			
	babies	65.7	30.5	70.5	311	2.9	0.004
TQR	no babies	6.5	4.8	5.2			
	babies	11.4	12.4	7.0	376	-1.9	0.04
PIR	no babies	11.6	11.8	8.7			
	babies	41.9	34.5	40.0	295	-2.9	0.003
TRR89	no babies	96.3	13.8	99.9			
	babies	87.5	19.1	97.8	363	2.6	0.009
TQR89	no babies	30.4	20.2	27.3			
	babies	29.5	19.8	29.0	529	0.2	0.88
CCR	no babies	75.2	13.5	77.0			
	babies	54.5	19.6	56.0	216	3.9	0.0001
SSR	no babies	81.2	7.7	88.2			
	babies	79.2	5.7	78.7	434	1.3	0.19
PSSR	no babies	54.3	13.6	55.4			
	babies	60.6	18.4	64.6	414	-1.5	0.12

APPENDIX L.13

To show the number, mean, standard deviation, median and Mann Whitney U test of FIAC for classes without fathers present (n=69) cross tabulated by classes with fathers present (n=7)

		mean	SD	median	Mann Whitney U	Z	P
% Mothers' talk	no fathers	17.5	14.1	14.9			
	fathers	14.7	11.3	15.3	215	0.5	0.63
% Teachers' talk	no fathers	77.3	14.9	80.5			
	fathers	80.1	10.9	79.8	230	-0.2	0.83
% silence	no fathers	5.2	7.1	3.2			
	fathers	5.2	4.6	3.5	199	-0.7	0.44
TRR	no fathers	78.8	27.1	94.2			
	fathers	82.9	35.2	97.2	201	-0.7	0.45
TQR	no fathers	7.9	7.9	6.0			
	fathers	5.1	2.7	4.4	184	1.0	0.30
PIR	no fathers	20.1	24.5	9.8			
	fathers	10.7	12.9	11.4	186	0.9	0.32
TRR89	no fathers	94.5	14.6	99.9			
	fathers	90.4	25.2	94.4	206	-0.7	0.43
TQR89	no fathers	30.8	20.2	27.8			
	fathers	24.0	17.9	17.2	204	0.7	0.50
CCR	no fathers	69.7	17.8	73.1			
	fathers	72.5	16.9	69.4	232	-0.2	0.86
SSR	no fathers	80.4	7.4	80.4			
	fathers	82.9	6.7	81.2	200	-0.7	0.45
PSSR	no fathers	56.5	14.3	56.3			
	fathers	50.3	21.9	56.6	212	0.5	0.59

APPENDIX L.14

To show the number, mean, standard deviation, median and Mann Whitney U test of the teachers' questions for the pre (n=8) and post (n=20) classes, Centre A only.

		mean	SD	median	Mann Whitney U	Z	P
expand feelings	pre	0.6	1.1	0.3			
	post	1.1	2.5	0.4	80.5	-0.5	0.60
assess knowledge	pre	1.4	3.1	0.3			
	post	1.1	1.0	1.0	61.0	-1.5	0.14
'history' taking	pre	2.8	3.8	1.2			
	post	5.4	6.7	4.5	51.0	-1.9	0.06
open	pre	6.4	2.7	5.5			
	post	4.3	2.2	4.3	66.5	0.3	0.25
closed	pre	3.6	3.2	3.0			
	post	7.1	3.2	6.5	34.0	-2.6	0.007
series of closed	pre	0.7	1.0	0.5			
	post	0.3	0.4	0.2	70.0	1.2	0.24

To show the number, mean, standard deviation, median and Mann Whitney U test of the teachers' questions for the pre (n=14) and post (n=33) classes, Centre B only.

		mean	SD	median	Mann Whitney U	Z	P
expand feelings	pre	0.1	0.2	0.4			
	post	0.8	1.3	0.4	146.0	-2.4	0.01
assess knowledge	pre	1.6	1.8	1.1			
	post	1.8	2.3	1.3	221.5	-0.3	0.81
'history' taking	pre	1.8	2.6	1.2			
	post	2.0	2.7	1.2	226.5	-0.1	0.91
open	pre	5.0	2.5	4.8			
	post	3.5	1.9	3.4	154.0	1.8	0.06
closed	pre	7.4	7.3	5.0			
	post	8.2	6.2	8.1	196.0	-0.8	0.42
series of closed	pre	1.1	1.5	0.7			
	post	1.8	2.5	1.0	205.0	-0.6	0.52

To show the number, mean, standard deviation, median and Mann Whitney U test of the teachers' questions for the pre (n=11) and post (n=21) classes, led by midwives.

		mean	SD	median	Mann Whitney U	Z	P
expand feelings	pre	0.0	0.0	0.0			
	post	0.3	0.6	0.2	88.0	-1.7	0.08
assess knowledge	pre	0.7	0.7	0.6			
	post	1.2	1.2	1.0	91.0	-1.0	0.30
'history' taking	pre	2.0	2.9	1.3			
	post	2.3	2.1	1.9	96.0	-0.8	0.43
open	pre	5.6	2.5	5.7			
	post	3.8	2.0	3.9	66.0	1.9	0.04
closed	pre	5.5	5.2	4.0			
	post	3.3	4.2	9.0	65.5	-1.9	0.04
series of closed	pre	0.8	1.5	0.4			
	post	1.1	1.9	0.4	111.5	-0.2	0.85

To show the number, mean, standard deviation, median and Mann Whitney U test of the teachers' questions for the pre (n=11) and post (n=32) classes, led by health visitors.

		mean	SD	median	Mann Whitney U	Z	P
expand feelings	pre	0.5	0.9	0.3			
	post	1.3	2.2	0.7	140.0	-1.5	0.13
assess knowledge	pre	2.3	3.0	1.0			
	post	1.8	2.3	1.3	181.0	-0.3	0.76
'history' taking	pre	2.4	3.4	1.1			
	post	3.9	5.9	1.4	150.0	-1.1	0.25
open	pre	5.4	2.8	4.4			
	post	3.8	2.1	4.0	160.0	0.8	0.39
closed	pre	6.5	7.4	4.0			
	post	7.4	5.8	6.5	141.5	-1.3	0.18
series of closed	pre	1.2	1.3	0.9			
	post	1.3	2.2	0.4	182.0	0.3	0.77