SHARED LEARNING: MONITORING THE ATTITUDINAL CHANGES OF STAFF AND STUDENTS ON UNDERGRADUATE HEALTH CARE PROFESSIONAL PROGRAMMES

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Abstract

The aim of this investigation was to monitor attitudinal changes of staff and students participating in undergraduate professional programmes to the implementation of shared learning over a four-year period. The programmes being studied were the BSc. Occupational Therapy, BSc. Diagnostic Radiography and BSc. Therapeutic Radiography Honours degrees. Each validated programme contained some syllabus areas that were taught together i.e. were shared across the professions.

Initially, after a review of the existing literature on this issue, a questionnaire was designed as a research tool to enable both qualitative and quantitative data to be collected and analysed. The quantitative sections of the questionnaire were checked for reliability throughout the four years and achieved positive Cronbach Alpha results ranging from .7083 to .8984 in the four main concepts under investigation, namely the Pitfalls, Benefits, Curriculum Aspects and Social Aspects of the shared programmes.

Over the four year period a total of 418 student questionnaires were collected and analysed.

In addition to the quantitative data collected, qualitative data were also collected from the questionnaire from extracts of the minutes of Course Committee and Examination Board meetings and from videos of tutorials and seminars. All of these were analysed.

The results showed fluctuations in the attitudes of both staff and students to shared learning over the four year period, but all those who participated showed **a net favourable change** in attitude by the end of the research investigation.

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Terminology

In the literature, the issue of shared learning is beset with difficulties concerned with terminology. For example, the words multi-professional, inter-professional, inter-disciplinary, multi-disciplinary etc, are frequently used and interchanged in an often confusing manner. In some ways, the erratic usage of these words can be blamed upon **some of the "professionals" themselves**. Such people reserve the use of the word "professional" for those disciplines with a recognised "Professional Body" responsible for awarding professional, state registered, status to students who gain a specific qualification, after successfully completing a programme of study ratified by the Professional Body itself ie. to a Radiologist, a Physiotherapist, an Occupational Therapist, a Doctor, etc, etc,.

As, currently, there is no such recognised "Professional Body" for social workers, ie. there is no state registration required for social workers, the word "discipline" is often used instead of the word "professional". (It should, be noted that social workers do have a Council called "The Central Council for Education and Training in Social Work"(CCETSW) that is often considered to be their "professional body", and the Privy Council is at present considering the issue of state registration for social workers).

The frequent interchange of the words "multi" and "inter" does not appear to have any basis for the misusage that can be seen in the literature. It seems to be related to a misunderstanding of the true meanings of these prefixes or to careless usage.

Finally, the words "patient" and "client" also seem to be regularly interchanged or, in some cases, one is preferred to the other, depending upon the user!
For the purposes of this thesis a simple glossary of the particular words used in the thesis is provided below.

The terminology is adopted on the grounds that:

a). to continue to differentiate between social workers and the others involved in health care by referring to social work as a discipline and all other areas of work as professions, merely serves to encourage the existence of some of the barriers identified as being responsible for preventing shared learning taking place,

b). it is important for all involved to recognise the difference between the prefixes multi, inter, uni etc,

c). in most cases of health care where the user of the service is **ill** the word "patient" should be used. Where the service-user is well, (eg. a pregnant woman going for regular check-ups, a fit person going for a health check or a routine screening session etc), the word "service-user" should be used. The word "client" is not perhaps acceptable in either situation - considering its much more common usage in the business sense!

It must, be noted that:

i. where specific terminology has been **quoted** from other work, it has been left unaltered,

ii. the use of the word "patient" or "client" has been retained where "service-user" would seem to be rather inappropriate eg. Out Service - User Department!

The definitions for the terminology used in this thesis are presented in Table 1 below:

Table 1: Definitions and Terminology

Profession	=	A broad construct where the award or qualification is made by a professional body e.g lawyer, accountant, radiographer, etc.
Discipline	=	A broad construct within certain subject boundaries e.g science, arts, geography, environmental science, engineering etc where there is no actual professional body awarding a qualification.
Professional Body	=	A recognised health or social care accrediting body.
Professionals	=	When referring to a set of students or individuals studying towards, or who have gained, a qualification **recognised by a professional body** e.g occupational therapy or social work.
Multi-professional	=	When referring to two or more sets of students or individuals studying in a group together but where **limited interaction takes place**. All the students/individuals are studying for, or have gained, a qualification **recognised by a professional body.**
Multi-disciplinary	=	When referring to two or more sets of students/individuals each of a different discipline (defined above) studying in a group together, but where there is **limited interaction between the disciplines** and **no professional body recognition.**
Inter-professional	=	When referring to two or more sets of students/individuals studying in a group together, but where **significant interaction takes place**, and where all of the participants are studying for a qualification **recognised by a professional body.**
Inter-disciplinary	=	When referring to two or more sets of students/individuals studying in a group together, where **significant interaction takes place**, but where one or more of the participants is studying for a qualification **not recognised by a professional body.**
Uni-professional /Uni-disciplinary	=	Where only one profession or discipline is involved.

The distinctions in Table 1 comply with those of Barr and Waterton (1996) who state that:

"Effective inter-professional education ------ promotes inter-professional collaboration; encourages professions to learn with, from and about one another; enhances practice within professions; respects the integrity and contribution of each profession and increases professional satisfaction".

The terminology above also agrees with that given by Leathard (1994) who used the terminology as presented in Table 2 below:

Table 2: Leathard's Terminology

Concept Based Suggestions	Process Based Suggestions	Agency Based Suggestions
Multi-professional; Multi-disciplinary; Inter-disciplinary; Trans-disciplinary.	Joint working; Joint planning; Shared learning; Partnership; Collaborative care planning; Joint learning.	Inter-agency; Trans-sectoral; Inter-sectoral; Cross-agency; Inter-institutional; Healthy alliances.
Holistic; Generic.	Integration; Inter-related; Bonding; Common core; Merger; Teamwork.	Confederation; Centre; Consortium; Commission; Federation; Alliance.

An interesting terminology has also been proposed by Hewson and Sim's (1998) and this is presented in Table 3 below:

Table 3: Hewson and Sim's Terminology

Uni-disciplinary	Feeling confident and competent in one's own discipline.
Intra-disciplinarity	Believing that you and fellow professionals in your own discipline can make an important contribution to care.
Multi-disciplinarity	Recognising that other disciplines also have important contributions to make.

Inter-disciplinarity	Willing and able to work with others in different disciplines in the joint evaluation, planning and care of the patient.
Trans-disciplinarity	Making the commitment to teach and practice with other disciplines across traditional boundaries for the benefit of the patient's immediate needs.

It is interesting to note that Hewson and Sim (1998) terminology would be in keeping with Barr and Waterton's 1996 statement if the word professional were to replace discipline.

Finally, it must always be remembered that the professional bodies for each profession were, (and still are), charged with ensuring that the education of each profession was, (and still is), structured to provide both the theoretical and practical skills necessary for the qualifying practitioner to be ***"competent to practice in that particular profession".*** This remains true, regardless of the manner in which they are taught or the terminology currently in vogue.

PART 1

HISTORY AND CONTEXT

INTRODUCTION

In 1992, when this current research investigation was first conceived, the Government in the UK had already been advocating the value of shared learning/teamwork to the professionals within the National Health Service (NHS) for almost thirty years (Chapter 1, Appendix A). It is clear that the Government saw this as a means of providing better care for the service-user as well as a way of reducing costs. In contrast, the professions and professionals themselves perceived the sharing involved in this type of teamwork as a way of eroding their professional base. They believed that, eventually, several generic workers could be employed instead of the professionals themselves and so resisted the challenge of sharing information in teams and, at the same time, sought to protect their own individual professional base.

As a result of the initial negativity shown by these health care professionals the concept of shared learning/teamwork, which had long been heralded as the way to ensure "best working practice", was not reaping the envisaged rewards (Scott-Wright 1976, Rogers 1991). This situation was not helped by the fact that health care professionals in the UK had each, traditionally, received their initial pre-registration/undergraduate education and training in single, mono-disciplinary programmes with no sharing of information involved. Since the 1980s, however, several institutions across Europe did take on-board the challenge of multi-professional education (Goble, 1994; Areskog, 1995), initially at post-graduate level (Elliott and Elliott, 1972; Horder 1989; Goble, 1991; Areskog, 1995:) and then, later, on undergraduate programmes. All had problems of one sort or another, especially at undergraduate level.

In 1989, a series of White Papers, "Working for Patients" was introduced (DoH, 1989). One of these, "Working Paper 10", dictated that health care professionals should no longer be educated within the Health Service itself. Instead they should be educated in Institutions of Higher Education, so that the Health Service could concentrate on the needs of the service-user rather than on the education of the health care professionals.

This move into higher education, which could be seen as a means of more easily enabling shared learning to become a reality, did in fact bring additional stress. Within higher education itself, degrees were considered to be the ultimate qualification whereas for many health care professionals a degree was not a registerable qualification required by the individual Professional Body concerned. So, if the degree was to be the desired qualification, how would the practice components, essential to any educational package that the health care professional undertook, be incorporated and what would happen to the health care professionals **without** degrees once the new professionals **with** degrees started work? Also, the teachers (now called lecturers!) of these new health care professionals felt an even greater pressure! If the health care professionals they were educating were to have degrees, surely there would be a need for these new lecturers themselves to obtain higher degrees! (Forman and Gallop, 1991).

Despite their obvious reservations, the health care professionals, both new and old, had no alternative but to accept the dictate of "Working Paper 10" (DoH 1989) and so the education of the health care professionals was transferred into higher education.

In observing the developments which then had to take place in the Higher Education Institutions, these former teachers (now lecturers) of the health care professionals, who by the start of the 1990s were working in higher educational establishments, alongside other professionals, saw no threat to their professional status by developing **post-graduate** multi-professional courses. These courses, however, required those already qualified practitioners to re-examine their contribution to the service-users and to learn more about the contribution of the other professionals with whom they came into contact! (A feature which was to come in useful when the implementation of shared learning into the pre-registration courses was considered at Derby).

In considering the fore-going information, it becomes most apparent that the introduction of shared learning into the education of health care professionals poses management problems and that any new managers would immediately be faced with managing a huge process of change. Obviously not all of the changes could be achieved at any one time. Each stage would need to be carefully reviewed and examined before the next step could

be taken and, more importantly, the emotions and attitudes of the staff and students, throughout the change process, would need to be very sensitively considered.

In 1991 in the Derbyshire College of Higher Education, an Institute of Health and Community Studies (later to become the School of Health and Community Studies) was formed. This contained programmes of study in social work, and youth and community studies, and was later joined by programmes from the Health Service in pharmacy and in post-registration nursing. In addition, five Schools of Radiography (one diagnostic and one therapeutic radiography from Leicester, one diagnostic and one therapeutic radiography from Nottingham and one diagnostic radiography from Derby), which had existed on different sites over a distance of 40 miles, were merged on two sites (one in Nottingham and one in Derby) and became part of the Institute. Also, a long established School of Occupational Therapy in Derby was integrated into the Institute and hence into the University. It is pertinent to note that this merger came about as a result of "Working Paper 10" and that it was not the choice of the staff of the individual institutions. Therefore, at this time there was, understandably, some resentment from the staff at being asked to work together.

Within this School of Health and Community Studies, however, multi-professional post-registration courses were developed and running successfully in the early 1990s and included a "top-up" degree, which had been developed to allow existing practitioners to convert their diplomas to degrees.

By 1992, when this research investigation began, the single professional Honours degree programmes for Occupational Therapy, Diagnostic Radiography and Therapeutic Radiography had already commenced. Each programme had been designed to integrate the theory and practice elements necessary for each profession and each programme had been approved by the appropriate individual Professional Body and by the Privy Council as state registerable qualifications. Each programme of study, however, operated in isolation from every other. So, when each of these three pre-registration programmes was due to be revalidated at Derby, a decision was made to investigate which areas of the

syllabi of the programmes could be shared. It was then agreed that students studying for the different individual professional qualifications should be introduced to shared learning in these common areas of study. It was apparent that merely **grouping** the students of the different individual professions **together** in a **multi-professional group** would not, per se, provide a mechanism for encouraging teamwork and understanding. As deduced from the above, in devising the programmes, staff were encouraged to consider a variety of teaching and learning methods which would encourage the students to **share** ideas and practices, thereby gaining an **inter-professional educational** basis for their studies. So in 1994, the programmes for the BSc Honours degrees in Occupational Therapy, Diagnostic Radiography and Therapeutic Radiography were validated together. With this background, therefore, any manager initiating the development of pre-registration (undergraduate) programmes which would incorporate shared modules between the professions, would need to consider carefully:

(i) How the programmes were to be developed;
(ii) How staff and students were to be managed, particularly over a number of sites;
(iii) How, once the programmes were developed, a process of monitoring could be established.

The main concern of the current research investigation was, therefore, the management of the introduction and monitoring of shared learning into the undergraduate degree programmes of health care professionals in the School of Health and Community Studies at the University of Derby.

The benefits that the introduction of shared learning/teamwork would provide for students themselves and, ultimately, for the service-users was never in doubt, but the management of the process of change by which the value of shared learning could be achieved was considered to be paramount.

The more specific aims and objectives of the actual research investigation are presented below:

Aim and Objectives –

The main aim of the study was to:

Investigate the change in attitudes towards shared learning of staff and students over a four year period, focusing primarily on the benefits and pitfalls which other shared learning studies had identified.

Within this overall aim a number of objectives were also identified.

The objectives of the study were to:

i) Provide an updated review of the available secondary data
ii) Measure existing inter-professional attitudes
iii) Recommend strategies for minimising negative inter-professional attitudes
iv) Develop a reliable tool for measuring attitudes amongst professional groups
v) Produce an attitudinal questionnaire
vi) Establish whether positive attitudes were developed as shared learning progressed
vii) Evaluate the developments related to shared learning that emerged during the operation of the degree programmes
viii) Monitor the changes made to the degree programmes/courses
ix) Assess the attitudes to shared learning of (i) the students,
(ii) the staff, over the four year period of implementing the course

In order to achieve these aims and objectives, within the context of managing the implementation of shared learning into health studies at Derby, the research investigation was devised and constructed in three main sections. This is reflected in the manner in which the thesis is presented, the three parts being as indicated below:

Part 1 **History and Context** which includes:

An historical overview: this considers the government papers which led to the need for joint courses and for the establishment of supporting bodies for the professionals and educationalists involved in shared programmes and practice;

A literature review: to establish the good practice that could be mirrored in managing the development of a shared programme;

The management and implementation of a shared curriculum: to enable shared learning to take place between the undergraduate professions.

Part 2 **Background and Methodology Used to Implement Shared Learning into The School of Health and Community Studies at the University of Derby** which includes:

Curriculum design: this considers curricula models and outlines the considerations prior to validation.

Consideration of the methodology: this looks at how the attitudinal changes were to be monitored as the shared curricula were implemented.

The design of an attitudinal questionnaire: this included quantitative and qualitative aspects.

Part 3 **Results, Discussion and Conclusions** which includes:

The analysis of the questionnaires: this looks at the quantitative and qualitative results from the questionnaire:

The monitoring of the minutes of meetings: to record changes which might affect the shared learning or might help to explain some aspects of the results obtained from the questionnaires;

Summary and discussion of the results;

Conclusions and recommendations.

CHAPTER 1

OVERVIEW OF THE SITUATION WITH REGARD TO SHARED LEARNING IN THE HEALTH PROFESSIONS UP TO 1992

Since the commencement of this research investigation in 1992 and throughout the whole of the time spent on it, the concept of shared learning has become high profile (Lyon, 1991; Funnell et al, 1992; Powell et al, 1994; Sandwell, 1994; Wilmot, 1995; Vanclay,1996; and Gorman,1998). This has been evident not only in terms of health education (historically provided within the health service in a uni-professional way,) but also from a more general perspective within higher education. (Committee of Vice Chancellors and Principals (CVCP) 1996).

This introduction traces the history of shared learning, looking not only at developments in Great Britain but also in other westernised countries. It also explores some of the socio-economic changes which have impacted on its progress over the past three decades and considers some of the reasons for the current increased interest in shared learning.

The Changing Nature of the International Work Force and its Effects on Education

One of the main aims of higher education has always been to provide a base from which students can develop skills enabling them to progress in their chosen career or profession.

In the early 1970s, questions were being asked about the education which various professional groups were receiving. This interest was across the board and not just related to the health professions. The view expressed around this time was that there was a requirement for a new kind of professional (Schein 1985 - see also Appendix B) and that professional education should be organised around new kinds of learning models.

In fact Schein (1985) described how, on interviewing a Dean, the Dean stated that:

"it's not the role of the architect that is obsolete; it's the architects who are in it, and the way they define it as making a sculpture".

The models advocated in the 1970s utilised a variety of learning styles, with overall aims which included more flexible preparation for a variety of career paths and which led to different degrees. For example, optional modules were included which would, according to Wilson and MacMurray (1974), deal with the professional's ability to function as a:

generalist as well as a specialist,

member of an intra or inter-professional team,

project manager of intra or inter-professional teams.

Also at this time, 'problem-based learning' was introduced as likely to be part of the 'solution'. Wilson and MacMurray (1974), perceived this problem-based learning to mean that as various professions were brought together to concentrate on a common problem, this would divert attention from the specialism that each discipline needed. Thus they saw this as placing more emphasis on the application of several problems, and less on the mastery of a specialism or particular discipline.

In the 1980s, with the development of Credit Accumulation Modular Schemes (CAMS), students were offered greater flexibility and choice in pursuing a variety of career pathways. For students pursuing a professional qualification, as well as an academic qualification, the modularisation of their courses meant that, whereas the same topic had previously been taught to each of the individual professions separately, the topic could now be taught to students of different professions working together.

The added advantage of doing this was that each profession would learn a little about the other profession as well as their own.

Not all academics were keen on this idea, as is indicated by a view expressed by Wise et al as early as 1974, when in a statement about the *attitudes* of academics they stated that:

"The attempt to relate together entire fields does not help us integrate in a disintegrated world. For if mastering one discipline is precarious how much more precarious to pretend knowledge of two or three. Such an inter-disciplinary attitude is bound to meet the charge of dilettantism, a charge which in this context seems largely justified."

An International Health Care Perspective

In a paper in 1984, the World Health Organisation (WHO) outlined the need for multi-professional, inter-professional and multi-disciplinary * education, stating that the general purposes of multi-professional education were to:

- ***"develop an understanding of the role and relations of other members of the team in tackling a particular task;***
- ***develop common team attitudes through a common frame of reference;***
- ***develop common knowledge and skills;***
- ***offer opportunities to solve problems of common interest".***

If these objectives were achieved, the WHO stated

"multi-professional education would improve the delivery of health care"

Unfortunately, even now most health care practitioners are trained to function in an independent and autonomous way, so learning to work in a team is not easy.

Since the early 1970s, world wide concern has centred on the need to bring together the various health professionals in teams, although the focus of this "bringing together" has primarily been at post graduate or post registration level. (Leininger, 1971; Goble, 1991; and Leathard, 1994).

* See "Terminology" (page xvi) for definitions and terminology

Investigation of the initiatives being undertaken across the world at this time enables an examination of the problems encountered and the measures which have been implemented to counteract them.

An American Perspective

In the U.S.A, it has been well-known for some time that bringing a health care team together requires each professional to consider his/ her approach in the context of what each of the other professions contribute to the service-user. (Davidson and Lucas, 1994; and Bent, 1996). It often requires them to overcome fears that someone else is trying to belittle their role or even take over their job.

During the 1960s, when the initial courses were set up in the U.S.A, the fears of the professions were overlooked and in a short space of time professionals, who had never really worked together before, were expected to develop the skills of working as a team. Needless to say the courses which did not look at the individual differences between the professions prior to the team building exercise were not successful. As Wise et al (1974) stated:

"It is naïve to bring together a highly diverse group of people and expect that, by calling them a team they will in fact behave as a team. It is ironic indeed to realise that a football team spends 40 hours a week practising teamwork for the two hours on Sunday afternoon when their teamwork really counts. Teams in organisations seldom spend two hours per year practising when their ability to function as a team counts 40 hours per week!"

A Canadian Perspective

In a mid 1970s Canadian study, Spitzer (1975) alleged that the public was clearly indicating its dissatisfaction with the lack of humanistic or personal dimensions in the care it received, particularly at the hands of the medical professions. By the late 1970s, Canada saw allied health professionals demanding, and increasingly obtaining, greater authority in relation to service-user care. For example, physiotherapists could diagnose and administer treatment without the need for a doctor seeing the service-user first and then referring the service-user to the physiotherapist. This situation seems, at least in part, to be due to what was considered to be a cost saving exercise. This latter view would also seem to be supported by the fact that at this time provincial governments were providing incentives to explore alternatives that would reduce costs.

One alternative reported by Kindig (1969 - cited in Spitzer (1975)) - was to try to develop multi-disciplinary teams. He asked whether a team development experience would be more successful if the individual team members received some inter-disciplinary educational experiences during their initial professional education. Spitzer (1975) suggested that it would and that the ultimate products of such an educational experience would be students who would deliver better service-user care because of their knowledge of, and skills in, inter-disciplinary teamwork.

A European Perspective

In Europe, many post registration courses have been developed (Elliott and Elliott, 1972; Horder 1989; Goble, 1991; Areskog, 1995:). Such courses were developed to:

i) aid the formulation of health care teams
ii) overcome professional barriers and help to change the attitudes of the professionals taking the courses
iii) develop the academic staff teaching the courses.

It is surprising that very few pre registration courses have been developed with these aims, a fact noted by Mackay (1995) who states:

"Positive attitudes to inter-and multi-disciplinary working are best engendered during pre qualification, before recruits receive the traditional view of working."

Goble (1994) provides an insight into such a programme, which currently runs at the University of Bobigny, Paris, France. The course, which is of two years duration, concerns itself with students who are interested in a career in health sciences and provides them with an opportunity to discover which health care field suits them. The course is divided into units, some of which all students take, while others are specific to different categories of students.

With regard to shared learning at the pre registration stage, the best example is that developed at Linköping University, Sweden, which is now world renowned for its development of an inter-professional programme. It includes SIX different professions namely:

- Nursing
- Occupational Therapy
- Physiotherapy
- Medical Laboratory Scientific Officers
- Medicine
- Social Care

With the exception of medicine, which has a five and a half year undergraduate programme, each of the others is three years in duration and leads to professional as well as to academic qualification.

The programme, which started in 1984, changed its teaching style from a model which had basic sciences during the first two years (and only thereafter allowing student doctors to actually see a service-user) to a model where doctors now learn with other professionals. The emphasis here is on the importance of early contact with the service-user and how important it is to develop communication and consulting skills in the early

part of the course. Issues arising at an initial meeting between a service-user and the professional are the same, irrespective of the profession involved.

The programme was designed with an initial ten-week period involving all the professional groups together. Subsequent to this, inter-professional days/seminars were held throughout the course, with **problem - based learning** sessions being a major part. The problem- based learning sessions involved students being given a case study appropriate to their level of study. They then looked at the service-user as an individual and not merely as a set of symptoms or problems. Following this, students related how each of them, in their professional role, participated in the welfare of the service-user.

In addition, shared modules/sessions were undertaken by multi-professional groups. These were formed from two, three or four of the professions. The extent of the sharing in this latter scenario depended on the subject commonality and the time-tabling logistics. This shared learning approach at Linköping continues today and has been developed further to include multi-professional student groups working in a ward setting with service-users on a 'training ward'.

In 1980 the University of Limburg in Maastricht, Netherlands, started a programme which was called "Social Medicine". The programme offered routes to graduation in nursing science, health education and health administration. Developments since this time have led to the current shared learning programme, which has seven graduation options plus Masters programmes. A particular feature of the programme is the skills lab and clerkship model, which provides for multiskill acquisition. (Majoor, 1991).

The History of Shared Learning in the UK

The specialist nature of the roles of the various health care professionals is not, and was not, ever in doubt, but the roles have changed with time and these changes can in many ways be attributed to the government of the day and can be traced historically. This can be seen by a consideration of the table shown in Appendix A (Updated from Forman and Nyatanga, 1999) which shows the UK Government Acts and Public Reports that have

affected health care delivery and the role of health care professionals since 1962. This was the year when the Hospital Plan for England and Wales was presented, in order to develop services which would help to forestall illness and disability by preventative measures.

As early as 1966 the GP Charter recognised the dichotomy that existed between the specialist and generalist roles within the professional health service but even then recognised the value of shared learning in its review.

It is now acknowledged (DoH 1997) and accepted across the whole area of health care, that the total needs of the individual service-user i.e the holistic view, is an essential part of health care. This trend towards the service-user being considered in a more holistic way can be traced back as far as 1971. These first moves, were being made only in the field of mental health, where it was made clear that staff, although allocated in accordance with their specialist skills, were also being required to collaborate, and to integrate their expertise in this holistic approach to mental health care.

It is also interesting to note that since 1971, it is the issues pertinent to individuals classified within some of the more specific fields of health care (i.e the mentally ill, child health, health of the elderly etc), that some of the major necessities, now recognised as needs across the whole area of health care, have been identified. These issues include the need for integration between the different services, for multi-disciplinary teams, for joint planning and joint committees, and for shared education and training (see Appendix A, 1976b, 1979a, and 1984b).

Since 1971, the various governmental Acts and Public Reports have stressed the need for the major sections and services within the fields of health and social care, including the NHS, the DHSS (later DoH) and local government, to work together to provide better care for the individual and the community. Throughout the 1970s and 1980s, considerable emphasis was placed on the need for the contributing agencies to progress towards this goal and a considerable variety of ways in which it could be accomplished are identified.

For example, considerable emphasis is placed upon the need for;

i) collaboration and co-operation between the various caring agencies, where the sharing of information and concerns was expected to bring about the development of links and more integration of the services.
ii) closer working relationships and partnerships
iii) an increase in teamwork, and multi-disciplinary work and services.

Such developments would also result in cost effectiveness by bringing about more efficient and effective measures in the use of resources. The various acts and reports also encouraged the setting up of joint planning teams and joint committees, with the anticipated development of the mutual benefits that would accrue from such joint ventures. These benefits would include: joint financing, management and administration, joint planning for care and priorities (both local and national), the sharing and allocation of resources and some shared/ joint training. The mid 1980s were particularly productive with regard to these initiatives and also included the need for some knowledge of, and respect for, the roles and responsibilities of other professions and disciplines, as well as the encouragement of some multi-disciplinary training and teamwork.

As stated previously, it was as early as 1966 (the GP Charter) that the general issue of "shared learning" was initially mentioned, and yet it was a further 10 years before shared learning was to become a specific concern again. This time, it was in response particularly to child health care where multi-disciplinary education and training were encouraged. Between 1976 and 1979 shared learning was often identified as being of some concern in one guise or another (ie. in the context of joint or shared education, or working). After this time (i.e the 1980s) shared learning, as an issue itself in the context of education and training, does not perhaps seem to have been a priority.

The issue of shared learning itself was raised again in the 1990s and it is surprising to note that even as late as 1996, the **vision for the future** of Primary Care was still one of

"**collaborative multi-disciplinary practice**"; in 1997, the **ambition** of the NHS was and still is that of "**multi-professional team development** across the traditional boundaries of health and social care"; in 1998 "**a First Class Service**" continued to see the notion of **partnership** as aiding quality in the NHS and, bringing us right up to date, the Department of Health (2000) recently announced it had "long standing concerns about the way in which the NHS educates, trains and uses its staff" and sought as its primary aim to encourage **"team-working across professional and organisational boundaries".**

So, although the various governmental Acts and Public Reports from 1962 to the present can be seen to have influenced the introduction and development of shared learning over the last 38 years, their full implementation across the specific educational, health care and social care sectors of the UK is still awaited!

Appendix A undoubtedly shows that attention has been given to the ideas of co-operation and collaboration over the years and it is accepted that these are necessary and, in some cases, vital ingredients for the betterment of the service-user. Nevertheless, the problems that still seem to need to be resolved are those of inter-professional dynamics, culture, power relationships and their sensitive management.

In 1996 Spratley and Pietroni undertook a project at the Marylebone Health Centre which was sponsored by CCETSW. The project identified twelve emerging issues concerning aspects of inter-professional collaboration. Of these, four in particular highlighted the cultural differences and aspects of collaboration which needed management and leadership considerations. These are summarised below in Table 4.

Table 4: Cultural Differences

Difference is difficult/difference is creative	Participants seemed fully aware of their individual and professional differences and their different professional agendas. Inter-professional collaboration was seen as having a real dangerous possibility of turning different professional skills and identities into some kind of "porridge". In contrast, inter-professional friction was considered to be a healthy sign of life and a stimulant to active communication across real differences.
Language, culture and values	Differing perceptions and descriptions of work and its priorities soon revealed how language creates meaning and professional identity right from the start of initial training. Professional language was seen as part of professional identity, culture and values that could not be replaced without replacing the professions themselves.

Leadership	Skilled leadership was seen as imperative for inter-professional collaboration. One aspect of such skill was the ability to use the leadership style most appropriate for the situation.
The nature of ideas about collaboration	Participants felt encouraged by working collaboratively because it reassured them that their perceptions and problems were shared. For instance, there were shared concerns about the policy motives for increasing inter-professional collaboration. It was acknowledged that there were often mistaken perceptions of the roles and skills of other professions and that this could have hindered attempts to collaborate.

It seems apparent that, despite the policies and rhetoric of inter-professional collaboration, changes still need to occur and to require appropriate leadership and management. These include:

- a change of attitude and inter-professional perception
- a change of value systems and beliefs about other professions
- a change towards mutual trust and less territoriality
- a change towards valuing the knowledge and skills of other professionals

The above are only examples of some of the obstacles that mitigate against inter-professional co-operation and which must be attended to if, in the interests of the service-user, true co-operation is to be achieved. It must be remembered that, at the same time that the suggested increases in teamwork etc were and still are being encouraged by the government, the technological advances in health care have also been intense. Such developments have themselves placed more emphasis on the professionals to become more specialist in their chosen field, again emphasising the specialist/generalist dichotomy. In addition, health care professional staff have also been asked to take charge of the financial management of case loads (DoH 1990). An aspect for which none of the health care workers received training in their initial professional education.

It is not surprising that health care professionals, particularly, have perceived themselves to have been subjected to a confusing set of changes which have made them question where their priorities should be placed.

It probably goes without saying that shared learning at all stages of education and training

would go a long way towards establishing the necessary full co-operation required. This has in fact already been acknowledged and identified by a number of agencies and eminent researchers, as will be reported later. Table 5 below is presented as a list of some of the more important initiatives in this area and shows how shared learning, as an element of inter-professional co-operation, appears to have been taking shape since 1986. This was the year when the first body to become involved in promoting the concept of shared learning, the European Multi-professional Network (EMPE), was established.

Table 5: The Evolution and Promotion of Shared Learning. (See Forman and Nyatanga, 1999)

Name of Forum or Body	Stated Purpose	Descriptor of Main Activities
European Multi-professional Education Network (EMPE) founded 1986.	To promote the concept of multi-professional education in health sciences through the facilitation and exchange of information, personnel and experiences.	♦ Holds an annual conference. ♦ Holds a data base of members. ♦ Provides an annual newsletter for members.
Centre for the Advancement of Inter-professional Education (CAIPE), founded 1987.	To facilitate contact and the exchange of ideas and information between individuals and organisations involved with inter-professional education.	♦ Holds databases on shared learning. ♦ Holds lists of publications and research projects. ♦ Organises seminars and conferences. ♦ Have regional networks.
Interact, founded 1987 in Scotland.	To provide an inter-disciplinary forum for consideration of relevant issues in health and social care settings.	♦ Organises conferences and networking meetings. ♦ Maintains an active mailing list.
Anticipatory Care Teams Act 1987.	To promote team working in primary care.	♦ Organises conferences and produces resource materials. ♦ Improve the health of the population.
Health and Care Professions Education Forum founded 1989.	A forum to share common concerns and to develop perspectives on multi-professional health and social care.	♦ Produces a directory of educational institutions in the professions allied to medicine. ♦ Organises conferences.
National Primary Care Facilitation Programme founded 1990.	To develop the role of the primary facilitator.	♦ Organises training events. ♦ Produces newsletters for members. ♦ Undertakes publicity and promotion work.
Nurse Education Tomorrow (NET) Conferences founded 1990.	To offer an international participative annual conference to discuss theoretical and practical issues in health care, including shared learning.	♦ Organises an annual international participative conference for nurses and other health care professionals. ♦ Offers a forum for exchange of ideas throughout the year by using the Internet.

The Alliance of Primary Care founded 1992.	To share information amongst members and to have a shared voice on matters of common interest.	♦ Shares information through relevant publications. ♦ Expresses the collective view at national level, and lobbies and campaigns as appropriate.
Royal College of General Practitioners (RCGP) founded 1992.	To improve services through better inter-professional learning and work strategies.	Created five fellowships to promote multi-professional team working in, ♦ Learning disability. ♦ Physically disability. ♦ Mental health. ♦ Childrens' health. ♦ The elderly.
Health Education Authority Primary Health Care Unit founded 1992.	To encourage and support local health promotion initiatives.	♦ Organises training programmes. ♦ Sends out newsletters to members. ♦ Sends out resource materials appropriate for health promotion workshops.
Standing Conference on Public Health founded 1992.	To strengthen the alliance of health and social care professionals and to disseminate knowledge and good practice in public health.	♦ Carries out multi-professional education. ♦ Carries out research to inform action and practice. ♦ Lobbies and campaigns on relevant issues.

Reflections on Table 5

It can be seen from Table 5 that active involvement with shared learning by different professional groups has been evident since 1986 and that there was a proliferation of interest in the establishment of a number of bodies concerned with shared learning over the following 6 years. It can also be seen that since 1992 there have been no new groups formed in the UK specifically for the sharing of inter-professional philosophies. It is interesting to note, that Lazarus et al (1998) report that in South Africa although health issues are very different, inter-professional developments are being taken just as seriously and seven new partnership arrangements have been developed. In fact, the report outlines how three of the seven have developed the same educational objectives. When the developments outlined in Table 5 are examined against the political and economic imperatives outlined in Appendix A, it becomes clear that shared learning, in one form or another, is being encouraged by all the relevant agencies involved.

So, why is it still taking so much time to become established within the educational and training environments?

It could be that the cost involved in providing the ideal learning environment for these shared learning initiatives is the issue. The most obvious deterrent, however, seems to be resistance from the professionals, and such resistance is generally directed towards inter-professional collaboration.

Hornby (1993) talks of several defensive strategies that are used by professional groups in order to cope with the anxiety engendered by the need to collaborate. For instance, Hornby uses the phrase "withdrawal defence", to denote a commonly used strategy whereby professionals create a seemingly legitimate excuse for not collaborating with professionals from a different profession. For example, a general practitioner (GP) using withdrawal defence is cited by Hornby as saying that he in principle believed in an holistic approach to his patients' care but would not be so arrogant as to think that he would be able to carry out all the work that this would entail! It should be noted that he could not put into practice such an approach in a way consistent with the ideals of good patient care. While recognising his own lack of skill, the GP seemed to fail to realise that there are other professionals with the skills essential for holistic care who could be used in caring for his patients.

Earlier, Menzies (1988) had also identified institutionalised professional defences in her study of nurses at a large teaching hospital and it is well known that the institutionalised defences of any profession will hinder the development of a mature attitude to any collaborative work, including shared learning. At an individual level, Menzies argues that the defence mechanism can operate as a self contained entity and that it can lead to repression of emotion which in turn can lead to such symptoms as headaches and stress-related illnesses. Hornby (1993) also talks of "trans-boundary defences" which are associated with gate-keeping and seeing ones own professional group as unique. It is these personal inter-professional prejudices which must be removed if true shared learning is to be a practical possibility.

Conclusion

Across the world and in a variety of health care settings, various initiatives have been undertaken to bring health care groups together in multi-professional and inter-professional settings. (Barber, 1979; Engel and Clark, 1986; Majoor, 1991; Barr, 1994; Areskog, 1995; and Gorman, 1998).

Evidence of the UK governments support on inter-professional ways of working is demonstrated by the number of acts and reports since the 1960's (Forman and Nyatanga 1999, see also Appendix A). A variety of organisations have also been formed to promote inter-professional education and practice (Forman and Nyatanga 1999, see also Table 5).

The management of this shared learning would seem to require both a top down and a bottom up approach. It is unclear whether the interest in shared learning is as a result of trying to improve practice, or is an attempt to reduce costs. Whatever the reasoning, most of the developments have been in the post qualifying arena.

In general, the literature concerned with shared learning makes reference to, and acknowledges, professional barriers, the fears of losing professional identity and the overall insular attitudinal dimension to the issue, as being responsible for the slow progress made in the area of shared learning.

The evidence presented seems to demonstrate that there is a definite need to consider the issues itemised below before introducing shared learning:

i) the form that the shared learning should take in order to become an integral part of initial pre-registration training within the health care sector;

ii) the careful consideration of the existing perceptions of the professionals themselves, the professional bodies, the teachers and the students and

iii) there should be sensitive and effective encouragement for its introduction.

Chapter 2 examines, in detail, the problems of managing such changes, in order to prepare for the implementation of shared learning.

CHAPTER 2

MANAGEMENT OF THE CHANGE TOWARDS SHARED LEARNING

It could be argued that, given the wealth of publications on the changes occurring within the health service, the conference forums and the networking, the reasons **why** the change towards shared learning was necessary, were already well known. After all, since 1966 governmental Acts and Reports have been reviewing shared learning and have constantly identified the need for collaboration and better communication between the professions. The aim, it seems, was to break down the barriers between the professions and to promote sharing and working together, in order to improve the care of the service-user.

Understanding the main obstacles which could prevent the change and **acquiring the tools** to enable professionals to make the change have been more problematical, while **managing the change** necessary to build inter-professional practice is even more difficult. In fact, Rusnack (1977) likened it to ***"climbing a granite mountain"***. So, a manager considering the history of the approaches to shared learning and the barriers that exist between the professions would be right in challenging how the process of change has been managed over these years.

Managing change is usually considered to have three stages. These being the three stages of the model proposed by Lewin (1951) and modified by Schein (1985). These are:

i) Unfreezing the existing behaviour (gaining acceptance of the need to change)
ii) Changing the behaviour (adopting new attitudes and modifying behaviour)
iii) Refreezing the new behaviour (carrying out the new behaviour and monitoring it).

The changes which have impacted on the Health Service are evident from the Government Acts and Public Reports given in Appendix A. These changes have been progressive in nature and it seems that although the intention of the Acts and Reports was to encourage multi-professional and inter-professional working, this has not been implemented. So, although some unfreezing and some encouragement to change behaviour seem to have taken place, no refreezing has occurred!

Of paramount importance to Lewin's model is an underpinning education, which ensures that staff involved in teaching the various programmes are themselves acquainted with why the change is necessary and that they have the tools to enable them to make the change i.e. they are taught how to work in teams and are given a greater understanding of the specific roles of the other professions involved.

There are many models for managing change but the very nature of change is often its unpredictability. Gunn (1978) considers a number of models of change but concludes:

" This article has approached the problem of implementation, it fails in what might be regarded as a perverse way, by setting up an unreal model of perfect implementation and then identifying equally unrealistic conditions which would have to be satisfied to achieve this theoretical state of perfection. The best way to solve a problem, however, is to try to think it through as fully and systematically as possible."

Gunn's (1978) systematic approach is summarised in Table 6 below, and in order to make the implementation of shared learning more manageable, it is important to adhere to the 10 issues identified.

Table 6: Why Is Implementation So Difficult? (Modified from Gunn, 1978).

i. Circumstances external to the implementing agency should not impose crippling constraints.
ii. Adequate time and sufficient resources should be made available to the programme. (A common reason for failure is that too much is expected too soon, especially when changes in attitudes or behaviour are involved).
iii. Not only should there be no constraints in terms of overall resources but, at each stage in the implementation process, the required combination of resources should be available.
iv. The policy to be implemented should be based upon a valid theory of cause and effect. (Pressman and Wildavsky (1964) describe any policy as a "hypothesis containing initial conditions and predicted consequences" i.e, the typical reasoning of the policy-maker is along the lines of "if X is done at time t (I) then Y will result at time t (2)"). So every policy should incorporate a theory of cause and effect and, if the policy fails, it may be the underlying theory that is at fault rather than the execution of the policy.
v. The relationship between cause and effect should be direct so that there are few, if any intervening links.
vi. There should be a single implementing agency, which need not depend upon other agencies for success or if other agencies must be involved, the dependency relationships should be minimal in number and in importance. (Where implementation requires not only a complex series of events and linkages but also agreement at each event among a large number of participants, then the probability of a successful or even a predictable outcome will be further reduced).
vii. There should be complete understanding of, and agreement upon, the objectives to be achieved; and these conditions must persist throughout the implementation process.
viii. In moving towards agreed objectives it must be possible to specify, in complete detail and perfect sequence, the tasks to be performed by each participant.
ix. There must be perfect communication among, and co-ordination of, the various elements or agencies involved in the programme. (Even to state this condition of perfect coordination is to know that, leaving aside questions of desirability, its attainment would be all but impossible within and among real-life organizations which are characterized by departmentalism, professionalism and the activities of many groups with their own values, goals and interests to protect).
x. Those in authority must be able to demand and obtain perfect obedience. (When implementation involves, as it often does, innovation and the management of change, then there is a particularly high probability of suspicion and recalcitrance of outright resistance from affected individuals, groups and interests, especially if insufficient time has been allowed for explanation and consultation or if any previous experience of change has been unfortunate. We cannot (and should not) hope ever to be free from such resistance but we can learn a good deal about its nature and about the responses open to us from the study of individual, group, organizational and political behaviour. Thus the psychologist, sociologist and political scientist have at least as much to contribute to our understanding of implementation as have the programme designer, network planner and information systems analyst).

Many would argue that none, or very few, of the ten implementation categories outlined above have been hitherto thought through with regard to implementing shared practice amongst health professionals.

Two of the Main Obstacles to Shared Learning

i) The power base.

At the turn of the current decade, when the research for this thesis began, most of the professional bodies were setting their own uni-professional national examinations and each professional was expected to uphold the uni-professional standards set by their respective professional body, thereby effectively distinguishing one profession from another. Each profession was keen to hold on to its own power base!

A further power base also came in, in the form of the regulatory bodies, such as the Council for Professions Supplementary to Medicine (CPSM), which was charged by the Privy Council with safeguarding the interests of the service-user. Effectively, therefore, each profession was encouraged to regard itself as different, in fact, as unique. Each was educated to function both independently and autonomously. So, although it had been recognised for almost 20 years that collaboration and teamwork were essential for health care, not only were barriers still being built between the different professions but each profession had its own code of professional practice, its own professional ethics, its own philosophy on health education and indeed its own "culture".

ii) Cultural barriers

As early as 1976 Scott-Wright argued that inter-professional teamwork would lead to a fragmentation of service-user care and a waste of human resources. So, even at this time, the barriers between the professions were seen to be one of the reasons why a move towards inter-professional practice would be impracticable and costly. In addition, it could be argued that the lack of real inter-professional practice was a result of the reluctance of the professions to put the service-user in the centre of the

arena rather than on the periphery, as well the failure to recognise the importance of the different professional cultures and the value that each could bring to inter-professional practice.

The following table, Table 7, provides a summary of the cultural, organisational and management changes required, in an industrial organisation, as interpreted from Spratley and Pietroni (1996).

Table 7: The Organisation and Management of Culture in an Industrial Organisation.

Inter-professional Culture	Organisation	Management
Address the mistaken inter-professional perceptions and stereotypes	Create collaborative working and give examples of good practice	In managing the situation, understand the basic inter-professional differences as well as the similarities
Address the values, language and cultures of the different professional groups	Organise shared learning around real practice problems, in order to enforce inter-professional collaboration	Provide a safe environment for practitioners to express their anxiety and the perceived threats to their professional identity
Develop a learning culture of openness and critical self-evaluation	Organise inter-professional training opportunities that promote inter-professional thinking and behaviour	In planning shared learning, managers should take account of the different academic and professional requirements
Foster a culture of experiential and reflective learning	Organise managers and their training around shared learning priorities, since managers and individuals can make or break collaborative working	Funding should be prioritised for developing inter-professional shared learning.

Overcoming the Different Power Bases and Cultural Barriers to Bring About Inter-professional Education in Health Care

As outlined above, in 1996, Spratley and Pietroni examined the management of inter-professional collaboration to overcome cultural barriers and to introduce teamwork

into an industrial organisation. In addressing the cultural differences, it is clear that managers need to introduce organisational changes to refocus the disparate cultures and form a new culture. Table 7 was derived from an industrial situation but the factors affecting the culture organisation and therefore the management of the organisation would be true in any organisation. In a health care setting as well as in an industrial situation the norms of the culture of each profession, its language, perceptions and stereotypes need to be understood prior to the manager organising shared training opportunities to promote inter-professional ways of learning.

As each profession in health care has historically been educated in different aspects of health care and in isolation from other health care professionals, it is easy to see how separate and distinct cultures have emerged for each profession. So, each manager needs to take account of the different requirements of the professions and to remember that individuals can break collaborative working if not properly understood and managed.
As Kinnunen (1990) writes:

" The use of cultural approaches in studying health care organisations is not something unique or new. Social values, norms, assumptions and their consequences for the behaviour of health care personnel have been examined in several studies"

He cites Dunham and Weinberg (1960), and Menzies (1988), as supporters of this view.. However, it seems that none of them capture the differences in culture between health professions quite as effectively as the title of an article by Leininger (1976). The article states quite simply ***"Two strange health tribes: Gnisrun and Enicidem in the United States"***. Gnisrun and Enicidem being respectively Nursing and Medicine spelt backwards!

The idea of "tribes" can be taken a step further if consideration is given to how individuals develop a cultural awareness and a feeling of belonging. Sumner (1906) used the term "ethnocentrism" to describe the psychological phenomenon where a

" differentiation arises between ourselves, the we-group, or in group, and everyone else, the other group or out group."

Usually ethnocentrism is associated with the way a child develops a set of norms which are linked with the norms of his/her family and village (or tribe) and these norms give him a feeling of belonging. (Maslow (1954) might have described these norms as socialisation). Take a child out of a cultural norm of, say, living in an inner city area in London and place the child in the rural area of Africa without his/her parents and the child will understandably be stressed. Eventually, the child will develop a new set of cultural norms, which enable him/her to survive and eventually flourish in the new culture. The same concept has been found to be true with adults. If the adult is in "control" of the move the adaptation to the new environment, although still stressful, can be quickly made. The notion of being in "control", is crucial here, as the stress experienced in a move, which is not desired by the adult, would be very similar to that experienced by the child.

Recently Forman and Nyatanga (1999) outlined how the concept of ethnocentrism could apply to professions within the health service. The cultural norms in each profession have historically been acquired during training, where each profession has been trained separately. The norms and traditions of the profession are also endorsed by the professional body, and so a culture of safe guarding the professional norms and boundaries develops. Once qualified, the professional is encouraged to maintain these barriers by undertaking "continual professional development" in their own professional area. If the professional chooses to acquire the skills of inter-professional working, although they may be subject to some peer pressure and may even have stresses associated with the change of culture, they will eventually adapt and gain a new set of norms. On the other hand, if the professional is forced into the situation of acquiring the new skills, natural resistances will be set up and the adaptation to a new set of norms may never occur.

What happens, therefore, if the norms which are presented to professionals' during their training are those which are associated with working in a team of other professionals and adapting to a variety of situations with the fundamental goal of benefiting the patient? Obviously prior to entering training the student will have

notional ideas of what a nurse or doctor does but these could be amended during training if the emphasis is placed on teamwork.

Acquiring the Teamwork Tools to Help Enable Organisations to Make the Change

If the government is to make a success of health care team working, it needs to ensure that health care professionals practise working in teams. The different professions need to work on a specific health care problem to produce a synergy i.e. a better outcome from the team than would exist if all the inputs of each individual contribution were added together.

It is perhaps best to commence any discussion about teamwork by defining it. A definition of "a team" by Rubin and Beckhard (1972), modified by Gilmour (1974) which is cited by Owens, Carrier and Horder (1995), and which has stood the test of time is:-

"A team is a group of people who make different contributions towards the achievement of a common goal".

This definition might lead to the belief that teamwork would always be viewed in a positive light. This, is not always the case! Taking a sociological perspective, status, power, authority and influence, wills and professional domains, decision-making and communication, are regularly seen as problematical areas for the team, as members often have their own agenda or professional identification to consider. Such issues must be forgotten in the interests of the service-user.

Hogg and Abrams (1988) indicate how important it is for team members to have a common goal, strong common values and confidence in one another's ability if they are to work effectively together.

Inter-professional collaboration, as described by Mackay (1995), requires a willingness to listen and hear what others are saying, and to have the bravery to stand aside from one's own professional group for the service-user's benefit. This is

necessary in order to find a means of working as a team and to not look for a reason to protect a personal professional role. It also requires continuing acknowledgement of the contribution which others have to make to service-user care. It could be argued that attempts to foster inter-professional working reflect a maturity of perspective.

Unfortunately, as previously stated, health care teams often bring with them established prejudices and preconceived ideas of what the other professions will behave like, or even their appearance. Banta and Fox, (1972) give examples of this where nurses are quoting the characteristics of social workers as "***wearing fantastic clothes***". In fact, one nurse is reported to have said that she:

" ... could not imagine one of them (social workers) holding a baby dressed like that" !

Further examples included a description of the psychiatrists in the team as not being family-centred and doctors as being more clinic-oriented. Divisions even occurred between the different nursing groups, where Public Health Nursing and nurses in the Visiting Nurse Association were looked down on, as part of their duty was to

".... write everything down".

The existence of these preconceived, prejudiced views was tested recently, when a small piece of personal research was conducted with a small group of 24 nurses at the Worcester College of Higher Education. Each nurse was given a card labelled with one profession eg:-

DOCTOR
NURSE
SOCIAL WORKER
OCCUPATIONAL THERAPIST
PHYSIOTHERAPIST
PATIENT/OBSERVER

Each person was then asked to write down one sentence which he/she felt summed up the health care role to which the person on the card corresponded. The health profession to which the person belonged was not to be disclosed. Each participant was then to read his/her 'single sentence' to the group.

The "patient" was then asked to record the sentences given and to try to say which profession it was thought that the sentence was describing.

Each patient then wrote the sentences on flip charts. What emerged were the stereo typical views in which the professions were held.

Doctors:

Gods of the health care professions
Leaders
The ones who know it all!
Those with an overview of patient care
They train for 7 years
The ones with the power

Nurses:

Hand maidens
"Ladies" with lamps!
The carers
Nightingale would be proud of these?
Lowest in the hierarchy
The most numerous of the health care professionals

Physiotherapists:

Energetic
Sporty
Interested in your muscles
Know the art of manipulation
Work with footballers
Promote fitness and exercise

Social Workers:

Wear sandals
The prostitutes of the professions... paid to care for the inner well being
Welfare workers
Intruders in your home
Have the power to take children from families
Never say black

Occupational Therapists:

Basket weavers
Help you get back to work
Creative
Work with the mentally and physically disabled
Change an individual's lifestyle
Make collages

Interestingly the "patients", on reflecting on the exercise, felt they had done quite a lot of "waiting around, whilst the professions sorted themselves out". This was felt to be the usual experience of patients!

This notion of patients being bemused by the activities of the professions around them is particularly highlighted by Bowling (1983), and later by Bell et al (1993) who conducted focussed interviews with 70 patients. The study by Bell et al revealed that many patients saw themselves as being treated as "half witted". The patients believed they were being a nuisance, were unimportant and lacking in value, and that they were rushed and not recognised as individuals.

In addition to the research by Bell et al (1993), the exercise outlined above has been repeated several times with groups of health/social care students, with similar results. Each time, the members of the group have realised that their own preconceptions of the other professions may well have inhibited their understanding of what the other profession really contributes to service-user welfare.

Category Accentuation

According to Tajfel (1969) the barriers outlined above can be described as category accentuation. Category accentuation is a process of assimilation and contrast that occurs whenever people or objects are grouped into separate categories. The categories then shape perceptions and attitudes. For instance, there is a tendency to judge people within the same category (e.g. doctors) as more similar (assimilation), and people from a different group (e.g. radiographers) as more dissimilar (contrast). This category accentuation is done to a degree that is believed to be greater than reality. The result of this is an increased perception of homogeneity within categories and distinctiveness between those categories. Pietroni (1996) reports on a study carried out with some 372 social work, medicine and nursing students. The students from these professions were asked to compile adjectives that best described the three professions. The responses of the students are presented in Table 8 below:

Table 8: Inter-professional Perceptions of Social Work, Medical and Nursing Students. (Adapted from Pietroni (1996))

	Social Work Students	**Medical Students**	**Nursing Students**
Social Work Students (statements)	Caring Overworked Scapegoats Health food consumers Guardian readers	Arrogant Beer drinkers Immature Rugby players Intelligent	Caring and hard working Unimaginative Gentle Female
Medical Students (statements)	2 CVs Lesbians Left wing Self-opinionated Intellectual Caring	Underpaid Naïve Arrogant Rugby players Heavy drinking Lazy	Chip on shoulder Hard working Overworked Underpaid Smokers
Nursing Students (statements)	2 CVs Vegetarians Caring Overworked Guardian readers	Arrogant Snobby Overworked Rugby players	Overworked Underpaid Caring Apathetic

This type of study has been repeated many times with similar results, which indicates that clear characteristics are associated with each profession and so may well give greater understanding to the barriers which are formed between the professions. In contrast, Tope (1999) argues that many of these studies can be seen as "doctor bashing" and warns against this if inter-professional working is the goal. She reveals that significant numbers of doctors are attending inter-professional study days and therefore are demonstrating a desire to work in an inter-professional way. Tope outlines the genuine concern that doctors have with regard to the litigation which may occur if delegation in the inter-professional team is taken too far. It could be argued that the doctors are merely protecting the legal responsibilities as their domain, rather than encouraging appropriate skills being developed in other members of the inter-disciplinary team. So, in order to break down the barriers between professions, to promote sharing, and to encourage working together and thereby improve the care of the service-user, it is imperative to be conscious of the barriers to making such a change. Such barriers include those of a cultural and power-based nature and these demand that the manager acquires the appropriate teamwork tools to break them

down. Managers must also consider how they actually manage the teamwork.

The Management of Teamwork - Top down or Bottom up

Conflicting views appear within the literature as to whether teamwork should be initiated from the top down or from the bottom up. Bennett et al (1972), Pereira - Gray (1993) and Ovretveit (1996) all warn against a top down approach and support the view that a team should share its experiences and have the opportunity to discuss the barriers, the team's beliefs, and its expectations. They regard the sharing of experiences as a vital part of the process of formulating a team and consider this, along with the breaking down of barriers, the production of development plans, training implications and some problem-based learning activities, as the way forward in formulating an effective team. Arnold (1995) also criticises the top down approach and would strongly advise management against ever being seen as controlling the professional groups within the service. A view which should be thoroughly endorsed! Pall (1992) advised a little caution, by indicating that the negotiation of short and long term goals with the service-user, whilst facilitating the agreement and providing goals, needs to have some degree of priority from the top, to avoid duplication or conflicting goals. Gunn (1978), as acknowledged earlier, goes even further and advocates that in a systematic approach to change, those in authority should be able to command and to obtain perfect obedience. Gunn himself acknowledges that this is unlikely to happen but his suggestion, when compared with the views stated above, shows it is not clear whether top down, bottom up or a mix of management is the appropriate way forward. Perhaps therefore other management approaches also need to be considered.

As Hewson and Sim (1998) outline in reflecting on the work of Iles and Auluck (1990), Handy (1993) and the Department of Health (1994), the management skills needed to manage an inter-professional team are of both a general and a specific nature. The specific skills required are negotiation, organisational politics, conflict resolution leadership, and what is described as humanistic management and the building of an homogeneous management culture.

It is clear, therefore, that management of an inter-professional team is problematical

and that a variety of "special" management skills are required if the team is ultimately to be effective.

Learning Together

From the evidence already presented, it seems vital that in order to form an inter-professional team, some kind of inter-professional shared learning should take place. This could be in a small group, eg a primary care team working together, or in a larger group, such as a full health care team working together.

There are many examples of team building experiences in the literature, some from as early as the 1970s when these issues were first being raised. For example, McNally (1977) gives an example where nurses, doctors, occupational therapists and physiotherapists, were given nine weekly meetings in which they were encouraged to discuss various factors affecting their health care delivery; Funnel et al (1992) in their shared learning facilitation, concentrated on the differing practitioner competencies and Kendrick (1992) reported on the popularisation of a health care team where reflection on the critical instance was looked at again. (Kendrick himself was an advocate of problem-based learning).

The above are just three examples from the wealth of literature on training and education to promote better teamwork. See Vuori, 1976; Goble ,1991; Damont, 1992; Pritchard and Pritchard 1992; and Leathard, 1994; for many more.

Teamwork has also been formally encouraged in government legislation (see Appendix A) as Griffiths (1988) in the Community Care Agenda for Action writes:

"Staff need training to fulfill their roles, but also need to understand the contribution of other professionals to community care. Insularity among individual professional groups can lead to failures of communication and an inability to recognise both needs and options for meeting them. The need for effective collaboration in training matters at the local level to tackle this, should be addressed by all authorities, both during the implementation period and as an on-going task."

Griffiths also identified the need for a top down management approach. This, however, has not been enthusiastically received in primary care settings! (Horder, 1989).

Earlier, Fry (1980) argued that teamwork had been seen by management as the "talisman" or the means of achieving progress in the health service. Fry's view is that rather than teamwork being the issue, it is more to do with the increase in scientific knowledge and the consequent specialisation of the professions. In addition, Fry believes that there are now a large number of health care professions (which have emerged in addition to that of medicine) and that this, along with the large numbers of people belonging to each profession, has caused the need for teamwork. This, Fry stated, is echoed in industry, political administration, and amongst other major professions. If this view is accepted, teamwork and specialisation have to be taken into consideration if any organisation is to be successful.

What is the answer?

Berring (1983) advocated that in addition to both the top down and bottom up management approach to training within this area, shared decision-making, overlapping roles, shifting leadership focus, and attention to team group processes are important. He states:-

"In fact the essential ingredient in effectiveness of teamwork is the extent to which team members are willing to subordinate their own interest to the shared interests of the team".

He went on to argue that the attitude of individuals would change as more graduates received at least some experience of being educated with other health care professionals, a proposal also supported more recently by Damont (1992).

So, could education be the answer? It would seem to be that the answer is Yes! Even in the mid 1970s Higher Education Institutions such as the Universities of Surrey, Glasgow, Manchester and Liverpool, were running post registration courses which included doctors, nurses, laboratory workers, public health officials and others. In

fact Scott - Wright (1976) reported that the knowledge and enthusiasm expressed by the students on those courses, could only lead to better services in the world-wide areas in which these graduates practised. This situation has been confirmed on many occasions since. Indeed the delivery of inter-professional education through the university curriculum was debated recently by the Committee of Vice Chancellors and Principals (CVCP) Health Professions Committee (1999). The points of concern which this committee highlighted were, resources, recruitment and retention of staff, progression through education, curriculum monitoring, research and development, the shift to primary care, quality assurance, evaluation, accreditation, legislation and related concerns around the Health Action Zones (Tope, 1999) and the Counsel for Professions Supplementary to Medicine (CPSM).

Conclusion

From the evidence provided in the literature, it is obvious that the benefits that can be accrued from shared learning although paramount, do not make the process of implementing it easy to accomplish. It is acknowledged that there are major obstacles to achieving this ideal within the health care professions. Such obstacles include the need to understand the nature of the different cultures involved; (see Table 7) to recognise the variety of power bases that exist; to retain the specialisms of the different professions while at the same time encouraging co-operation and collaboration between them; and to provide the essential constituents for the development of true teamwork, with the service-user's requirements at the centre.

All of these issues need careful consideration at all stages of the implementation of shared learning and demand that the managers of the change are knowledgeable and competent to bring about the necessary changes successfully.

It is hoped that the current research investigation will demonstrate that education prior to registration and education which concentrates on the problem presented by the service-user will, together, detract the professionals from thinking about themselves or their own profession and will allow them to work as a true inter-professional team for the benefit of the service-user.

The provision of forums where groups of students or professionals can be brought together to concentrate on issues affecting the service-user is therefore the method a manager might use in managing shared learning, rather than using either a top down or bottom up approach. It is also clear that a manager has to consider his/ her management approach very carefully and use, where appropriate, negotiation, conflict resolution, adaptable leadership skills etc in order to achieve the necessary changes.

Whatever the methods employed, it is patently obvious, from an examination of the existing literature, that there is a need to implement shared learning in all health care programmes wherever possible. The implementation of shared learning is considered in the next chapter.

CHAPTER 3

INTERPROFESSIONAL SHARED LEARNING AND ITS IMPLEMENTATION

(a) Does Shared Learning Work?

Earlier, in Chapter 1, it was outlined how government legislation and NHS reports over the past four decades have attempted to promote inter-professional shared learning. The time taken to implement the change was questioned and models for change were reflected upon. Despite the main view expressed in Chapter 2, i.e. that change needs to be managed in a way that involves the individuals, it is clear that the push for multi-professional shared learning has come from the government, i.e top down. (This push from the top or from the stakeholders will be explored a little further later in this chapter). The review of the experience of others who have implemented shared learning in postgraduate courses, undergraduate courses or in workshops, and the development of shared learning itself has, however, also led to the identification of some pitfalls and benefits which were seen to affect its implementation. Some of these pitfalls and benefits were apparent in the literature prior to the commencement of this research investigation (Wilson and MacMurray, 1974; Spitzer, 1975; Bright, 1976; Scott - Wright, 1976; Piggot, 1980; Wijnen, 1985; Schmidt et al, 1987; Horder, 1989; Majoor and Snellen- Balendong, 1990; Verwijnen et al, 1990; Majoor, 1991; and Wood and Gray, 1991) and so were available to help with the design of the attitudinal questionnaire (See Chapter 3 page 51 and appendix E). During the research investigation other reports have reinforced or questioned some of them (Forman, 1994; Leathard, 1994; Areskog, 1995; Barr and Shaw, 1995; Soothill et al, 1995; Carpenter and Hewstone, 1996; Howkins et al, 1996; Lindencrona et al, 1996). In the explanations below, studies considered important to the overall issue of the pitfalls and benefits of introducing shared learning into the curriculum, whether before or after the commencement of the current investigation have been included.

Pitfalls

Carpenter and Hewstone (1996) outlined a wealth of literature available on what they termed "the barriers to inter-professional collaboration". They cite Stevenson (1985), the Griffiths Report (1988) and the Cleveland Report (1988) as including political control and accountability, status, gender, pay, and the nature and definition of the service-user after-care, as structural obstacles to such collaboration. Also cited in Carpenter and Hewstone's (1996) article is Hewson and Brown's earlier work (1986) which suggested a number of variables as being important when considering the barriers to shared learning. These variables included the institutional support; the professional distinctions between the participants; the experience of working together as participatory equals and as learners, unbiased in terms of numbers; the nature of the atmosphere of the working conditions; the concern for and understanding of the differences as well as the similarities of the different professions; and the existing expectations and perceptions of the other professionals and of the successfulness of the joint work.

Carpenter and Hewstone's (1996) study (along with that of others identified in the following sections) forms the basis for arriving at some of the key issues identified here as **pitfalls** to shared learning. These pitfalls are identified and proposed as the need to: get the logistics right; establish the correct status; ensure that there is institutional support; and identify a common goal.

(a) Getting the Logistics Correct

Logistics is a broad topic, covering a wide spectrum of issues, such as time tabling, rooming, transport, catering, managerial control etc. All of these factors have to be borne in mind if the students are going to receive an all-round, quality experience, and various authors have identified logistical issues which need to be taken into consideration. These authors include:

Bradford et al (1967) (cited by Wilson and MacMurray 1974) who made several

recommendations, one of which they referred to as "control" and which can be described as the dimension concerning leadership and co-ordination of the inter-professional group; Spitzer (1975) identified the need for space as a fundamental requirement when introducing an inter-professional programme, as well as the need for a considerable investment of time and flexibility on the part of the administrators; while Wilson and MacMurray (1974) themselves stated that:

"the development of strong inter-disciplinary programmes requires the structure of education to be modified to meet the demands and needs of a modern society".

More recently Soothill et al (1995) gave support to these earlier comments by emphasising that not only should students know what to expect from shared learning, but that the teachers and service managers need to be prepared for the inter-professional approach and that institutional structures and working conditions should be suitably adapted. Walters (1995) also gave support to the earlier statements by suggesting that a student leader was necessary to provide control and direction within the group, with the faculty acting as informal advisors, ensuring that adequate provision for the rooming and for the structural nature of the course could be made.

It is clear that shared learning should never be viewed as just putting all the students together in one room and teaching them. Real inter-professional education is the requirement, and this demands, amongst other things, space and true integration, particularly if the students are to interact together. In 1992 a paper entitled "Inter-professional Education and Training – Developing New Models" was published by The Central Council for Education and Training in Social Work (CCETSW). It stated that the integration of mainstream activity, as part of local care planning (as well as a staff education and training strategy), is a key aspect of successful planning for shared learning.

(b) Is Equal Status Important?

There has been a great debate on when to start the shared learning process. Some argue that it is better to start shared learning when practitioners are qualified and to

incorporate it into post registration courses or higher degree courses (Leathard 1994). Others, for example Areskog (1995), believe that it is better to start on day one of the undergraduate courses, when students have few preconceptions of the hierarchy between the professions. Most writers agree, however, that it is beneficial to start with an equal status if at all possible (Spitzer, 1975; Soothill et al, 1995). Breaking down the inter-professional barriers and questioning the natural hierarchy within the NHS is part and parcel of ensuring that students identify with the benefits that shared learning provides for the service-users.

Bright (1976) went even further. He claimed that

"no comprehensive health service can be provided until all health students are prepared to discard their professional positions and form a united movement of equals which will protect the interest of all health students and meet the country's demands for a better system of health care".

Other questions have also been asked about equal status. For example, should equal status mean that equal numbers of students of each discipline should work together on a shared learning programme? (This issue was also raised in the questionnaire at Derby, as there are more Occupational Therapy students than Diagnostic Radiography students and each of these number more than the Therapeutic Radiography students).

(b) The Need for Institutional Support

Earlier, (Chapter 2), the question of whether a top down or bottom up management approach was necessary for shared learning was discussed and it was concluded that the initiative needed to come from within the team itself. It was also agreed that management within the institution needs to act as a facilitative mechanism, to pave the way for shared learning to take place.

In 1974, Wilson and MacMurray outlined the need for a brief orientation programme, aimed at managers, to enable them to facilitate teamwork amongst both staff and students. Later, in 1976, Scott - Wright posed a whole range of questions which

needed to be answered if multi-professional education was to be a serious proposition. One of the key questions he raised was:- ***Where would the resources and facilities come from?***

Much later, CCETSW in its 1992 paper, set out key factors for successful planning and these key factors also included the need for commitment by senior managers and joint planning by key stakeholders. Both of these factors provide an effective, creative, enthusiastic and flexible leadership. It is obvious, that managerial facilitation is seen as a requirement to ensure that shared learning is able to progress effectively.

(d) Common Goal Identification

In 1974 again, Wilson and MacMurray discussed **"goal"** formation as a factor creating the motivation that individual team members require, they further raised the issue of goal formation. They also cited Bradford et al (1967) as identifying "goal" formation as the means of motivating team members towards the total group goal and concluded their article by offering five mandates which they felt were essential for a problem to be identified and resolved in work groups. These are:

i) orientation,
ii) acquainting students with group process,
iii) structure,
iv) appointment of a leader and
v) product goal formation.

It is essential that a common goal is identified by all those involved in shared learning.

Summarising all the pitfalls, Spitzer (1975) says that in his view a successful inter-professional programme depends on the minimum standards of space allocation and configuration, considerable investment of time by sophisticated educators and a great deal of flexibility on the part of the administrators of the Schools of the various

professions. Spitzer goes on to outline problems such as limited learning resources, space and time, a real or perceived incompatibility of learning goals, and the rate of learning desired or anticipated not being synchronous within the various professions. As a result he asked the following questions:-

i) What is the long-term impact exercised on patterns of practice by health professions trained in this way? If the effects are short lived, if they do not extend beyond the training year or only during participation in sheltered demonstration projects, then the justification of moving in this direction must be very carefully re-examined.

ii) Are there other efficient and economical variable alternatives for programmes to prepare health professional students so that the concepts of inter-professional care can move from isolated or limited demonstration projects to normative widespread practice?

iii) What changes in the curriculum of the various professionals should be contemplated in order to enable facilitation of the inter-professional components of professional training?

Scott - Wright (1976) concluded that

"there is a need for students to be of similar ability and quality and that staff must be able to work together in full partnership".

Others also regard staff development as of prime importance in order to overcome the pitfalls of shared learning. (Leathard, 1994; and Soothill et al, 1995). For example, the Maastricht Medical School, based in the Netherlands, has included a staff development programme for staff who are involved in shared learning and it has shown that statistically significant differences can be identified between the students of the various medical schools in the Netherlands. For example, those where the staff have not experienced the Maastrict technique in staff development have not been as successful in their shared learning programmes as staff who have received the staff

development experience. (see Wijnen, 1985; Schmidt et al, 1987; Majoor and Snellen-Balendong, 1990; Verwijnen et al 1990; and Majoor, 1991).

Tope (1999), using terms which were common in the health service at the time, outlines the goals to which the inter-professional team should be aspiring. The main contributing factors in ensuring quality in health care she describes as being:

" clinical effectiveness, evidenced-based practice , risk management, cost effectiveness and patient-focussed care".

Again the focus here is on common goal identification and concentrating on what will be beneficial to the patient.

Having just identified the pitfalls, which could impair shared learning (i.e logistics, status, institutional support, and identification of a common goal), why then is shared learning considered such an important part of current course development and training? Obviously there must be benefits! These benefits are identified below.

Benefits

(a) The Breaking Down of Inter-professional Barriers.

It is well known and accepted that shared learning helps to break down inter-professional barriers (Forman, 1994; Howkins et al, 1996 Lindencrona et al 1996). This view was initiated by Wacher (1976 cited by Piggot,1980) who stated that;

"when the problem was viewed and acknowledged in its human dimension, when members of the group are willing to clarify their own reasons, when members are equally willing to listen to others without prejudice, when the responsibility is shared, and when such a team works not secretly but in the open with its own corporate professional and social identity, it is then that there is a commonality in approach and a breaking down of barriers,"

The barriers referred to in this case are the professional barriers and therefore the goal of shared learning is identified.

Horder (1989) agreed with this statement by responding that barriers were in the professionals' minds and in their stereotyping of individuals, whilst more recently Whittington et al (1993) described how knowledge of the roles of others enables practitioners to practice more effectively.

It is clear that any course designed for shared learning should be developed in the knowledge of the barriers which exist between the professions, and that staff should work to overcome these barriers, whilst at the same time helping to maintain the professional identity of each group.

(b) The Knowledge of When to Refer to Another Practitioner

One of the fears of inter-professional learning has been that the boundaries between the professions would be eroded and that a generic practitioner would be the result. Studies which have hitherto used shared learning have found that the students and practitioners, rather than tackling issues at the boundaries of their knowledge have learnt instead when and where issues should be passed on to another profession. (Barr and Shaw 1995).

(c) The Cost Effectiveness of Future Practice

Shared learning could be viewed as merely putting together different groups of students in a classroom and using the same tutor to teach a larger group, thereby reducing the cost of teaching the course. Shared learning, however, involves students engaging in inter-professional exercises and it follows that it will not necessarily produce a more economical way of learning for the professions. Also government legislation, as outlined earlier, is attempting to ensure that both health care and health care education are more financially accountable and, at the same time, has reduced the funding of higher education (including that of health care professionals). It is vital that the economic aspects of inter-professional education are taken into account, and

that consideration is given to the cost effectiveness of the qualified professionals in practice. It is most important that shared learning is not viewed by organisations as a cheap option even though they should be encouraged to take economical considerations into account. Finally, although economy may not be achieved in the classroom, it must be remembered as Scott - Wright (1976) reports that

"there is a need for students from the various professions to share some common learning in order to appreciate the specific contribution each can make and, at the same time, the wasteful overlap of expertise can be avoided".

(d) The Value of Problem - centred, Common - focussed Learning

Many of the programmes utilising shared learning techniques incorporate a multi-professional group problem in their training. It is usually service - user focused and the students collectively are asked to solve it. Piggot (1980) supports this approach. He states in the summary of his article

"the most useful activities appear to be the consideration of patient problems and related tasks which allow each member to understand the value of his own contribution and to appreciate the differences in the approach and framework of other professions".

(Problem - based learning is mentioned only briefly here, but it will be treated in more detail later, where it is considered as a key focus within the curriculum for shared learning programmes, see page 87).

(e) The Acquiring of Information about the Other Professionals' Roles

This is related to (a) and (b) above, but it requires a more in-depth knowledge and understanding of the other professional roles which may impact upon the service-user. Hitherto, individual professions have been taught in isolation from one another. Students and indeed qualified practitioners have had little knowledge of the others' roles and have tended to work in isolation from one another, often perceiving the

other profession as a threat to their own autonomy. Areskog (1995) outlines how shared learning provides a facilitative mechanism for one professional to get to know the roles of other professionals and this provides a mechanism for each professional to know when to hand on to another professional group, (see (b) above). In order to acquire the information which each professional needs to know about the other professions, good communication skills are required.

As Whittington et al (1993) points out:

"inter-professional skills such as the capacity to form corporative relationships, and common verbal and written communication should be incorporated into (all) shared learning programmes".

(f) The Altering of Attitudes and the Changing of Stereotyping

In 1996, Carpenter and Hewstone outlined their belief that

"attitudes can be changed and knowledge (of the other profession) increased"

due to shared learning while earlier, Hall and Turner (1987) had stated that:

"Perhaps the greatest influence on changing attitudes is the inevitable infiltration into practice of young doctors, new nurses and others who have not yet been "crushed", whose attitudes have not been hardened into rigid channels parallel to but never quite touching....."

It was this particular benefit that influenced the choice of using an attitudinal questionnaire for the investigation of shared learning at the University of Derby. The questionnaires enabled changes in the attitudes of the students and staff to be assessed in a relatively consistent and convenient manner, over four successive years.

A summary of the pitfalls and benefits is shown in Table 9:

Table 9: Pitfalls and Benefits.

THE PITFALLS	KEY REFERENCE	THE BENEFITS	KEY REFERENCE
(i)Getting the logistics correct	Soothill et al (1995)	**(i)The breaking down of inter-professional barriers**	Horder (1989)
(ii)Is equal status important?	Leathard (1994)	**(ii)The knowledge of when to refer to another practitioner**	Barr and Shaw (1995)
(iii)The need for institutional support	Scott - Wright (1976)	**(iii)The cost effectiveness of future practice**	Scott- Wright (1976)
(iv)Common goal identification	Spitzer (1975)	**(iv)The value of problem centred/common focussed learning**	Piggot (1980)
		(v)The acquiring of information about other professionals' roles	Areskog (1995)
		(vi)The altering of attitudes and the changing of stereotyping	Carpenter and Hewstone (1996)

Summary to Pitfalls and Benefits

As early as 1967 pitfalls or benefits to shared learning were identified and throughout the 1980s and 1990s these were refined, and so have resulted in the ten areas itemised in Table 9 above being selected as key issues.

Overcoming the pitfalls is essential in planning and implementing shared learning and it has been suggested that this may be best achieved through the appropriate:

a) allocation of space and time by the educational institution,
b) identification of common goals and the acceptance of equity by members of the "team",
c) flexibility being shown by the administrators of the various professional bodies,

By adequately addressing the pitfalls indicated in Table 9, the six key benefits can

then be more easily seen and the focus can then be placed upon the quality of the service provided as perceived by the service-user.

The delivery of new teaching and learning practices by the educators and trainers, together with the resultant changes in the delivery of the service across all professional areas, could then result in a more cost effective service. This would then be much more appreciated by the service-user.

(b) The Implementation of Inter-Professional Shared Learning

As stated previously, the experience of other institutions that have implemented shared learning, at both post-registration and pre-registration levels, and that from small workshops, was used as the focus to derive the model for introducing shared learning practice within the School of Health and Community Studies in the University of Derby. In addition, the influence of external stakeholders was taken into account.

The Push for Multi-professional and Inter-professional Shared Learning from External Stakeholders.

If we review the main stake holders influencing the professions within health and social care, the main influence, as has already been stated, has come from the government, which has been trying to encourage multi-professional practice for many years. This has been closely followed by a set of professional bodies, for example the English National Board for Nurses, the College of Radiographers etc etc. These professional bodies are responsible for trying to ensure that the health professions act in a way which is beneficial to the service-user, but each body is also responsible for looking after its own professional identity. In addition, doctors, nurses and the professions allied to medicine each have their own professional registration body which is bound by a Privy Council to ensure that any practising individual is competent to practice. [Social workers, although currently not having a professional body or a professional registration body, adhere to recommendations set down by the Central Council for Education and Training in Social Work (CCETSW)].

Government legislation, which encourages multi-professional practice, seems, therefore, to be at odds with the remit of the professional bodies (including CCETSW), as each professional body seeks to maintain its own individual and professional identity.

Over recent years, other bodies have been set up which, though not bound by legislation, have tried to influence multi-professional and inter-professional practice. These bodies include the European Multi-professional Education Network (EMPE) the prime aim of which is to:

" .....promote the concept of multi-professional education in health sciences through the facilitation and exchange of information, persons and experiences" and where *"the development of joint research and education is a priority."*

and the Centre for the Advancement of Inter-professional Education (CAIPE) the prime aim of which is to:

"facilitate contact and the exchange of ideas and information between individuals and organisations involved with inter-professional education, by organising conferences, seminars and regional meetings."

It is in fact quite interesting to review some of the plethora of reports that have been produced by the various bodies seeking to influence the professions. As early as 1973, Lloyd et al described an inter-disciplinary workshop which was being held on behalf of the Royal College of General Practitioners with the Council for Training of Health Visitors and the Council for Training in Social Work. This workshop recommended that regional arrangements should be made for inter-disciplinary meetings to take place for the discussion of common interests and problems in dealing with service-users. In the same year, the Council for Professions Supplementary to Medicine (CPSM) produced a report which proposed an outline syllabus allowing almost a third of the content of the courses of occupational therapists, physiotherapists and remedial gymnasts to be shared. It is interesting to note that "remedial gymnasts"

no longer exist as an independent profession, their role now being undertaken by the physiotherapists. Perhaps this demise of a professional group has served to fuel the fears of other professions with regard to shared learning? In a report in 1979 entitled "The Next Decade", the CPSM was obviously conscious of the fears of each of the professions and stated that:

"There should be research into the curriculum for common core courses to ensure that the distinctive requirements of the different professions are preserved and developed".

In line with the review of the CPSM, the Central Council for Education and Training in Social Work (CCETSW) and the English National Board for Nurses (ENB) have produced many reports in combination with each other, looking at multi-disciplinary education and training. In 1983 CCETSW produced a good practice guide which acknowledged that the debate with regard to shared learning had been ongoing over the past two decades. This led to the implementation of the NHS and Community Care Act and the new Primary Care-led NHS developments as facilitating shared learning and, as will be discussed later, outlined the benefits and key factors for the successful planning of shared learning.

In 1986 the two inter-professional bodies, CAIPE and EMPE were established, CAIPE being the UK arm and EMPE being the European Network. Both bodies encouraged reviews of inter-professional practice and inter-professional education. Neither had the power to enforce inter-professional practice but saw its role more as that of facilitating and disseminating information on good practice. In 1988, the ENB and CCETSW published details of a proposal for a jointly validated course for heads and deputy heads of hostels and day centres for people with learning disabilities', which was to be the first of its type. At this time, the professional bodies were encouraging inter-professional education, but it was not a requirement for the validation of professional courses. Many joint reports have been written since these initial attempts. One such report entitled "Building a Partnership", jointly published by the ENB and CCETSW cites Wood and Gray (1991) as stating that:

"It is important to guard against the danger of generalising about people's experiences of the programmes".

It is, therefore, as important to capture information about an individual's experience (qualitative data) as it is to obtain information from the group as a whole (quantitative data).
Wood and Gray (1991) also emphasised the need for a study to follow up students who had already participated in shared courses, in order to evaluate the impact of their experiences on their subsequent employment.

Experiences of Inter-professional Shared Learning

Prior to the start of this current research investigation and during the time that it has been carried out, many institutions have experimented with shared learning at post registration levels, pre-registration levels and in workshops. (Lloyd et al, 1973; Storrie, 1992; Forman, 1994; Leathard, 1994; Brown, 1995; Finocchoi et al, 1995 and Forman and Fox 1995).

Post Registration

As mentioned earlier, many institutions started shared learning at a post registration level. This is probably due to the fact that in 1989, "Working for Patients", Working Paper 10 from the government, indicated that the education and training of professionals, which had hitherto taken place within NHS settings, should move from the NHS into higher education. With the move to higher education came opportunities as, for the first time, each of the professions allied to medicine, and often with both nurses and social workers, was being taught in the same building, although not necessarily in the same classroom!

At this time, the state registration requirements were often at a level below that of a degree, thus the move to higher education allowed opportunities to change the registration requirements and to award a degree level qualification. When providing a new qualification level for new students, practitioners who in their own day had

qualified for registration with an academic qualification of lower status than a degree, had also to be considered. (Many of these mature professionals were anxious to gain qualifications equivalent to those of the new students passing through the new degree courses).

To provide for this need, higher education institutions developed programmes which were equivalent to the third year of a degree programme and were known colloquially as "top-up" qualifications. Also some professionals still wanted an identity which was individual to them and so "top-up" degrees were developed in Occupational Therapy, Radiography, Physiotherapy etc. There were, however, some practitioners who were prepared to look at a broader and more generic qualification in health care or health studies, which would provide them with an opportunity to be educated alongside other health professionals.

Of course, the staff designing these programmes of study had their own learning experience to undertake. They all had to overcome their prejudice and fear of working with other professional groups, and had to see the development as an opportunity, rather than as a threat, which might lead to the erosion of their own profession. Once the top-up qualifications were established, Masters Degrees were designed, again with an inter-professional flavour. Leathard (1994), in her book "Going Inter-professional", outlines the experiences of universities such as Exeter and South Bank, and also of the Marylebone Centre Trust, in designing such programmes.

One major difficulty cited was the lack of guidance from the professional bodies themselves; (the only inter-professional accreditation at that time was offered by CCETSW and ENB for patients with a mental health handicap or with learning difficulties).

A further difficulty, identified by Storrie (1992), was the need to establish some form of inter-professional criteria that would facilitate assessment and practice. It must be remembered that with professional education, not only must the academic requirements be at a specific level (i.e. undergraduate or postgraduate) to gain the qualification, but also the competency and vocational elements are crucial to the

profession and must accord with the structures of the professional body.

Pre-Registration Courses

The development and practice of inter-professional education at undergraduate level (for six health care professions) at the University of Linköping was initiated in 1984 and the refinements which have taken place whilst running this programme are well documented. A review of the Linköping experience allows **four key aspects** to be identified. These are that:-

1. **The focus is on problem-based learning.** Linköping uses a seven jump model in its problem-based learning. This is presented in more detail in Appendix C but in outline consists of seven stages or jumps. These are to:

i) clarify the terms and concepts of the problem (they may not be readily comprehensible);
ii) define the problem;
iii) analyse the problem;
iv) make a systematic inventory of the explanations inferred from (iii) above;
v) formulate learning objectives;
vi) collect additional information from the outside group;
vii) synthesise and check the newly acquired information.

2. **Sharing does not only occur in the academic curriculum areas, but also in the work place,** where modelling of clinical practice relates not only theory to practice but also describes where teamwork is used in real life situations. This way of learning is best described by using the analogy of a Russian doll. Again this description is given in more detail in Appendix D. In short, the principle used is that three curriculum areas are differentiated and taught at the same time as each other. The three areas are:

i) elements which are specific to the individual profession;
ii) common curriculum;

iii) elements of professional practice.

3. **There is obvious support for the concept of shared learning from the Institution.** This is evidenced by the provision of facilities to house the students, and a high level of staff resource.

4. **The students are developed to the extent that they learn independently and autonomously on their programmes.** (Perhaps the most crucial of all is that they see their tutors and fellow students alike, as added resources to that derived in the text, i.e they can be questioned. In addition, the staff are seen as being there to facilitate their learning rather than to give them all the information they need for success on the course).

The University College of Salford has also developed undergraduate inter-professional shared learning. The aims and objectives of the Salford model focus on the value of shared learning between multi-professional groups, and some assessed components of the course look specifically at the shared experience of students. This is in addition to the course having curriculum areas such as anatomy and physiology etc shared by the groups of students.

The University of Derby undergraduate experience is the focus of this thesis, but at this stage mention is made only of the initial module in management. This management module was chosen because similar topics were being taught on each of the programmes and because it was relatively easy to adjust the timetable for the shared learning to be carried out. The management module was used as a focus for inter-professional learning for third year Occupational Therapy and Radiography students in 1993, as outlined in Forman (1994).

Workshops

Rather than a full inter-professional course leading to accreditation and graduate or post graduate qualifications, many workshops have been organised merely to facilitate shared learning. We have only to remind ourselves that, with the onset of care in the

community and primary care, the necessity for professionals to work as a team with a service-user, demands a sharing of experience. Indeed a sharing of experience is essential in order to facilitate appropriate care for the individual. In this way the service-user will not be seen as an object being passed from one profession to another. Even prior to the Community Care Act, workshops for general practitioners, for social workers and for health visitors were already being organised in the early 1970s, as outlined by Lloyd et al (1973). The report of these workshops disclosed five objectives. These were to:-

a) ***determine if any of the disciplines concerned emerged as dominant in the group discussions.***

b) ***define areas of common agreement or interest.***

c) ***define areas of conflict and the relative significance of the conflicts observed.***

d) ***determine if small group discussions could become a useful inter-disciplinary educational medium.***

e) ***determine the possible content of future workshops.***

Even at that time, acknowledgement of the conflict is apparent and one doctor is said to have reported that the workshop he attended enabled him to re-examine his attitude towards the nurses and health visitors. In the 1970s, workshops were even being organised for doctors and administrators. Brown (1995) concluded from one such workshop that there was an unfulfilled demand for such events. It is interesting to note that the involvement of doctors, and especially of GPs, in workshops has been particularly apparent throughout the years. Leathard (1994) documents short courses for the community, in child protection, in working with the disabled, with old people, and with those with mental health problems. In general, workshops are thought to be useful in providing a short stay setting in which individuals can look at a specific aspect of their working arrangement or at specific service-users. In this way the

participants see how they can best work together to facilitate the service-user or service-user's needs, rather than having professional issues at the forefront in these environments.

Individual personalities can also facilitate, or can be detrimental to, the working relationship, which is often an experience mirrored in normal working relationships. The workshop environment, in allowing a focus to be placed on the service-user, overcomes what Scott - Wright in 1976 described as the reluctance of the professions to ***"put the patient or client in the middle of the arena rather than on the periphery"***. This marginalisation of the service-user is seen by Scott - Wright as being the main barrier to inter-professional education.

The Clinical Environment

This is a relatively new concept as it was only in 1996 that Edwards, Jones, Shale and Thursz looked at models for shared care and clinical management. This is the first text to look at shared learning within a clinical setting and concentrates naturally on the community care environment. Again the focus is on post registration education but emphasis is placed on making the situation work, rather than on the difficulties which may be encountered between the professional bodies. The clinical environment is seen as the very environment where different professionals will actually be working in practice with each other for the service- user's benefit. Ironically, the first accounts of shared learning within a clinical setting date back to 1972, when Mason and Parascandola reported on the clinical experience as a team. Mason and Parascandola's 1972 report does not give an account of how successful inter-professional teamwork was in a clinical setting, but identifies three key issues which should be examined in the clinical setting. These were identified as the need to:-

i) ascertain if the objectives proposed by the planning group, could be met by the student health team.

ii) identify the knowledge and skills that are pre-requisites to the clinical learning experiences.

iii) determine whether students with varying educational backgrounds and clinical experiences could participate effectively as a team in a clinical setting.

Conclusion

There is a diversity of forums where shared learning has been, and still is being, tried. (Lloyd et al, 1973; Silen, 1991; Storrie, 1992; Forman, 1994; Leathard, 1994; Brown, 1995). Most of these involve students in academic experiences, although quite recently models for shared learning have included the clinical experience (Edwards et al 1996). In fact, in concluding this section it should be noted that the University of Linköping has again taken the lead on this aspect of shared learning as, in conjunction with a local hospital, it has recently (1997) constructed a training ward where students with inter-professional backgrounds work together with a service-user in a clinical setting.

In a number of reports by Barr and his colleagues (Barr 1994, Barr and Shaw 1995, Barr and Waterton 1996, Forman 1991, Forman and Fox 1995), the Centre for the Advancement of Inter-professional Education (CAIPE) has reviewed the developments in shared learning, along with key factors for its implementation. Between them, these reports provide an insight into the advantages and disadvantages of developing shared learning.

At the University of Derby, the experience of others was used to derive a list of pitfalls and benefits which helped in the design of the curriculum and the attitudinal questionnaire. The questionnaire was one of the main methods used to monitor the changes in the attitude of the students over the four year period of implementing shared learning.

The specific methodologies adopted in the designing of the curriculum and the attitudinal questionnaire for this research investigation in the School of Health and Community Studies at the University of Derby are presented in Part 2 of this thesis.

PART 2

BACKGROUND AND METHODOLOGY USED TO IMPLEMENT SHARED LEARNING INTO THE SCHOOL OF HEALTH AND COMMUNITY STUDIES AT THE UNIVERSITY OF DERBY

CHAPTER 4

BACKGROUND TO SHARED LEARNING AT THE UNIVERSITY OF DERBY

In 1989, the Government White Paper, "Working for Patients", Working Paper 10, announced that students wishing to embark on careers in the professions allied to medicine (Allied Health Professions) should be educated in Institutes of Higher Education rather than in Schools within the National Health Service.

The students initially affected by this issue were those training for Radiography, Physiotherapy and Occupational Therapy, although by this time many Schools had already formed links with higher educational establishments in order to develop degrees.

The move from single discipline Schools to establishments which housed other disciplines did not initially mean that ideas were shared, although the potential benefits to the groups had for some time seemed to be obvious. As early as 1970, Houle had discussed, in-depth, the trends for the medical profession and deplored the tendency to maintain such education within single disciplines. He suggested that:

" ....the professions would find it mutually beneficial to engage in collaboration and secure the services of educational specialists in order to create, plan and develop desired and viable teaching and learning activities".

In Derby, the programmes in diagnostic and therapeutic radiography, occupational therapy, post registration nursing and pharmacy were moved from the health service to the Derbyshire College of Higher Education (later to become the University of Derby).

Collaborative multi-professional work started at the University of Derby, initially with the development of post registration degrees. The first of these was the BSc

Health Care. (see Forman and Gallop 1991). These post registration degrees offered opportunities to staff who, although state registered, had professional diplomas which were not academically recognised. So, a top-up facility involving the final year of an honours programme, studied part-time, was established to meet the demand.

As the teaching staff became more acquainted with their new environment and taught on programmes such as the BSc Health Care and the MSc in Research Methods for Health and Social Science, they became experienced in teaching multi-professional groups. These teachers also became familiar with taking a wider perspective in the teaching material that they utilised.

The first undergraduate programme to be developed by this group was the BSc Diagnostic Radiography degree. This was initiated in 1991 and was, nationally, one of the first to be validated and given professional standing. At this time, the aim was to ensure that all elements of the professional requirements were incorporated into the degree and that the degree itself satisfied all the academic requirements, and incorporated a significant independent study. Due to the rapid amount of change occurring at the time, and perhaps due to some insecurity amongst the staff themselves, the degree was designed such that it was uni-professional in nature. The BSc Honours in Occupational Therapy and then the BSc Honours in Therapeutic Radiography quickly followed in the footsteps of the BSc Diagnostic Radiography degree.

At this time many institutions had started with inter-professional post registration courses. For example, some Masters degrees were developed which utilised shared learning (Leathard 1994). Some programmes were also being established which included shared learning at undergraduate level, such as the one in Linköping. These latter programmes brought together a variety of professions, sometimes as many as five or six, but excluded radiography from the group. This is probably easily explained as in most of Europe the education of radiographers is not at graduate level and so the courses do not lend themselves easily to shared learning.

By 1994 the University of Derby had a well established School of Health and Community Studies, with a Division of Allied Health incorporating degrees in Diagnostic Radiography, Therapeutic Radiography and Occupational Therapy. Each of these courses was uniprofessionally taught at undergraduate level and any student awarded the degree would also be State Registered for his/her chosen profession.

It was a natural development, therefore, that the current research investigation should look at areas within the profession-specific programmes which could be shared. It has to be said, that within an academic environment there is also pressure to make economies in terms of the teaching methods. For example, specific areas of the professions had hitherto always been taught with staff/student ratios of around 1-12, whereas academic colleagues were teaching in groups with staff/student ratios of 1-25 and often 1-30.

Students taking a health professional course in professions such as Diagnostic Radiography, Therapeutic Radiography and Occupational Therapy were funded by the Regional Health Authority and whilst this funding mechanism offered some comfort in terms of group sizes, staff teaching on these programmes felt the need to identify some efficiency gains.

Thus the two influences to implement shared learning were the desire to try inter-professional learning and the pressure to operate with more efficient group sizes. These led the course teams to look for areas of the curriculum from each of the three professions which could be shared.

Radiography and Occupational Therapy at Derby

Within the first two years of its formation, the School of Health and Community Studies in Derby brought together a variety of professions which included Social Work, Nursing, Community and Youth, Psychology and Therapeutic Arts, as well as Radiography and Occupational Therapy. Staff from each of these areas became interested in the development of shared learning and, in addition to post registration degrees which were designed with an inter-professional perspective, several shared

learning workshops were organised. The next step, therefore, was to look at ways in which shared learning could be utilised in pre- registration courses. To aid this, Radiography and Occupational Therapy were drawn together to form a Division of "Allied Health" within the School of Health and Community Studies structure.

Previous to this, i.e. since Spring 1989, some limited instances of shared learning in management issues had been taking place between the Occupational Therapy and Radiography courses. They had been validated independently and therefore the students were, for the main part, still being taught in a uni-professional environment. Within the new Division of Allied Health, closer investigation of the content of the modules of each course revealed that in some of the modules the content was broadly similar in nature. However, the established timetabling arrangements and the fact that the School was based on four sites, covering a distance of forty miles, seemed to prohibit any notion of bringing the two groups together for further shared learning.

The answer seemed to lie in jointly reviewing and revalidating the courses so that shared learning could be built into the curriculum and joint ownership could be established.

Common Curriculum

A review of the curriculum areas being taught on each of these programmes enabled the identification of several areas which were indeed similar or the same. These were:-

i) Anatomy and Physiology,
ii) Profession-related Practice,
iii) Research Methods,
iv) Management,
v) Clinical Education,
vi) Independent Study.

All six were common to all professional health care programmes whilst a seventh,

Physics, was common to Diagnostic and Therapeutic Radiography.

This initial review of subject areas belied the fact that some were not taught in the same year and that the clinical placement requirements in each of the professions were unique to that profession. So, managing a timetable beset with constrictions such as those described meant that teaching these groups together was almost impossible.

It became obvious, that only some elements of the Research Methods, and Management curricula could be taught with some sharing, given the timetabling arrangements that had been validated in these earlier courses.

Staff Development

It must be remembered that many staff had taught on the BSc Health Care and MSc Research Methods for Health and Social Sciences courses. These staff had undertaken staff development, both in terms of widening their appreciation of their own subject area, and in terms of team building and team teaching on programmes. Double assessment of both formative and summative assignments and sharing ideas to ensure that the curriculum covered learning outcomes to the depth and level required for their course of study (irrespective of the students chosen profession), also helped staff to appreciate the value of shared learning.

As already stated, areas of the pre-registration undergraduate courses which were found to have appropriate timetabling arrangements for shared learning were Management, and Research Methods and both of these subject areas had been taught in the BSc Health Care and MSc Research Methods courses. Therefore, the teams teaching these subject areas were familiar with teaching inter-professional groups.

The staff development undertaken by these tutors was, therefore, similar to that previously undertaken. Nevertheless, a more concerted effort was made to ensure that staff from each of the professions not only understood the subject matter but could relate it to their individual profession, and also made them aware of how the subject matter affected some areas of the other professions. Additionally, some sections of

the "Physics" shared by Diagnostic Radiography and Therapeutic Radiography were timetabled such that they could be commonly taught. This appertained particularly to some areas of the practical work in Physics.

It can be seen from the above account that the underlying principle was to identify areas of commonality, both in terms of curricula and tuition. At this point it was not seen as essential, nor indeed valuable, to identify specific aims relating to the shared experience that students would be undertaking. No account was taken of the fact that these professionals would be working together, with patients, when they qualified. It was merely a matter of teaching the curriculum with a multi-professional group in a cost effective and efficient manner. Also staff development at this time was aimed merely at acquainting lecturers with the other professions' subject areas, so allowing them to give pertinent examples to students during teaching sessions.

Revalidation

In 1994 the BSc Occupational Therapy degree was ready for revalidation (it had been given only a three year validation). In order to maximise the amount of shared learning, it was decided to validate the BSc Diagnostic Radiography degree course (due for validation the following year) at the same time. The evaluation of the courses which had been running, and the development of the new courses, both in terms of design and curriculum content, came under scrutiny by staff groups from each of these two professions. Indeed, in order to ensure that when the BSc Therapeutic Radiography degree was due for revalidation, any shared learning possibilities could be utilised within this degree, the Therapeutic Radiography staff also collaborated in the review and re-designing of the BSc Diagnostic Radiography and the BSc Occupational Therapy degree programmes.

The learning experience which had taken place in the Physics, Management, and Research Methods curricula was utilised in the design of the new courses (see Forman, Jones and Morley 1994). The timetabling arrangements, still had to meet the individual profession's requirements and still proved to be problematic in bringing the student groups together.

Shared Learning Aims

With the introduction of the common curricula of Physics, Management, and Research Methods, the course team appeared to be committed to inter-professional learning. It felt that designing shared elements from the start of the courses would enable students to interact more on the programmes. It was also thought that this might have the added advantage that students would have formed a shared identity prior to their clinical colleagues being able to influence them. (It was thought that clinical staff might fear shared learning as potentially eroding their own professional identity). Students who had studied previously on the Diagnostic and Therapeutic Radiography degrees and on the Occupational Therapy degree had already completed evaluations of these courses and some shared curricula had been undertaken on them. It was thought that undertaking a review of these evaluations might be a useful exercise. So a section of the validation document was dedicated to this review. With regard to this shared curriculum issue, the validation document states:

"Students generally enjoy shared study with students of other professions, but it is more successful if the students have mixed from the start of the course, so that they have not been influenced by professional stereotypes".

University of Derby (1994)

Although a statement with regard to shared learning was not included as one of the three aims of the course, a change was made to the learning outcomes which now incorporated the following additions.

"Students will be expected to:-

- ***Show caring attitudes to the service-user, and consideration to other members of the public and to staff.***

- ***Recognise the particular and shared functions of colleagues, and communicate and co-operate with them."***

University of Derby (1994)

The shared nature of the courses was now apparent in the course aims.

Strategies for Learning

Each of the profession-specific validation documents identified the teaching and learning methods appropriate for the student groups in a section headed "Strategies for Learning". The traditional teaching methods, including lectures and demonstrations, are complimented by self- directed skills for independent study. Additions such as problem-solving, developing qualities of judgement and decision-making, clinical reasoning and ethical practice were incorporated to ensure that the gap between theory and practice was bridged. Methods to facilitate the discussion of experiential learning not only included the standard tutorial and seminar sessions, but also incorporated a greater degree of case study and practical sessions. Independent learning was also encouraged by requiring students to assess their own learning needs, to set goals, locate resources, implement strategies and evaluate progress. Multi-media learning including video and computerised technology was also used within the courses for both the shared and the profession- specific modules, with problem-based learning becoming more prominent within the shared curricula.

Tripartite Validation

In 1994 the Diagnostic Radiography, Therapeutic Radiography, and Occupational Therapy BSc Honours degree courses were validated by the University of Derby, the relevant Professional Bodies and the Council For Professions Supplementary to Medicine (CPSM). The first intake of students on to the newly validated courses began in September 1996.

Conclusion

Analysing the individual curricula of the professional health degree courses studied at Derby demonstrated that there were common syllabus areas that could be taught together. (Forman 1991, Forman and Fox 1995). It was recognised, that merely teaching the students together would not result in inter-professional learning taking

place. In designing the new courses, not only were the courses designed to maximise the time when students would be taught together, but consideration was also given as to how they should be taught. As a result, shared aims for the courses were derived and a problem-based learning approach was used. The problem-based learning approach, where possible, had scenarios that depicted the service-user as the focal point and encouraged students to think less about their professional boundaries and more about the benefits they could provide for the service-users in their care. The methodology employed to assess the attitude of the students and staff to these shared learning opportunities is presented in Chapter 5.

CHAPTER 5

METHODOLOGY TO INTRODUCE SHARED LEARNING INTO THE SCHOOL OF HEALTH AND COMMUNITY STUDIES

How Best Could Shared Learning Be Introduced?

At the University of Derby the research investigation centred around the monitoring of the implementation of shared learning into four programmes, each leading to a BSc Honours degree award, namely the:-

BSc Honours Diagnostic Radiography (Full time)
BSc Honours Therapeutic Radiography (Full time)
BSc Honours Occupational Therapy (Full time)
BSc Honours Occupational Therapy (Part time, for the first four years)

The most effective way to monitor the implementation of shared learning on the undergraduate programmes was considered to be a longitudinal study over the three years of the course. This, it was thought would, amongst other things, then enable observation to be made of the changes in one cohort of students in each degree course as they progressed towards graduation, as well as allowing the changes that occurred in each new cohort of students in each year of the courses to be noted. The overall aim of the study was:-

> **To monitor closely the effect of the implementation of shared learning on the undergraduate programmes in Diagnostic Radiography, Therapeutic Radiography and Occupational Therapy at the University of Derby.**

To achieve this, an appropriate methodology had to be selected which would be a

"Systematic and sustained enquiry, planned and self-critical" (Stenhouse 1992).

First, it was necessary to establish what aspects were to be monitored and why. From Chapter 3, it had been established that the literature search and the experience of others implementing shared learning had resulted in a set of pitfalls and benefits becoming apparent. These pitfalls and benefits would, therefore, form some of the substance of what was to be monitored. Implementing shared learning into any curriculum, however, must be undertaken with a specific purpose in mind, and monitoring whether the pitfalls and benefits exist over the length of the study is only deriving a limited part of the results. The government through its many reports (as stated in Chapter 1) and others who have tried to implement shared learning were trying to create a more effective team to deliver health care in the future. That is, a team which, through knowledge of the role of each individual member of the team, could work more effectively and which could feel that the goal of this multi-professional team was more important than the protection of any one of the professions making up the team.

Measuring the effectiveness of such a team in practice would demand that it was already available and had already undertaken shared learning activities. This was not possible, however, as the shared learning undergraduate programme in Derby was one of the first to be implemented. Distinguishing whether the team would adhere to the team goals rather than to protect an individual profession was also not possible, for similar reasons.

It was possible, however, to monitor the implementation of shared learning over a four year period at Derby, to see if the attitudes of staff and students changed over this time. If at the end of the study the individual staff and the individual students had a more positive attitude to each other, then there was a likelihood that they would work more effectively in practice. Proof of whether this was the case would then need a further study. However, monitoring the changes in attitude of the staff and students as the programme was implemented, whilst possible, needed to be carefully considered. A review of the research methods which could be used for this and deriving the appropriate methodology were therefore necessary. In reviewing the research methods, the epistemology (i.e. the theories that underpin the methodology) was therefore undertaken.

The Epistemology of Qualitative and Quantitative Research Methodologies.

The purpose of quantitative and qualitative research is the same, that is, to cultivate knowledge (Field and Morse, 1990) but the epistemology of the two methods does differ. Quantitative research methods date back to the 17th Century (Comte cited by Hughes 1990) and observe strict methods of formulating questions or hypotheses which are tested according to a number of already agreed scientific laws and conventions. Qualitative research on the other hand is less preoccupied with sampling theories and has been summarised as **"concern with experience as it is 'lived', 'felt'** or **'undergone'** (Sandelowski, 1986).

In distinguishing between the two, quantitative methods would be described as providing measures of predetermined variables and would concentrate on how often an event occurs, while qualitative methods look more at the way the event occurs. Qualitative techniques develop theories inductively from the data but only test theories in a limited way, whereas quantitative methods are primarily intended to test and explore existing theories through new data. One of the most striking differences between qualitative and quantitative methods is the way that they identify the categories which are relevant to the study. Quantitative research methods isolate and define categories prior to the research being undertaken, whereas qualitative research methods approach the research in a more open manner and only categorise and define the research during the research process. In summary, the quantitative research approach has well defined categories and the qualitative research approach aims to categorise the object of the research as the research develops (McCracken, 1988). In monitoring the changes in attitudes of staff and students in this study, it was thought that a questionnaire, appropriately constructed, could be used to give quantitative data. Many questionnaires have been constructed to measure attitudes, and numerical data derived in this way would give a quantifiable result, but would it give the true picture or only part of it? Producing just a number after four years of monitoring would not give a feel for the true nature of the change and developments which had occurred over the four years. Equally, if only qualitative data obtained from interviews or from video taping of sessions were used, then again the outcome could lack substance and would certainly be open to criticism that the

researcher was biased.

It would appear that choosing **either** qualitative **or** quantitative research methods would provide only part of the answer. In fact the use of **either** qualitative **or** quantitative methodology has been criticised from a social science perspective.

As Maanen (1992) states:-

"There seems to be something of a growing disenchantment with the results of quantitative studies as currently conducted",

whilst Fletcher (1974) stated:-

"The trivialisation of the social conditions of man, the qualitative method, degenerates into a voyeur's fantasy".

This same conclusion has been reinforced during the time in which this research study has been conducted, as many research studies carried out in health care settings have used **either** qualitative **or** quantitative methodologies. Typical examples of these can be found in the work of Fletcher (1974), Miller and Kirk (1986) and Koch (1994).

Tope (1999) however, states that whether qualitative or quantitative research methods are used for evaluation, each:

"contributes to the accountability and development of practice and should be the work of every professional, whether in the NHS or Higher Education",

So, a combination of **both** qualitative and quantitative research mechanisms to form what Denzin (1989) (as cited by Kimchi, Polivka and Stephenson, 1991) called "Triangulation", may offer part of the solution.

Triangulation involves the use of two or more research methods in one study to obtain diverse views about the topic. Examples include:

i) Theory triangulation in which competing theories or rival hypotheses give alternative explanations about the same phenomenon and if the two competing hypotheses produce the same end result, then the method of triangulation is said to have validated the results.

ii) Method triangulation which is another example of using two or more research methods in one study to derive the research data.

To monitor shared learning over the four-year period at Derby, where multiple sources of data and methods which complemented and reinforced each other could be used to develop the outcomes, method triangulation was thought to be the more appropriate to use, (Bryman 1986).

Further analysis of triangulation by May (1989) divided it into inductive and deductive formats while Morse (1991) went even further by giving health care examples of inductive, deductive, sequential and simultaneous triangulation.

As the research in Derby was designed to take place over a number of years and as it would be monitoring changes both in terms of course developments and the attitudes of staff and students, the **sequential, deductive approach** seemed to be the most appropriate. Kimchi et al (1991) progressed the triangulation methodology still further, by identifying a multiple triangulation methodology that uses a combination of two or more types of triangulation. For the research in Derby, this appeared over-complex and it was considered better to ensure the validity of each of the methodologies used in the **single triangulation**.

Another approach, which seemed fashionable in the nursing field at this time, was phenomenology, and some consideration was also given to this, prior to commencing the investigation at Derby.

The Phenomenological Approach

Various nursing researchers including Omery (1983), Morse (1991) and Walters (1995)) have described the use of the phenomenological approach to carry out a research study and one of these, Omery (1983), stated that:-

"The phenomenological method is an inductive, descriptive research method. The task of the method is to investigate and describe all phenomena including human experience in the way these phenomena appear".

On the other hand, Baker, Wuest and Stern (1992) and Walters (1995) have criticised the way in which the phenomenological approach has been used by nurse researchers, Walters (1995) stating that:-

"Most researchers refer to phenomenology as if it were a homogeneous philosophical school that lends itself to the development of a single phenomenological nursing research method".

Omery's work (1983), however, indicated that a growing group of nurse researchers using phenomenology seemed to reduce the human being in their studies to little more than an object with many small quantitative units. So, as an holistic approach, which had a good epistemology, was required for this research investigation at Derby, phenomenology as an approach was not thought to be appropriate for the current study. Instead, a review of the approaches used by the teaching profession was undertaken, to see if other approaches would provide a more appropriate way of reviewing shared learning amongst health care professionals.

An approach was sought which would encompass the ongoing changes in a multivariate social context. Conway (1975) described one such approach, which had been used in an inter-professional study at Hatfield Polytechnic, as "operational research". He listed rules that he considered should be followed so that there would be no conflict with the laws of social multi-professional interaction in a research study. Conway outlined how

the interaction amongst two or more different professions may range from simple communication of ideas to mutual interaction. It was further recognised that the inter-professional group consisted of persons trained in different fields of knowledge with different concepts, methods, data and terms but organised into a common effort, on a common problem, with continuous inter-communication among the participants from different professions. Operational research is very similar to action research which Stenhouse (1992) stated, should ***"contribute not only to the practice, but to the theory of education and teaching which is accessible to other teachers"***. In 1995, Hart and Bond outlined why action research was so appropriate to health and social care, particularly where problem-solving and improvement were on the agenda. They cited Webb (1994) who pointed out that nurse researchers are increasingly seeing action research as an approach which offers opportunity to analyse issues, solve problems and devise action plans to improve standards of care, whilst still evaluating those plans.

Action research appeared to be the more appropriate approach to use for a focused, longitudinal, attitudinal, inter-professional study, where the researcher is a participant in the change process. So, the reliability and validity of such a study required appropriate consideration.

The Reliability and Validity of Action Research

The difficulty of proving reliability and validity in research of this nature is not new to action researchers. Reliability refers to the extent to which studies can be replicated, but almost by definition this poses major problems in a situation where there are multiple factors to consider and where the change is ongoing in nature.

Le Compte and Goetz (1974) suggested that rather than a replication of the study proving that the research has been worthwhile, perhaps we should look at the general ability of the study. They suggested that the research should consider five major problems, the:-

i) researchers status position.

ii) informant choice, social situation and conditions.

iii) analytical constructs and premises.

iv) methods of data collection and analysis.

v) researcher approaches rather than external reliability.

The more the five problems are reduced, for instance by techniques such as triangulation, the greater the reliability. It is clear that to some extent the problems are unavoidable, so it should be monitored and evaluated.

With regard to validity, it would appear that most interpretative or ethnographic research tends to argue that, to some extent, reliability is sacrificed in order to achieve greater validity. Validity follows from the wide variety of techniques employed and these are shown below. As with all research, the validity may be reduced either by the observer effects or by the fact that the participants may have behaved abnormally.

The aim with research of this kind should be to achieve, within the mind of the reader, the concept of understanding, such that the research could be carried out in another situation. If the concepts are appropriate and seem to have validity, for example, they are understandable to all participants in the new situation as part of their reality. Perhaps that is all that is necessary. Readers of the research who can identify with the concepts will then apply rather than conceive the process.

In the current research investigation, a range of research methods (qualitative and quantitative) was used in an attempt to achieve triangulation and to improve the validity of the methodology. This was undertaken over a period of four years in a longitudinal study. Changes have occurred over these four years which have been monitored through course committee minutes and some video taping, to provide further qualitative data. Not all of these changes were apparent through these methods of monitoring and

therefore, where necessary, such changes have been identified and could have impacted on the results in order to record the action-taking place.

As the main method of research was an attitudinal questionnaire (containing both quantitative and qualitative statements), consideration of the validity and reliability of the specific questionnaire used is presented later, in Chapter 7. (See page 113). In addition to the considerations with regard to the questionnaire, the design of the curriculum also needed to be considered.

Designing the Curriculum

After reflecting on the experiences of others who have tried to implement shared learning into the curriculum and on examining the pitfalls and benefits of such practice (see page 51), it was considered possible to formulate a model for shared learning which could be tested in practice at Derby.

The traditional way of educating health care professionals had been likened to Bernstein's 1971 collection code (as cited in Jolley 1987), in that subjects were seen to be clearly bounded and separated from each other. In preparing for this research investigation, it was believed that it was exactly this separation of subject matter into discrete isolated packages, as they were previously taught in the different uni-professional Schools, that was responsible for the lack of knowledge of the ways in which the individual professions could cooperate and collaborate with one another for the benefit of the service-user. Later, Beattie (1995) was to carry the idea forward by arguing that in uni-professional Schools, where most pre-registration health care professionals were taught, the students were, and still are, exposed to the every day ritual of learning. In these rituals they create separate and distinctive ways of thinking and of relating. It is in this very environment, Beattie believes, that the ***"tribalism"*** in health care originates and is reinforced in every cohort of student professionals.

Bernstein's (1971) collection code allows for the breaking down of barriers and for a progressive development, where, if boundaries were re-formed, they would be formed in

a different position. Beattie (1995) suggested four new models, rather than the traditional medical model, which would allow a more integrated approach. These are the

i) biotechnical model of health which focuses on the mechanical defects of a human being and sets out to rectify these in the light of biomedical sciences and technologies.

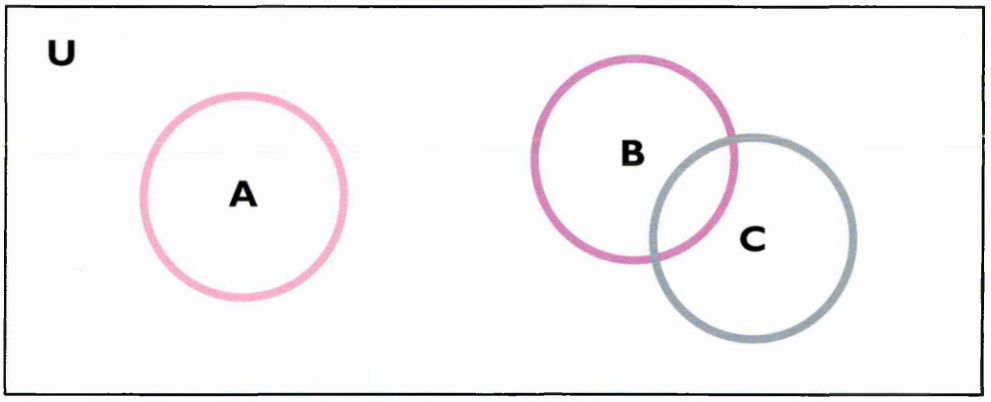
ii) biographical model of health which focuses on troublesome life events that are significant for the individual and which aim to help the person develop strategies for coping with them.

iii) ecological model of health which is concerned with the risks and hazards of human environments and seeks social intervention to reduce the risks and protect the vulnerable.

iv) communitarian model of health in which social groups and social values are mobilised to share their health concerns and engage in co-operative advocacy and campaigning for change.

Each of the above has its merits. It is important that an attempt is made to look at an individual from different aspects, as different models appeal to different sets of health and social care professionals. The teaching forum now runs across the traditional boundaries of the mainstream professions, in the hope that health care workers are encouraged to come together, learn together and work together. Rawson (1994) looked again at the ways different professional groups worked together and outlined how in different circumstances different interactions between the professionals could occur. He used circles, elipses and rectangles to give diagrammatic demonstration of his theory as reprinted below:

Diagram 1: Therapy for Back Pain

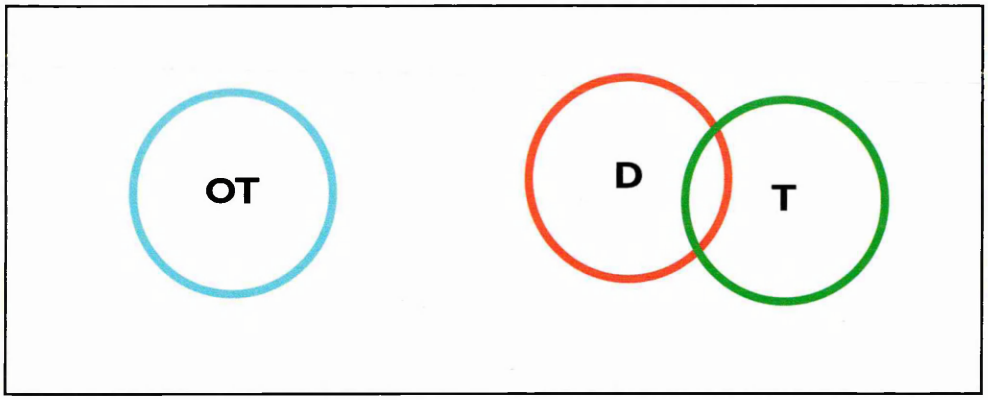


In Diagram 1 the rectangle indicates the universe (U). Circles or ellipses inside the rectangle are discrete sets.

U	=	the available therapy for back pain
A	=	osteopathic manipulation
B	=	medical treatment
C	=	orthopaedic surgery

In this example orthopaedic surgery is available as part of medical treatment, osteopathy is not. A similar method can be used to indicate the traditional education of diagnostic radiographers and therapeutic radiographers. (See Diagram 2)

Diagram 2: Education of Diagnostic and Therapeutic Radiographers and Occupational Therapists



D = Diagnostic radiography students
T = Therapeutic radiography students
OT = Occupational therapy student

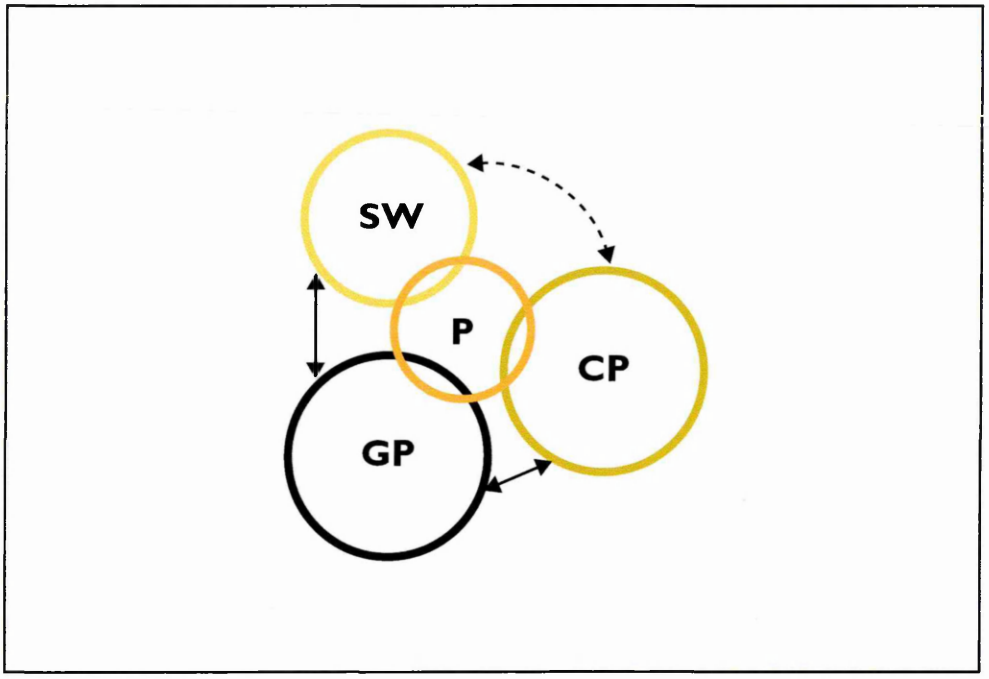
Diagram 2 shows how in some UK Schools, diagnostic radiography students and therapeutic radiography students shared their education. Indeed the qualifying examination system of the College of Radiographers (which was the qualifying examination prior to universities providing degree level qualifications) has two parts to it and Part One was undertaken by both diagnostic and therapeutic radiography students. So even in Schools which did not have both professions studying alongside each other, the students of each profession had to be aware of the other profession and each studied the same subjects for their Part One examinations. Traditionally, Occupational Therapy Schools were always distinct from all other professions in their training.

If the diagrams are now used to try to illustrate the interactions of the various health professions according to a service-user's symptoms, it becomes apparent why service-users feel as if they are ***"waiting around whilst the professionals sort themselves out"*** (see Chapter 2 page 34).

A mother who has a nervous breakdown may see her GP, a social worker (for the impact of her condition on the children) and a clinical psychologist.

Diagramatically this is shown in Diagram 3

Diagram 3: A Mother with a Nervous Breakdown

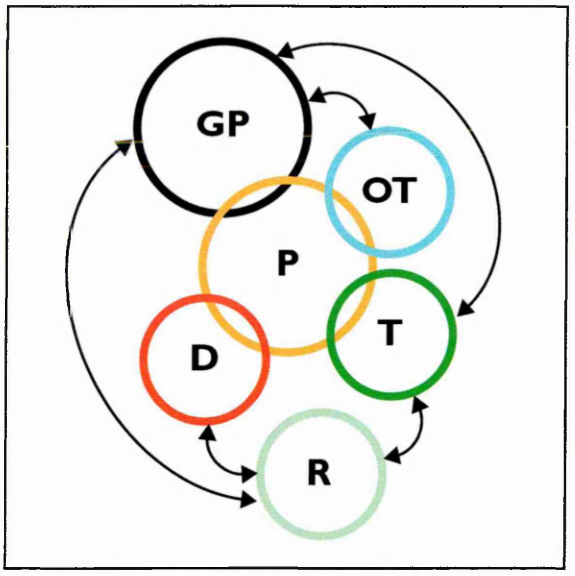


P	=	Patient
GP	=	General Practitioner
SW	=	Social Worker
CP	=	Clinical Psychologist

Each of the professionals will see the service-user but the only correspondence between them will usually be a written note of referral and even then the clinical psychologist will usually correspond through the GP and not with the social worker directly.

Each of the professionals will also have been educated separately and their only knowledge of the others work will have been acquired through their work, not through their formal education. Even more separation exists for the diagnostic radiographer, the therapeutic radiographer and the occupational therapist. (See Diagram 4)

Diagram 4: A Service-User with Lower Back Pain



GP	=	General practitioner
P	=	Patient
OT	=	Occupational therapist
D	=	Diagnostic radiographer
T	=	Therapeutic radiographer
R	=	Radiologist

In Diagram 4 a service-user with lower back pain would go to their GP. The GP would refer the service-user to the diagnostic radiography out-patients department for X-rays on his/her lumbar spine. The diagnostic radiographer would then take the X-rays. If for example, the radiologist (doctor specialising in radiography) diagnoses secondary cancer deposits in the spine, this would then be reported to both the Radiotherapy Department and to the GP. The GP or radiologist could then request radiotherapy treatment for the service-user. The radiotherapy radiographer would then carry out the treatment requested. The GP would be kept informed of the service-user's progress and once the service-user recovered may refer him/her to an occupational therapist, in order for the occupational therapist to assess the service-user and to advise on the aids necessary to help the service-user get around the home.

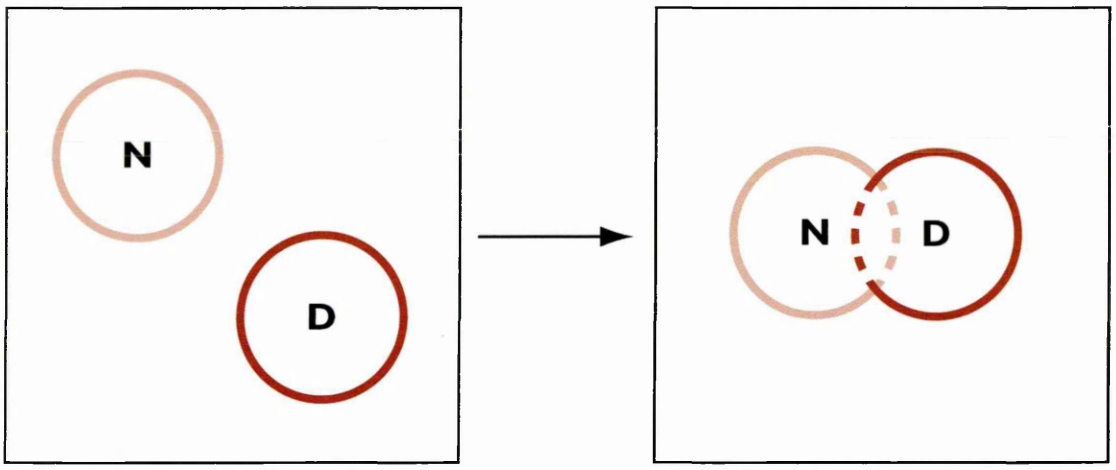
It could be argued that in the above scenario the diagnostic radiographer, the therapeutic radiographer and the occupational therapist do not need to know what happens to the service-user outside their individual care. When looking at it from the service-user's point of view, the service-user is being sent from one member of staff to another with very little idea of the reason why or of the roles of the different professionals involved. The staff (with whom the service-user is interacting) have very little idea of what the service-user has been through and what the next stage in the events of the service-user's condition will mean. If these professionals were educated together, perhaps the scenario would be different.

Unfortunately, the University of Derby, where this current study is based, does not run courses leading to medical qualifications. It was, therefore, not possible to design a shared programme for GPs along with diagnostic radiographers, therapeutic radiographers, and occupational therapists. A programme designed for radiographers and occupational therapists was possible.

Forcing different professional groups to be taught together and expecting a similar reaction from each group is not logical and can in fact be detrimental to the process of inter-professional understanding and working. If scenarios are carefully organised to allow professionals to interact in a similar way to that which they might do in practice, a more positive outcome will be the result.

Bernstein's 1971 collection code curriculum proposition is that although the boundaries between professions may initially be distinct (as identified by the circles shown in the above diagrams), a situation could arise where boundaries collapse, and as the curriculum becomes integrated these boundaries become redefined and more of the curriculum becomes collective. Rawson would probably depict this as indicated in Diagram 5:

Diagram 5: Boundaries Between Professions



Initial scenario End Result

N = nurses
D = doctors

Such a programme would not of course challenge head-on the obvious power struggles that have been reported to occur when shared learning is undertaken by such diverse groups as doctors, nurses and social workers etc. Radiographers (diagnostic and therapeutic) and occupational therapists, do still have their own preconceived professional identities and roles, and at the time of the commencement of this research investigation, had experienced little in the way of shared learning during training.

If the consequences of this are considered in terms of curriculum design, then any new programme which is being designed to incorporate shared learning must:

i) demonstrate the overlap that exists in the curricula of different professional groups.

ii) have the facility to test out whether these aspects of the curricula are appropriate, at various points during the operation of the course.

iii) enable the curriculum to be modified in accordance with the new boundaries which are being set up throughout the course.

Hammick (1998) brought an added dimension into play by defining two types of inter-professional education, Type 1 being undergraduate education and Type 2 being post graduate education. Emphasis in planning the curriculum for either type, focuses on the individuality of the students. This then requires the curriculum to be developed in such a way as to provide a means by which students have time to identify both their own individual values and the values of each profession. The students also need time to reflect on their experience throughout their training and to learn, in various ways, about both their own profession specifically and about inter-professional issues.

Problem-based Learning within Curriculum Design

As reported earlier, the move of health care education into the higher education sector was brought about in 1989 by Working Paper 10 of the Government White Paper, "Working for Patients". This was aimed at helping the integration of health care educators, as it was seen that they could now work towards what Pelligrino (1977 - cited by Piggot 1980) described as a "coronation" for Schools. This "coronation" was concerned with the individual mission of the professional groups, i.e. it was aiming to provide manpower and advanced knowledge suited to the major needs of the society in which they serve.

Even at this early date, Pelligrino is said by Piggot to speak of optimising relationships between different health professions, in order that students could experience a common language and an understanding of each others roles, as they developed a capacity to work together. Wolman (1977) had also recognised the necessity for participants who came together from different backgrounds, needing to acquire a new language. However, many of the groups had thought that the acquisition of the new language would mean taking onboard all aspects of the other profession's language, terminology and jargon. Others thought that a more simplistic language would be produced which would mean that each profession would reduce the terminology it used, so that the lowest commonly understood language would be used by all parties. This was feared by some as likely to erode the professional base of those involved. In the event, the combined group found a new vocabulary by combining the jargon and peculiarities of the language of the individual professions.

Piggot (1980) also cites Wachter (1976) who, he claims, explains how communication in an inter-professional group developed into another language as the thinking of the different professions became one. This common, yet more complex, language is very readily understood if one considers the combined professional groups working together to resolve the issues concerning a specific service-user. It is this concentration of professions on one problem in a learning environment that is termed problem-based learning.

It is important that learning in a multi-professional group has incorporated within it a concentration on a problem involving all the professions. As Pigott (1980) outlines, the most useful activity in the multi-professional groups working together, appears to be concentration on service-user problems and related tasks. This allows each member to understand the value of his/her own contribution and to appreciate the differences in the framework and the approach of the other professions. This type of emphasis was endorsed by Harden (1984) when he wrote about problem-based learning in the context of the education of doctors; by the World Health Organisation (1988), which identified problem-based learning as the educational methodology for health and social care professionals; by Foldevi and Trell (1993) who outlined a process of problem - based

learning in a community - orientated health promotion of professionals; and by Funnell et al (1992) who studied problem-based learning for the education of health care professionals as a whole.

What Does the Problem - Solving Method Entail ?

Use is made of a problem - solving approach when students are given responsibility to help each other, to share information, to achieve mutual understanding and to develop a common plan of action. The purpose is to bring the students together to understand the problems chosen or the methods used to emphasise the purpose. The students must be given responsibility for their own learning and must be provided with opportunities to put this into practice. An example of this is a problem - solving programme which was devised in Boston, (Malzen-Shelly Muhl, 1988) on the basis of several underlying assumptions. These included the following:-

i) Inter-professional education should supplement not replace the work of the students in their separate professions.

ii) The programmes should primarily subject students to value confrontation i.e. the need to reconcile the value of judgements made by students from several professions.

iii) Value confrontation requires groups small enough to engage in free, frequent interchange of thoughts and opinions.

iv) Value confrontation is facilitated through joint analysis and attempts resolution of real problems of immediate concern to society. The "reality" of the problem, requires "reality" in the process of resolving it, forcing students to assume unfamiliar roles which many may occupy in later life.

v) The problem selected for analysis should be carefully circumscribed

vi) A written, carefully designed research report, must be produced, as this will avoid an essentially unstructured, superficial experience without direction or goal. The requirement of a report enhances the quality and depth of process. The student is required to synthesise the value of the learning and the subsequent widening of perspective which is the goal of inter-professional education. The evaluation report of this exercise emphasises the enthusiasm generated, particularly by students.

Linköping has taken the problem-based learning method a stage further, and has developed seven jumps which the students should take during their solving of a problem. (This was mentioned in Chapter 3, page 49 and the seven jump model is presented as Appendix C)

Model of Shared Learning in the New Courses

In taking into account the factors regarding curriculum design, it was important to recognise that where the students were brought together to cover a specific syllabus area, problem-solving approaches were used as much as possible. In these problem-solving scenarios, it was emphasised that consideration should be given to the impact on the service-user, and that tutors should bear in mind what effect this type of teaching was having on the redefining of the professional boundaries.

The model of shared learning in the new courses modified the Russian doll approach (Chapter 3 page 57 and Appendix D). The basic sciences were taught alongside the profession specific aspects and, in addition, the students were encouraged to gain a better overall understanding of the impact of their profession on the service-user and on the other professions with whom they were working.

Designing the Questionnaire

In order to undertake a longitudinal evaluation of the shared learning experience of both students and staff, it was necessary to design a specific questionnaire. It had become

apparent that the most crucial indicator for change was that of attitudinal change and Arnold (1995) stated that a positive attitude to inter and multi-professional working is best engendered during the pre-qualification education, before the recruits achieved the traditional view of working. As no attitudinal questionnaires concerned with shared learning were available prior to this study, Oppenheim (1992), who had looked at the design of attitudinal questionnaires in general, was used as a base from which to start. The experiences of Carpenter and Hewstone (1996), who had looked at the similarities and differences in attitudes and skills of members of different professions, confirm that the correct factors were taken into account when designing the attitudinal questionnaire.

In 1991, Robinson, published collections of tested attitudinal measures, but the validity of these scales had been criticised by Kline (1993). In addition, on reviewing these measures, none was found to exactly meet the requirements for monitoring the attitudinal changes of the staff and students identified for this study. It was, therefore, necessary to specifically design an appropriate attitudinal questionnaire for this study.

Monitoring Attitudinal Changes

In considering how monitoring the attitudes of staff and students was to be best achieved, two scaling types seemed to be appropriate for consideration, the Thurstone and the Likert.

Thurstone-type Scaling

In 1929, Thurstone and Chave published the article "Attitudes Can Be Measured". At the time, this was seen as radical as, up to this point, attitudes were seen as being too vague and subjective for any real measurement to be undertake. Other workers further developed Thurstone scales such that a list of statements was constructed with which a respondent could either agree or disagree. The sum of positive responses was then used in a scoring system. The problem with this method of scoring is that only the positive responses are noted.

Likert-type Scaling

In constructing a Likert scale both positive and negative statements are formulated and the respondent chooses one from a scale of; Strongly Agree, Agree, Disagree, or Strongly Disagree.

A further middle line response could also be included, that of "Undecided". However, researchers often omit this middle column, as there is a tendency for respondents to use it and "play safe". Its exclusion forces the respondent to make either a positive or a negative response, a situation which was preferred in the current research investigation and which was supported by Stenhouse (1992) who stated that:

"Researchers must justify themselves to practitioners, not practitioners researchers"

In the context of research into shared learning (where no matter how carefully the strategy for introducing the change in curriculum delivery is planned, there will always be a necessity to monitor ongoing change), it seemed that action research would be the most appropriate research methodology to select.

It was decided to undertake a longitudinal (over four years) action research study into the implementation of shared learning at the University of Derby, using the Radiography and Occupational Therapy students and their tutors as the prime focus of investigation, using a 4 response Likert scale.

As the courses were being undertaken to give the students a professional as well as an academic orientation, it was important to ensure that not only were the correct knowledge and skills acquired, but also that the attitudinal factors were taken into consideration, as suggested by Jarvis (1983).

The courses were modified over the duration of this study and in order to fullfill the aims and objectives (page 5) and relate the responses given in the attitudinal questionnaire to the resultant changes in the courses, a log of the changes was maintained. (Minutes from

Course Committees and Examination Boards were found to be useful tools in maintaining this log).

In addition to the analysis of the responses to the statements in the attitudinal questionnaire, the courses were monitored by using the following mechanisms:

i) Course Committees; both in attendance as a participant observer and by using the minutes of the meetings.
ii) Examination Boards; both in attendance as a non-participant observer, and again by using the minutes of the meetings.

Conclusion

Several different factors, as outlined in this current chapter, are now known to be very important when considering the design of the curriculum and any research questionnaire that might be used in the introduction and development of inter-professional education (Sommer and Sommer, 1991).

For example, any model of inter-professional curriculum design should always incorporate ways in which students from one profession can interact to different extents with students of other professions and, where necessary, this should enable a redefining of the boundaries which have traditionally existed between the professional groups. In addition, it has been found that it is essential to place the service-user at the centre of the issue, whilst at the same time always considering the service-user's needs (Forman, Jones and Morley 1994).

With regard to the designing of the questionnaire, it has been established (Morse, 1991; Oppenheim, 1992) that choosing the correct methodology for the research is crucial to establishing the appropriate outcomes. In choosing an appropriate methodology for the research to be undertaken at the University of Derby, a wide variety of research approaches including those by Mitchell (1986); May, (1989); Morrison (1990); Morse, (1991) and Sommer and Sommer (1991), were all considered. As a result of

this, and of the action research nature of this proposed longitudinal, attitudinally-based study, it was felt that a sequential, deductive, triangulation of quantitative and qualitative research methodologies would be the most appropriate to use. This approach has since been supported by the more recent research reports of Hart and Bond (1995) and Walters (1995). It was considered important that the quantitative methodology should be validated and the next chapter, Chapter 6, describes the way in which the questionnaire, as the main research tool, was developed and validated.

CHAPTER 6

QUESTIONNAIRE DESIGN AND ITS VALIDITY

Designing a Method for Measuring Attitudes

The research was conducted over a four year period which allowed for the three year duration of the programmes to be considered in a longitudinal study in which, in each academic year, the students could be given the same questionnaire. Changes as each cohort progressed through the course and comparison of cohorts of students could then be monitored. The chart below shows the phase of research and the years of study investigated.

	Yr1	Yr2	Yr3	Year of Study
Phase of Research				
Phase 1 = 1994/5				<<<<
Phase 2 = 1995/6				<<<<
Phase 3 = 1996/7				<<<<
Phase 4 = 1997/8				<<<<
	^^^	^^^	^^^	

Three Sections

The questionnaire itself (Appendix E) was designed such that the methods chosen for analysis could be applied to it without any problems. It was constructed in three sections.

Section 1 was used to identify the background of the respondent, i.e. which course, year and subjects the respondent was studying/teaching.

Section 2 was used to derive information relating to the attitude of the respondent to shared

learning. This section was the largest of the questionnaire and the way in which it was formulated is discussed later. In the main, it allowed the collection of quantitative data.

Section 3 allowed the respondent to express further views with regard to shared learning and provided the main qualitative section of the questionnaire.

Attitudinal Measures

One of the principal findings of the literature review was that the existing attitudes to shared learning of both staff and students needed to be taken into consideration when devising and attempting to implement shared learning into any educational programme (Leninger, 1976). If a member of staff or a student already felt, for example, that the shared aspects would erode their professional identity, then, despite any other factor, the implementation of shared learning would probably not be successful. The questionnaire was given to both staff and students. As can be seen from the questionnaire, the staff/students were provided with a number of statements concerned with inter-professional/shared learning, with which they were asked to strongly agree, agree, disagree or strongly disagree. The answers they gave to these statements were then collated and the analysis was based on this information.

Previous Research

"The best advice we can offer to those starting out to write attitude questions is to plagiarise"

(Studman and Bradburn , 1991)

At the time of commencing this research investigation, limited research had been undertaken in this area and none with respect to undergraduate education in the professions chosen for this study. Some research into shared learning had been undertaken on post graduate courses at South Bank University. The questionnaire used in the South Bank study had sections which were used as questions/statements 5 and 6 of the questionnaire used at Derby as a source of attitudinal questions relating to shared learning.

Attitudinal Statements

The other statements in the current investigation were written bearing in mind Oppenheim's (1992) view that:

" statements should be meaningful and interesting, even exciting, to their respondents."

Initially, 150 attitudinal statements covering the benefits and pitfalls were written. Sommer and Sommer (1991) advised that a panel should be asked to respond to the statements to ensure that the attitudinal response of any future respondent could be verified against the panel's decision. So, using this process, a panel of 12 reduced the original 150 statements to the 33 which constituted question/statement 9 of the questionnaire.

The Pilot

As Harden (1984) pointed out, one of the problems in undertaking attitudinal research is the collecting of both quantitative and qualitative data. Coupled with this is the need to test whether the questions being asked are being interpreted as planned and whether any possible additional areas are being inadvertently missed.

The questionnaire was piloted by asking the student body to elect 12 representatives to complete the questionnaire and to then be interviewed about their responses. The interview served to:

i) ensure that the students felt they could openly express their views without being pre-judged.

ii) enable modification of the questionnaire in terms of its overall design. (For example, the pilot questionnaire had not been constructed in **themes** but with the

questions randomly distributed, so that the students were not influenced in any way. This random distribution seemed to confuse the students, whereas once the questions were grouped into themes, the students saw more relevance to themselves and so were more confident in expressing their views).

iii) help with the re-wording of some of the statements/questions.

iv) identify additional statements/questions which ought to have been asked. (Such statements/questions were, for example, introduced on the social aspects of the course).

v) ensure that space was provided on the questionnaire for students to expand on their views and to identify further issues that they thought needed consideration.

As a result of the pilot study, the questionnaire was modified to take into account the responses received.

The Three Sections of the Questionnaire – (See Appendix E for an example of the full questionnaire). The questionnaire is divided into the three sections identified below:

Section One

Students Background

This section, as already stated, provided the factual information on the students background e.g name, course, year, subjects etc.

Section Two

The second section sought to derive information on the attitudes of the students and was constructed in **themes**. These themes were solely to simplify the way in which the student

could answer the questionnaire and incorporated the feedback from the pilot study.

The themes in the questionnaire were as follows:

Inter-professional/Shared Learning in Clinical and Learning Settings	(Question 5)
Curriculum Issues	(Question 7)
Importance of Statements	(Question 8)
Working Practice	(Question 9)
The Other Professions Roles	(Question 9)
Support From the Institution	(Question 9)
Logistical Aspects	(Question 9)
Problem-based Learning	(Question 9)
Social Aspects of the Course	(Question 9)
Curriculum Aspects	(Question 9)
Cost Effectiveness	(Question 10)

The pilot study identified the theme "Social Aspects of the Course" which, although not actually part of the taught course, was never-the-less thought to be part of the students' overall education. The theme Curriculum Issues was included as a theme as it had been used in a previous questionnaire.

The Concepts

It was felt helpful in analysing the attitudinal aspects of the questionnaire to relate back to the benefits and pitfalls identified in the literature review and summarised in Table 9 on page 51 and to the topics identified by the staff and student interviews in the pilot study. The concepts and related questions were identified as follows:

- **Curriculum:**

  Questions, R5a, R5e, R5g, 8a, 8i along with those under the heading "Curriculum Issues " (Question 7) of the Attitudinal Section of the questionnaire, 9C1, R9C2, rev9C3, 9C4, R9C5.

- **Social:**

  Questions in the Attitudinal Section under the heading "Social Aspects" relate to this area, i.e R9S1, R9S2, 9S3, 9S4, 9S5, 9S6

Table 10: Pitfalls and Benefits with the Key Statements

THE PITFALLS	KEY STATEMENTS	THE BENEFITS	KEY STATEMENTS
Getting the logistics correct	9LA1, R9LA2, 9LA3, R9LA4,	The breaking down of inter-professional barriers	5b,8g,8h
Is equal status important?	R4	The knowledge of when to refer to another practitioner	5f,R8c
The need for institutional support	9SI1,R9SI2, R9SI3, R9SI4, R9SI5, R9SI6,	The cost effectiveness of future practice	R10a, 10b,
Common goal identification	5c,5d,8d,	The value of problem centred/common focus learning	9PBL1, 9PBL2,
		The acquiring of information about other professionals roles	9OPR1, R9OPR2, 9OPR3, 9OPR4, R9OPR5 R9OPR6,
		The altering of attitudes and the changing of stereotyping	9WP1, R9WP2, R9WP3, 9WP4, 8b, 8f

Key to Table 10

R	Reverse
PBL	Problem Based Learning
OPR	Other Professionals Role
WP	Working Practice
LA	Logistical Aspects
SI	Support from the Institution

Further testing of the questionnaire

Prior to distributing the questionnaire to the students and staff a further pilot test was applied. In this, a group of four colleagues were asked to review the questions/statements and to state what their response would be if they were supportive of shared learning. For example statement 5a was:

"Inter-professional learning can only involve joint lectures".

A response of Disagree or Strongly Disagree would indicate that the respondent's attitude was favourable to shared learning as judged by the staff reviewing the questionnaire. Only those questions where there was an agreed response from all four staff were used in the questionnaire. This resulted in 7 statements from the initial 12 remaining for question 5; the initial 6 remaining for question 6; 8 remaining from the original 17, for question 8; and 33 remaining from the original 45 for question 9.

Developing a research tool

The development and validation of a research tool is a major issue in any meaningful investigation and such a research tool (measurement instrument) is expected to demonstrate at least three key attributes namely reliability, validity and usability.

Reliability:

This often refers to the ability of the research tool to measure phenomena in a consistent way over time. In other words the research tool should yield comparable results if used in the same way at different times. Reliability is normally expressed as a number, popularly known as the coefficient. By statistical convention, the maximum reliability coefficient is 1.00. Due to confounding variables, it is not possible to develop a research tool that is 100% reliable. Thus coefficients of 0.90, 0.80 down to 0.50 may be totally acceptable depending on the area of investigation. As far as the development of a research tool is concerned, reliability plays an important part in the process of converting theoretical ideas into scientific as well as clinical measures. It is one way of putting into operation the variables to be investigated. In the current investigation, the dependent variable to be measured was attitude and the independent variable was shared learning.

In theory there are several ways of measuring reliability. For instance:

i) Test -retest reliability.
ii) Alternative forms reliability (equivalent forms reliability).
iii) Split half reliability .
iv) Cronbach's alpha reliability.
v) Kuder-Richardson reliability (K-R 20).
vi) Inter-rater reliability (inter-observer reliability).
vii) Kappa coefficient of concordance.
viii) Kendall coefficient of concordance.

In the current research investigation, the inter-rater reliability test, Kappa coefficient of concordance and the Kendall coefficient of concordance were not used. They all entail measuring the degree of agreement amongst observers, hence the term coefficient of concordance can validate the reliability of a research tool. This approach was not chosen for the obvious reason that the participants' responses were integral parts of the

questionnaire.

Reliability measures (i) and (ii) above could have been used but were not chosen because of issues of timing and the seemingly cumbersome nature of the tests. For instance, the alternative forms reliability test required that two separate tools be developed and administered fairly close together. Indeed the two tools would be measuring the operational variables, thus offering some form of methodological triangulation. The Kuder- Richardson reliability test was not chosen as this method is only used when two opposing views are being analysed. As a Likert scale was used in the questionnaire, Kuder-Richardson would not have been appropriate. For this current research investigation, the split half and the Cronbach's alpha reliability tests seemed to offer the most appropriate tests and from these, the Cronbach's alpha was chosen as this essentially is multiple use of the split half test.

Cronbach Alpha Coefficient

The Cronbach alpha coefficient can be useful for constructing the research tool in that it:

i) provides an index of the degree to which the questions/statements measure attitudes, and

ii) offers a basis for using the same research tool for future or subsequent studies.

(This is how intelligence, personality and aptitude tests were developed.) So, for the purposes of developing the research tool, only the first set of results (Phase 1) was analysed for reliability. The assumption being that high Cronbach alpha scores on the first set of data would axiomatically mean that the second and third sets of data would be equally reliable, unless there were drastic changes to procedures, as data were drawn from the same population throughout. (The data set presented in Table 12-15 shows how the Cronbach alpha was used to validate the research tool for this investigation. Results given are for the four cohorts of students).

The Questionnaire

The questionnaire was designed to collect three sets of data, namely:

- Biographic data
- Quantitative data
- Qualitative data

Curriculum Issues (see Table 11 below) was a typical example of the type of quantitative data that was sought in the development of the research tool. It follows the usual Likert type responses to a set of statements.

Table 11: Curriculum Concept in Shared Learning

CURRICULUM ISSUES	Strongly Agree	Agree	Disagree	Strongly Disagree
It is important to have shared knowledge of life and death issues: abortion, euthanasia & bereavement				
It is important for professionals to share the study of ethics & ethical principles				
Shared learning has to address issues of privacy and informed consent				
Shared learning is about understanding the roles of various professions				
Shared learning is concerned with the quality of service-user care				
Shared learning should address substance abuse				
Shared learning engenders good communication				

Reliability Score from the Curriculum Concept:

The reliability factor in the first phase of using the questionnaire for the curriculum concept was 0.6106 which, whilst below the 0.7 desired, was thought to be sufficient evidence of

reliability for the questionnaire to continue in subsequent phases. The overall score for the curriculum concept taking all four phases into account was quite good at an alpha coefficient of 0.8589. The statistic was obtained as shown in Table 12:

Table 12: Curriculum Concept: Cronbach alpha reliability

		Mean	Std Dev	Alpha if item deleted	Justification
1	C1	2.2679	0.9302	0.5371	Curriculum statement
2	RC2	1.9583	0.7195	0.4662	Curriculum statement
3	RC3	2.1458	0.7762	0.5973	Curriculum statement
4	C4	2.1815	0.8533	0.4384	Curriculum statement
5	RC5	1.9375	0.6174	0.5011	Curriculum statement
6	C6	1.7768	0.6653	0.4116	Curriculum statement
7	R5A	1.6607	0.6765	0.1445	Lectures
8	R5E	1.8393	0.6402	0.5202	Classroom
9	R5G	1.9315	0.7278	0.5513	Time out of course
10	6A	1.6607	0.6261	0.4949	Curriculum content
11	6B	1.7232	0.5763	0.5321	Curriculum content
12	6C	1.5000	0.5353	0.4316	Curriculum content
13	6D	1.5952	0.5858	0.4728	Curriculum content
14	6E	2.1488	0.7051	0.5824	Curriculum content
15	6F	1.5000	0.5834	0.3921	Curriculum content
16	6G	1.7262	0.5206	0.4373	Curriculum content
17	8E	1.7798	0.5978	0.5261	Curriculum content
18	8A	1.5208	0.5830	0.3942	Inter-professional awareness

Key To Table 12

R	Reverse
C	Curriculum

N of Cases = 336.0
N of Items = 18
Alpha = 0.8589

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	32.8542	42.8652	6.5472	18

The reliability coefficient of 0.8589 is being taken to represent the degree of agreement amongst the 336.0 subjects who completed the questionnaire. Using the Curriculum Concept as an example, there is good reason to believe that the research tool is reliable. As

can be seen in Table13, this conclusion is reached on the basis of computing the reliability coefficient of the 336 cases across the 18 items. Indeed the eighteen items constitute all the items of the questionnaire pertinent to the curriculum.

Reliability Score from the Social Concept:

The reliability factor in the first phase of using the questionnaire for the social concept was 0.6389 which, whilst below the 0.7 desired, was also thought to be sufficient evidence of reliability for the questionnaire to continue in subsequent phases.

Statements /questions in the Attitudinal Section of the questionnaire under the heading "Social Aspects" relate to this area, and the statistic was obtained as in Table 13 below:

Table 13: Social Concept: Cronbach alpha reliability

		Mean	Std Dev	Alpha if item deleted	Justification
1.	RS1	2.8961	0.7598	0.6789	Social statement
2.	RS2	2.6169	0.7427	0.7202	Social statement
3.	RS3	3.3312	0.6163	0.6319	Social statement
4.	S4	2.5065	0.6592	0.6667	Social statement
5.	S5	2.4351	0.6460	0.6876	Social statement
6.	S6	3.2987	0.5844	0.6784	Social statement

Key To Table 13

R	Reverse
S	Social

N of Cases = 154

N of Items = 6

Alpha = 0.7164

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	17.0844	6.7052	2.5894	6

Although the number of variables used for the social aspects is only six, the number of cases (154) ensures that with a Cronbach alpha result of 0.7164, for the four phases. The reliability of the questionnaire to test the social aspects has been proven.

Reliability Score from the Benefits Concept

A similar exercise was undertaken with statements /questions related to the benefits of shared learning. These were 5b,5f,8b,8f,8g,8h,8c reversed, the four statements/questions under the heading, "Working Practice"; the six statements / questions under the heading, " Other Professionals Role"; and the statement/ question under each of "Cost Effectiveness" and "Problem Based Learning".

The reliability factor in the first phase of using the questionnaire for the benefits was 0.7343 which was above the 0.7 required to give evidence of reliability for the questionnaire and to continue in subsequent phases.

The statistic was obtained as in Table 14 below:

Table 14: Benefits Concept: Cronbach alpha reliability

		Mean	Std Dev	Alpha if item deleted	Justification
1.	5b	3.0091	0.7480	0.7240	Team work
2.	8b	2.0000	0.5585	0.7059	Knowing roles helps professional
3.	5f	2.3727	0.7402	0.6909	Shared clinical
4.	8f	1.9727	0.5326	0.6954	Educators dealing with ethics
5.	8g	1.4909	0.5543	0.6923	Shared clinical
6	R8c	2.3000	0.6574	0.7082	Benefit to patient care
7	8h	2.2727	0.7771	0.7102	Team building
8.	RCT10a	0.5545	0.4993	0.7032	Cost not a factor
9.	CT10b	0.5273	0.5015	0.7025	Improved cost effectiveness
10.	PBL1	2.0636	0.5630	0.7168	Enjoy PBL
11	PBL2	2.4545	0.6301	0.6934	Enjoy researching topic together
12.	OPR1	2.0182	0.6494	0.6781	Knowing other role
13.	ROPR2	2.9182	0.6373	0.7204	Wants chance to talk to colleagues
14.	OPR3	1.9455	0.6885	0.6971	Understands differences
15.	OPR4	2.3636	0.7260	0.7004	Knows more about the other profession

16.	ROPR5	1.9455	0.5558	0.6763	Can see point of shared learning
17.	ROPR6	2.9909	0.5332	0.7249	Enjoying profession specific aspects
18.	WP1	1.9818	0.7165	0.6691	Knowing more improves practice
19.	RWP2	1.8818	0.6315	0.6703	Can see how it would help
20.	RWP3	2.0636	0.6944	0.6834	Can see how it would help
21.	WP4	2.3182	0.6898	0.6819	Better performance

Key to Table 14

R	Reverse
PBL	Problem Based Learning
ORL	Other Professionals Role
WP	Working Practice
CT	Statement 10 from questionnaire

N of Cases = 110
N of Items = 21
Alpha = 0.7083

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	43.4455	26.2860	5.1270	21

The overall the reliability coefficient for the four phases is 0.7083. Again, a good reliability score.

Reliability Score from the Pitfalls Concept

To test one of the pitfalls, the one seen as being the environment in which the students were taught, statements/questions relating to the environment/support or to the logistics of teaching were correlated along with 8d, 5c,5d.

The reliability factor in the first phase of using the questionnaire for the pitfalls was 0.6674 which whilst below the 0.7 desired, was again thought to be sufficient evidence of reliability for the questionnaire to continue in subsequent phases.

The statistic was obtained as in Table 15:

Table 15: **Pitfalls Concept:Cronbach alpha reliability**

		Mean	Std Dev	Alpha if item deleted	Justification
1.	LA1	1.8276	0.7473	0.8871	Like tutorials with other profession
2.	RLA2	2.4207	1.1015	0.8860	Room not too small
3.	LA3	2.1862	0.9484	0.8890	Enjoy travelling to different sites
4.	RLA4	2.3931	1.1364	0.8827	Room not too small
5.	SI1	1.7690	0.6267	0.8991	Tutors believe shared learning will be beneficial
6.	RSI2	2.2793	0.7633	0.8898	Do not need updating
7.	RSI3	2.1034	0.6626	0.8950	Does not believe it is forced
8.	RSI4	2.3966	0.8673	0.8852	Do believe the course was planned
9.	RSI5	2.2862	0.8590	0.8888	It was explained
10.	RSI6	2.1310	0.8545	0.8863	Did know about the profession
11	8d	1.7793	0.5995	0.8955	Professional bodies should lead
12	5c	1.6931	0.6801	0.8971	Looks at patient as a person
13	5d	1.6276	0.6163	0.8963	Group coming together to solve the problem

Key to Table 15

R	Reverse
LA	Logistical Aspects
SI	Support from the Institution

N of Cases = 290
N of Items = 13
Alpha = 0.8984

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	26.8931	51.5560	7.1803	13

The reliability coefficient for all four phases was 0.8984, so the reliability of the

questionnaire to test the pitfalls has been proven.

Cronbach Alpha Result for the Whole Questionnaire

The Cronbach alpha results for each concept derived from the four phases were:

Curriculum	0.8589
Social	0.7164
Benefits	0.7083
Pitfalls	0.8984

So a Cronbach alpha result of above 0.7 had been achieved in all aspects. This ensured that the reliability of the questionnaire was beyond doubt.

Section 3

Students' Individual Additional Views

This section sought to derive further, generally qualitative, statements from the students i.e the students individual additional views and perceptions of shared learning.

As already stated, one of the benefits of shared learning derived from the literature review, was that shared learning would help the professionals to be more cost effective (Scott - Wright 1976) but doubts had already been raised as to whether shared learning would in fact make the running of the programmes cheaper. This would of course be the case if students were all put into the same classroom and taught together. This method of teaching, would not allow for the necessary interaction to take place and such interaction would certainly be necessary if true shared learning and inter-professional education were to take place.

So the following statements were included in the third section of the questionnaire:

"The following statements refer to cost effectiveness.
Please tick the appropriate box and give reasons for your choice.

Some people believe that shared learning has been introduced into courses to:

a) make courses cheaper Agree ☐ Disagree ☐

Please give reason(s) for your choice

☐ ----------
☐ ----------

b) help the professionals to be more cost effective in practice Agree ☐ Disagree ☐

Please give reason(s) for your choice

☐ ----------
☐ ----------

A final question was asked to enable respondents to be as open as possible about their views on shared learning.

The final question was:

"Please add any personal comments derived from your experience of being involved in shared learning".

☐ ----------
☐ ----------

Conclusion

The questionnaire was designed using data from the literature review to formulate the questions. It was constructed in three sections to give:

i) background information

ii) quantitative data on the attitudinal changes in the student response over the four year period.

iii) qualitative responses.

The questionnaire was slightly amended following a pilot study to include additional questions and the quantitative section of the questionnaire was checked using a Cronbach alpha reliability test.

The results for each of the four concepts;

Curriculum (0.8589),

Social (0.7164),

Benefits (0.7083)

Pitfalls (0.8984),

were all found to be above the 0.7 indicator, so proving the reliability of the questionnaire.

It was now considered possible to review the responses to the questionnaire over the four year period in the confidence that the questionnaire would provide significant information with regard to the students' attitude towards shared learning. This review is reported in Chapter 7.

PART 3

RESULTS, DISCUSSIONS AND CONCLUSIONS

CHAPTER 7

QUANTITATIVE RESULTS OF THE ATTITUDINAL CHANGE OVER THE FOUR YEARS

In Chapter 6 it was established that the questionnaire would give a reliable indication of the attitudes of students. The questionnaire was distributed for four consecutive years (or phases). The numbers of student questionnaires reviewed at each phase are shown below in Table 16:

Table 16: Number of Student Questionnaires by Phase

Phase	Type				Group Total
	Diagnostic Radiography	Therapeutic Radiography	Full Time Occupational Therapy	Part Time Occupational Therapy	
	13	2	19	5	39
1995	8	4	8		20
	2	6	15		23
		1	1		2
Phase 1 Total	**23**	**13**	**43**	**5**	**84**
	4	3	18	5	30
1996	5	2	15		22
	1	4	12		17
	1				1
Phase 2 Total	**11**	**9**	**45**	**5**	**70**
	11	3	14		28
1997	6	4	16	1	27
	5	3	12	4	24
			1		1
Phase 3 Total	**22**	**10**	**43**	**5**	**80**
	11	7	20		38
1998	6	4	52	9	71
	12	5	41	8	66
				9	9
Phase 4 Total	**29**	**16**	**113**	**26**	**184**
All Phases Total	**85**	**48**	**244**	**41**	**418**

It is interesting to note that for the first 3 phases the number of respondents was approximately the same. In the fourth phase, however, the number responding increased from approximately 50% to 70%. This may have been as a result of the methods used for collecting the completed questionnaires, which varied across the four phases.

In phase 1 students were asked to return the completed questionnaires by post. The return rate was disappointing and therefore in subsequent years the method of collection was changed.

In the two subsequent years tutors handed out the questionnaires and students were asked to leave the questionnaires in a box at the end of the teaching session. The return rate for both these years was again disappointing and the method of collection was again amended.

In the fourth phase tutors collected in the questionnaires themselves at the end of the teaching session. This latter method of collection may account for the difference in numbers collected in phase 4.

The total number of students to whom the questionnaires were distributed along with those completed and returned is shown in Table17 below.

Table 17: Number of Questionnaires Distributed and Returned.

Phase		Type				Group Total
		Diagnostic Radiography	Therapeutic radiography	Full Time Occupational Therapy	Part time Occupational Therapy	
1995	Distributed	39	25	95	8	167
	Returned	23	13	43	5	84
	Percentage	59%	52%	45%	63%	50%
1996	Distributed	31	20	99	13	163
	Returned	11	9	45	5	70
	Percentage	35%	45%	45%	38%	43%
1997	Distributed	41	22	93	11	167
	Returned	22	10	43	5	80
	Percentage	54%	45%	46%	45%	48%
1998	Distributed	43	28	154	39	264
	Returned	29	16	113	26	184
	Percentage	67%	57%	73%	67%	70%

The responses were analysed using a Statistical Package for Social Scientists (SPSS). Due to the nature of the attitudinal scale, the numbering for the SPSS analysis started with 1 for strongly agree and progressed to 4 for strongly disagree. The lower the score and the lower the point on the graph the more positive the attitude of the students. The following aspects are considered in turn:

(i) The changes in attitudes occurring in 1995, 1996, 1997 and 1998.

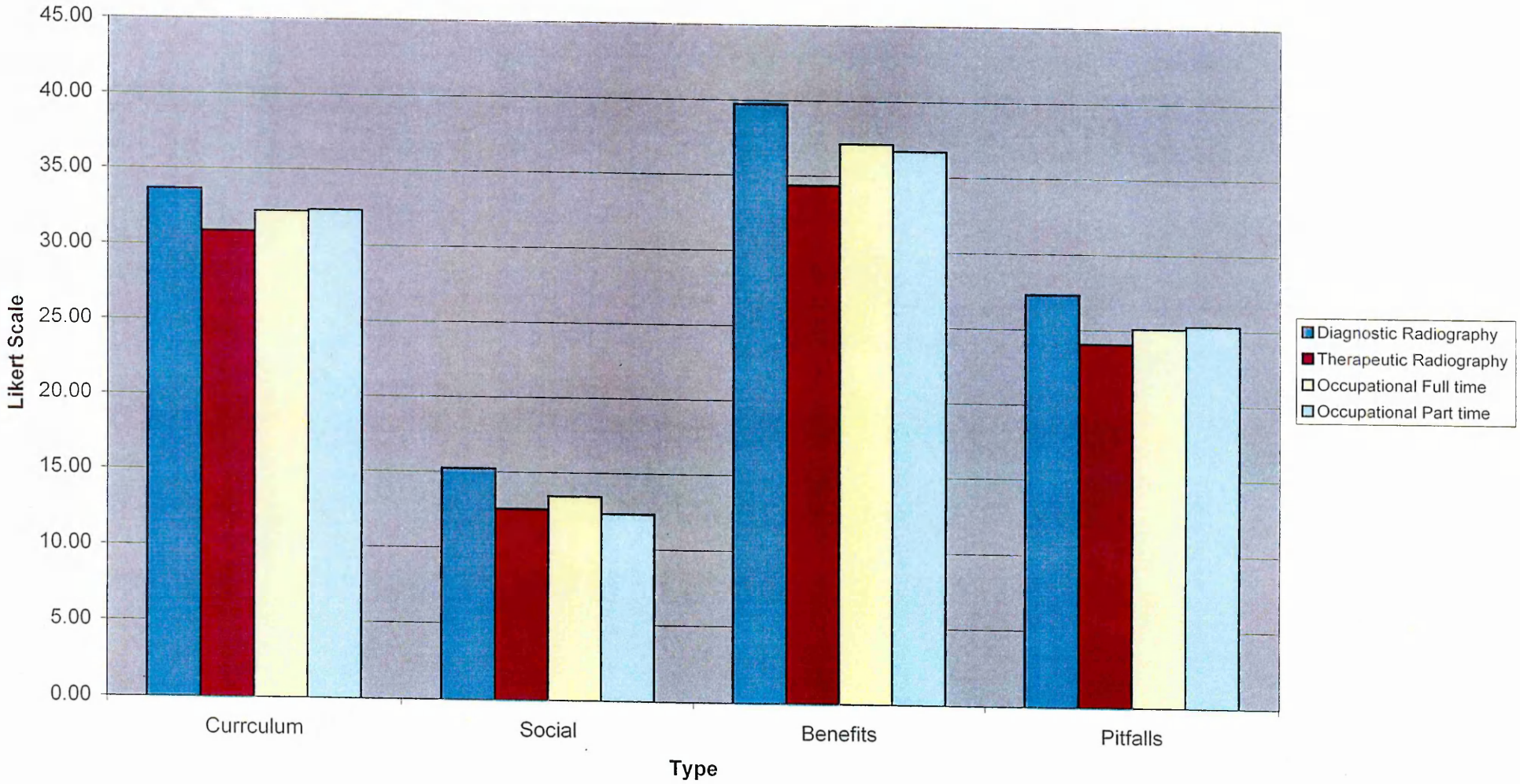
(ii) The combining of the results of all students across the four phases.

(iii) The comparing of the trends between each year of students, irrespective of phase.

(iv) The changes in attitudes occurring as one cohort continues through the three years of study.

The results obtained for each of these aspects are presented graphically in the figures on the following pages.

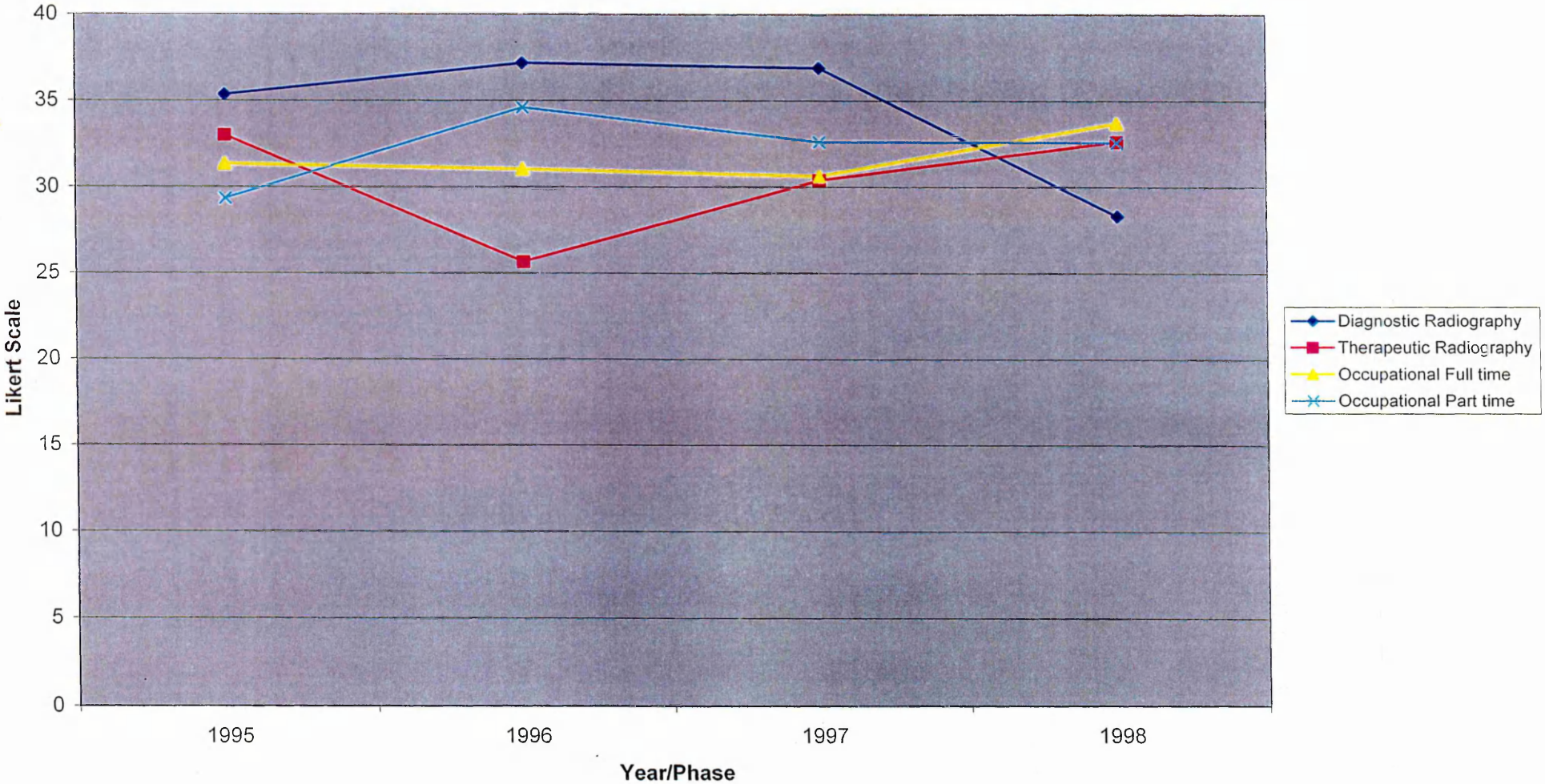
Figure 1
Measure by Type



1. Changes in Attitudes Occurring in 1995, 1996, 1997 and 1998

The graphs show the changes in the four concepts over the four phases (Figure 1). For this analysis the main interest was the change in attitude of each of the professional groups with respect to the concepts of Curriculum, Social, Benefits and Pitfalls. The information derived was for each professional group across the four phases, irrespective of the year of study which the students were actually undertaking in that phase.

Figure 2
Curriculum



Curriculum Concept

As can be seen from Figure 2, the band of variation between the professions is quite narrow in phase 1 (1995) and slightly narrower still in phase 4 (1998). This indicates that the students were largely in agreement with each other in phase 1 and although their opinions became more divergent, there was a smaller range of views in phase 4 than in phase 1.

Taking each of the professions in turn:

Diagnostic Radiography: These results became more negative at phases 2 and 3 but were much more positive by phase 4.

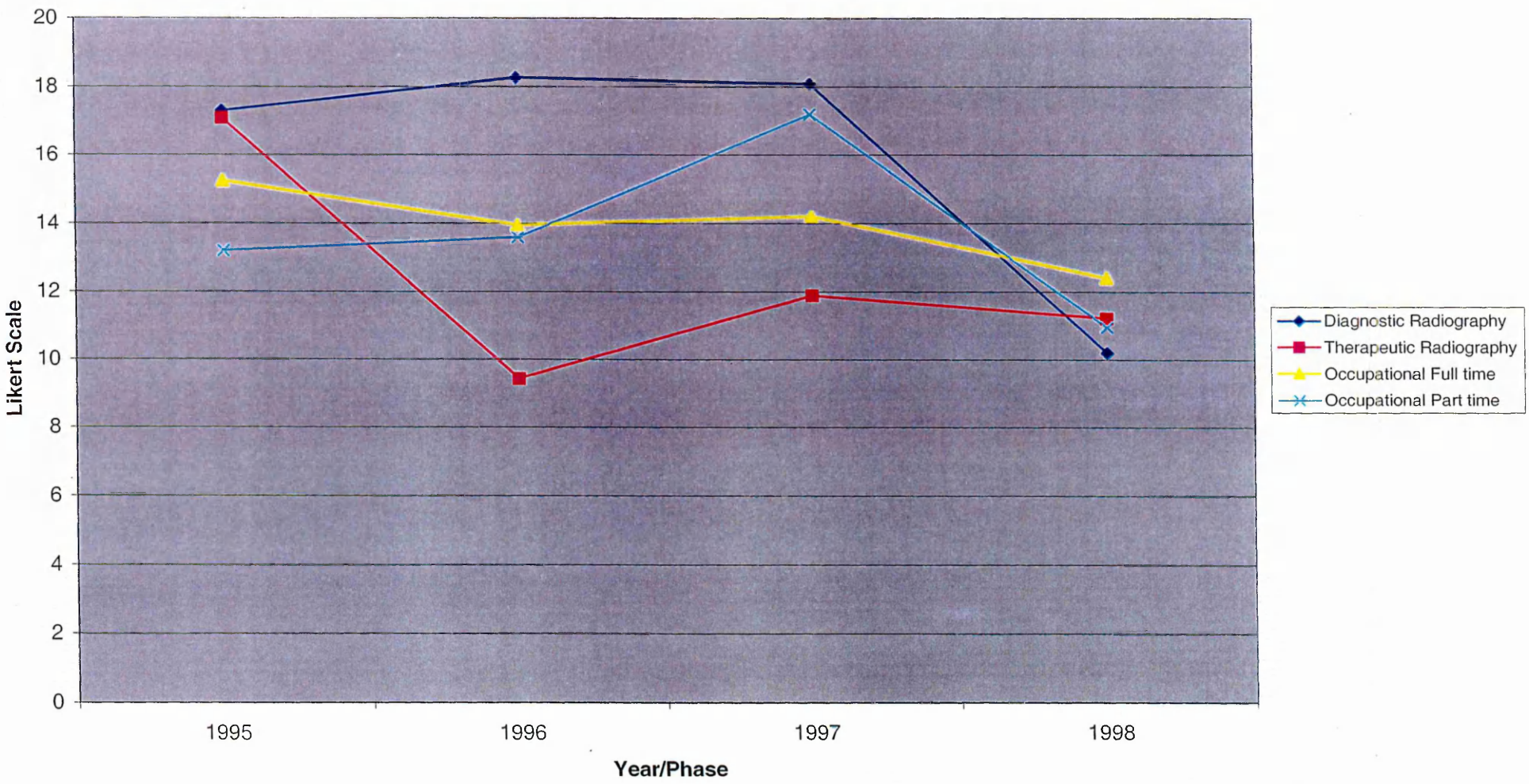
Therapeutic Radiography: These results, although very positive in phase 2, had returned to their starting position by phase 4.

Occupational Therapy (Full time): These results were almost consistent over the whole period of study but were slightly less positive by 1998 (phase 4).

Occupational Therapy (Part time): These results were negative at phase 2, but become more positive in phases 3 and 4. They did not become quite as positive as they were in phase 1.

From the above results it can be seen that variations occurred over the four phases in all of the professional groups with only the diagnostic radiography students showing a more positive trend in phase 4 than they did in phase 1.

Figure 3
Social



Social Concept

The responses to the Social Concept questions are shown in Figure 3. As with the Curriculum Concept, the band of variation for all the professions is narrow, particularly in phase 1 (1995) but becomes even narrower in phase 4 (1998). Phase 2 particularly, and phase 3, show quite a divergence of opinions amongst all the professions. Phase 4, not only sees the opinions of the students in a narrow band but also reveals that all the students are more positive in their attitudes to the Social Concept than they were in phase 1.

Taking each of the professions in turn:

Diagnostic Radiography: These results although more negative at phase 2, became slightly more positive in phase 3 and then very positive by phase 4.

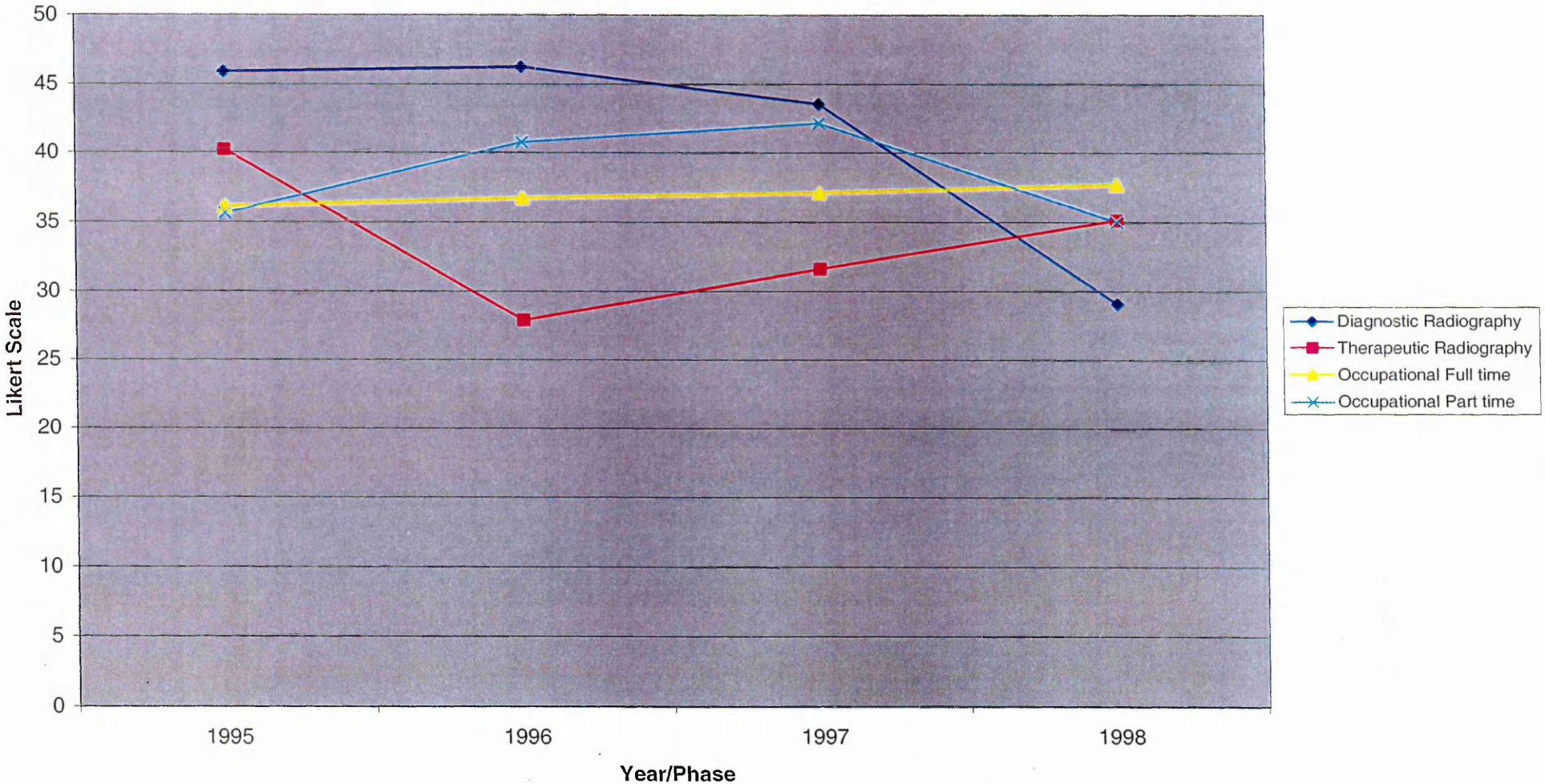
Therapeutic Radiography: These results were positive throughout the phases.

Occupational Therapy (Full time): These results became more positive in phase 2 and by phase 4 were even more positive.

Occupational Therapy (Part Time): A fluctuating set of results, from positive at phase 2, to negative at phase 3 and back to positive again at phase 4.

So, in all groups of students, the Social Concept results are all much more positive by phase 4 than they were in phase 1.

Figure 4
Benefits



Benefits Concept:

As shown in Figure 4, again the band of variation for all the professions is quite narrow in phase 1 (1995) and becomes even narrower in phase 4 (1998). Also, with the exception of the full time Occupational Therapy (which ends with phase 4 at approximately the same point on the graph as phase 1), all of the professions are more positive in phase 4 than they were in phase 1 with regard to the Benefits Concept.

Taking each of the professions in turn:

Diagnostic Radiography: These results show a very slight negative turn in phase 2 but by phase 4 the result is very positive.

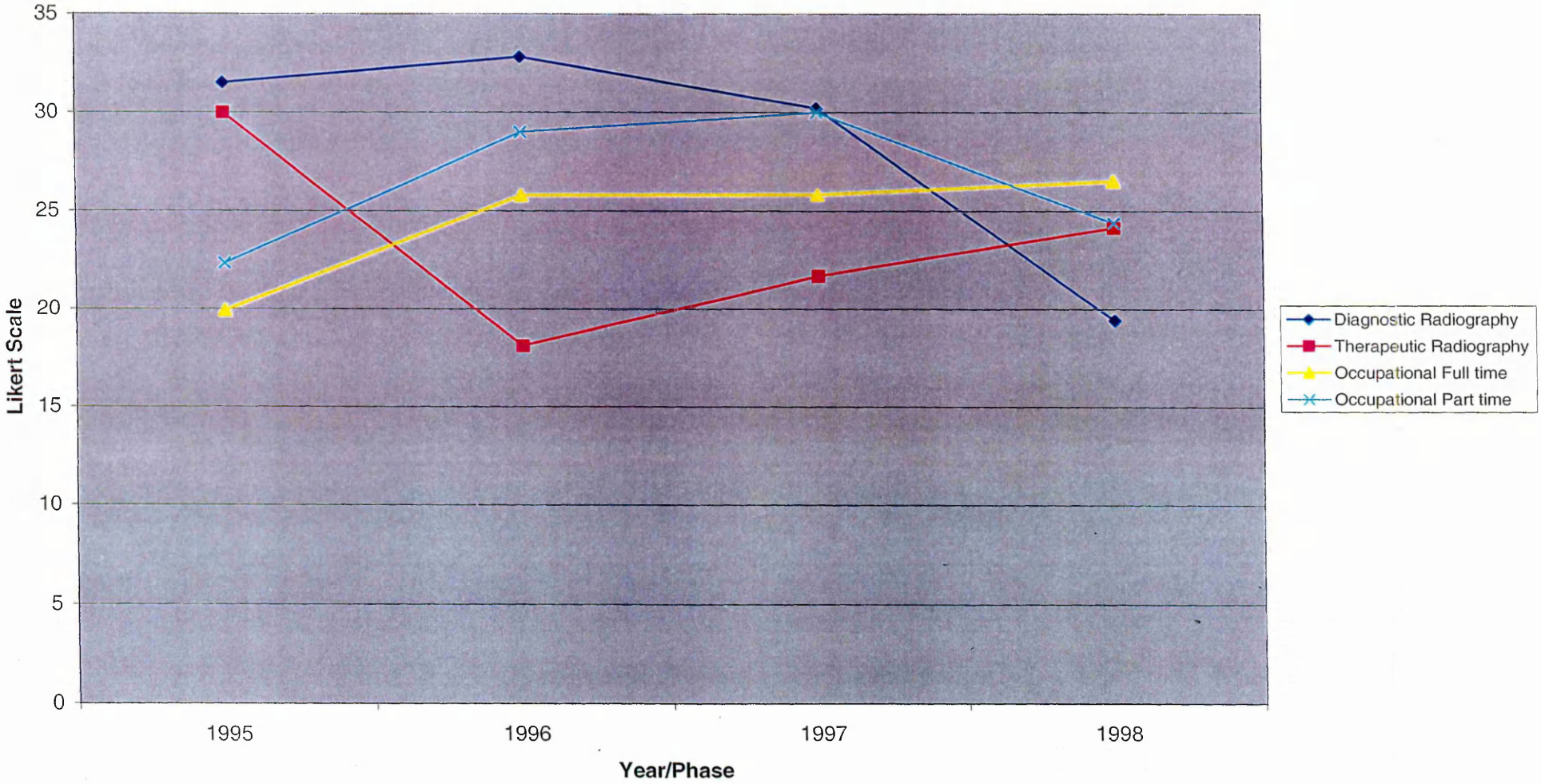
Therapeutic Radiography: A very positive result was shown in phase 2, and although the phase 3 result was becoming negative, by phase 4 it was still positive in comparison with phase 1.

Occupational Therapy (Full time): These results remained almost constant throughout the phases.

Occupational Therapy (Part Time): The results were more negative in phase 2 and 3 but were slightly more positive in phase 4 than phase 1.

So, although this is a somewhat fluctuating set of results, all the professions (other than Occupational Therapy (full time), which is approximately the same) are more positive by phase 4 than they were in phase 1 with regard to the Benefits Concept.

Figure 5
Pitfalls



Pitfalls Concept:

Yet again the band of variation for the professions is relatively narrow in phase 1 (1995) and becomes even narrower by phase 4 (1998), as can be seen in Figure 5. This again indicates that the students were more in agreement by phase 4 than they were in phase 1.

Taking each of the professions in turn:

Diagnostic Radiography: Although the phase 2 results were more negative than phase 1, they became positive by phase 4.

Therapeutic Radiography: The phase 2 results were very positive and the results in all phases remained positive in comparison to phase 1.

Occupational Therapy (Full time): The results in phase 2 were more negative than in phase 1 and then remained negative throughout.

Occupational Therapy (Part Time): The results were again negative in phase 2 in comparison to phase 1 and were slightly more negative in phase 3. By phase 4, however, they became more positive, with the end result almost the same as phase 1.

For Pitfalls, Therapeutic Radiography and Diagnostic Radiography students were more positive in phase 4 than in phase 1 but the full time Occupational Therapy students were quite negative with regard to their attitudes towards shared learning. The results of the part time Occupational Therapy students were also slightly more negative by phase 4.

Summary

For each of the four concepts the students were more consistent in their opinions by phase 4 than they were in phase 1. Also, with the exception of the Occupational Therapists for the Pitfalls concept, the students showed a more positive attitude to the concepts by phase 4 than they did in phase 1.

In tracking the individual professions in all the concepts examined, it can be seen that:

i) The Diagnostic Radiography results are all more positive by phase 4 than they were in phase 1.

ii) The Therapeutic Radiography results are also all more positive in phase 4 than phase 1.

iii) The full time Occupational Therapy results are the most consistent throughout the phases.

iv) The part time Occupational Therapy results end phase 4 in almost the same position that they occupied in phase 1 in all concepts. The Social Concept result, is, however, more positive.

Possible Rationale

It is quite likely that the students may have been more positive in phase 4 because they were enjoying the shared learning on their programmes. This may also have accounted for them showing more consistency in their opinions. If this were so, however, it would be natural for the trend to have been apparent over the previous two phases, which was not the case!

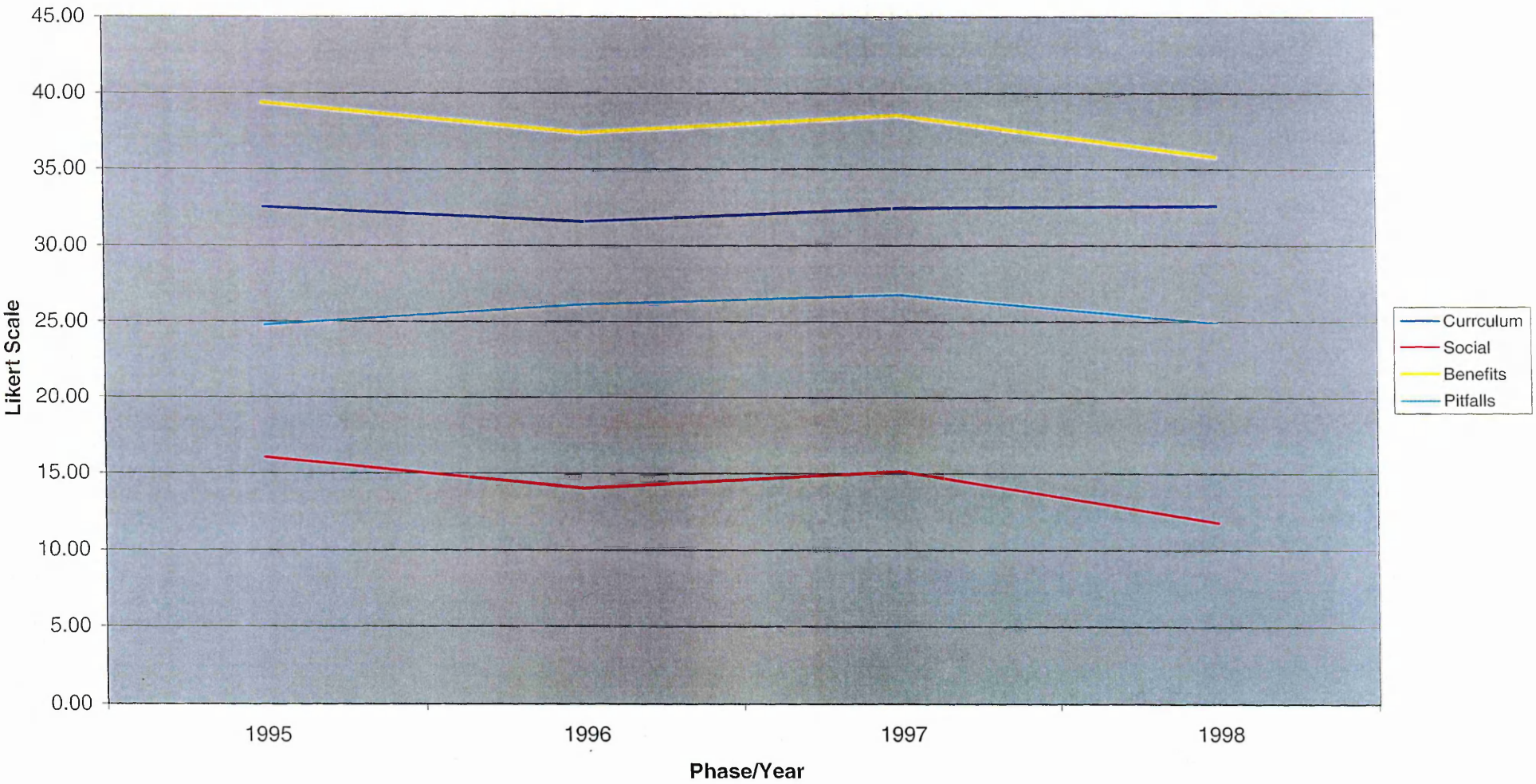
There were, nevertheless, some external factors, which may have caused the changes in attitude in phase 4. For example, the research areas of the School had been moved to a new location with specialist facilities, and discussions were taking place with regard to housing the rest of the School on one site. This would then mean that the difficulties experienced with regard to Occupational Therapy, Diagnostic Radiography and Therapeutic Radiography all being on different sites and the consequent logistical problems of transferring between sites, would be overcome. In addition, the difficulties of small or cramped accommodation would no longer be a problem, as the facilities would be purpose built.

There was the promise that the logistical problems associated with the pitfalls would be overcome.

Finally, during 1998, the Occupational Therapy students, in addition to being involved in shared learning activities with the Radiographers, had also shared some sessions with social workers as part of a research bid funded by CCETSW and the College of Occupational Therapists. This activity had received positive evaluation and it was decided that the social workers would be involved in the revalidation process, which was due to take place in 2000. This meant that Diagnostic Radiography, Occupational Therapy, Therapeutic Radiography and Social Work would all be validated together and shared modules would be part of the revalidated programmes.

In the evaluation of the project with the Social Workers, the Occupational Therapy students had expressed the view that they felt they had more in common with the social workers than with the diagnostic and therapeutic radiographers. This may have accounted for their slightly negative attitude with regard to the Pitfalls in phase 4.

Figure 6
4 Measures by Phase



2. The Combining of the Results of All the Students Across the Four Phases for Each of the Concepts

This second analysis looks at the effect of combining the professions and again considers the four concepts across the phases.

Figure 6 indicates that the Social Concept result in the most positive attitude rating for all the professions. This is followed by the rating for Pitfalls, then Curriculum and finally Benefits.

All students seem to regard the Social Concept of their programmes as being the most beneficial for them with regard to shared learning. This result confirms the findings of the changes in attitudes across the four phases but leads to the obvious question of whether the emphasis of shared learning programmes should be placed more on ensuring that the students have time to get to know each socially. This would indeed be quite crucial as the emphasis of most shared learning programmes is on the curriculum content and not on the social concepts of the programme. Conversely, the students rated the Benefits as the least important aspect of their programme yet the majority of studies identified in the literature review indicated the Benefits and Pitfalls as being the important concepts of shared learning.

In all cases, a more positive attitude (or at least the same positive attitude) is shown in phase 4 when compared to phase 1, with a very positive attitude being expressed for the Social Concept. This may again be due to the knowledge that there were plans for a purpose built facility which would bring students from all of the sites together, which would therefore enhance the social facilities for all the students.

Possible Rationale

As the students generally study the profession - specific parts of their programmes on different sites, the opportunities for them to socialise together are rare. The curriculum allows the opportunity to look at a topic jointly and allows some

opportunity for the students to get to know each other and to get to know about each others profession. Clearly, the students feel that they gain most from actually discussing matters together, informally. **It is vital that anyone considering the designing of a programme of shared learning provides the opportunity for students to socialise together.**

Comparing of the Trends Between Each Year of Students, Irrespective of Phase

This third method of analysing the results looked at the combining of results for all students (in whichever phase the data was collected) and at the trend for all first years, second years, third years and fourth years in each of the four concepts. From the information contained in Table 16 (page 113) the numbers of students making responses as first year students, second year students etc is shown in Table 18 below:

Table 18: Measures by Year

	Phase	Type				Group Total
Year		Diagnostic Radiography	Therapeutic Radiography	Full Time Occupational Therapy	Part Time Occupational Therapy	
1	1995	13	2	19	5	39
	1996	4	3	18	5	30
	1997	11	3	14		28
	1998	11	7	20		38
	Group Total	**39**	**15**	**71**	**10**	**135**
2	1995	8	4	8		20
	1996	5	2	15		22
	1997	6	4	16	1	27
	1998	6	4	52	9	71
	Group Total	**25**	**14**	**91**	**10**	**140**
3	1995	2	6	15		23
	1996	1	4	12		17
	1997	5	3	12	4	24
	1998	12	5	41	8	66
	Group Total	**20**	**18**	**80**	**12**	**130**
4	1995		1	1		2
	1996	1				1
	1997			1		1
	1998				9	9
	Group Total	**1**	**1**	**2**	**9**	**13**
	Overall total	**85**	**48**	**244**	**41**	**418**

Figure 7
Measures by Year

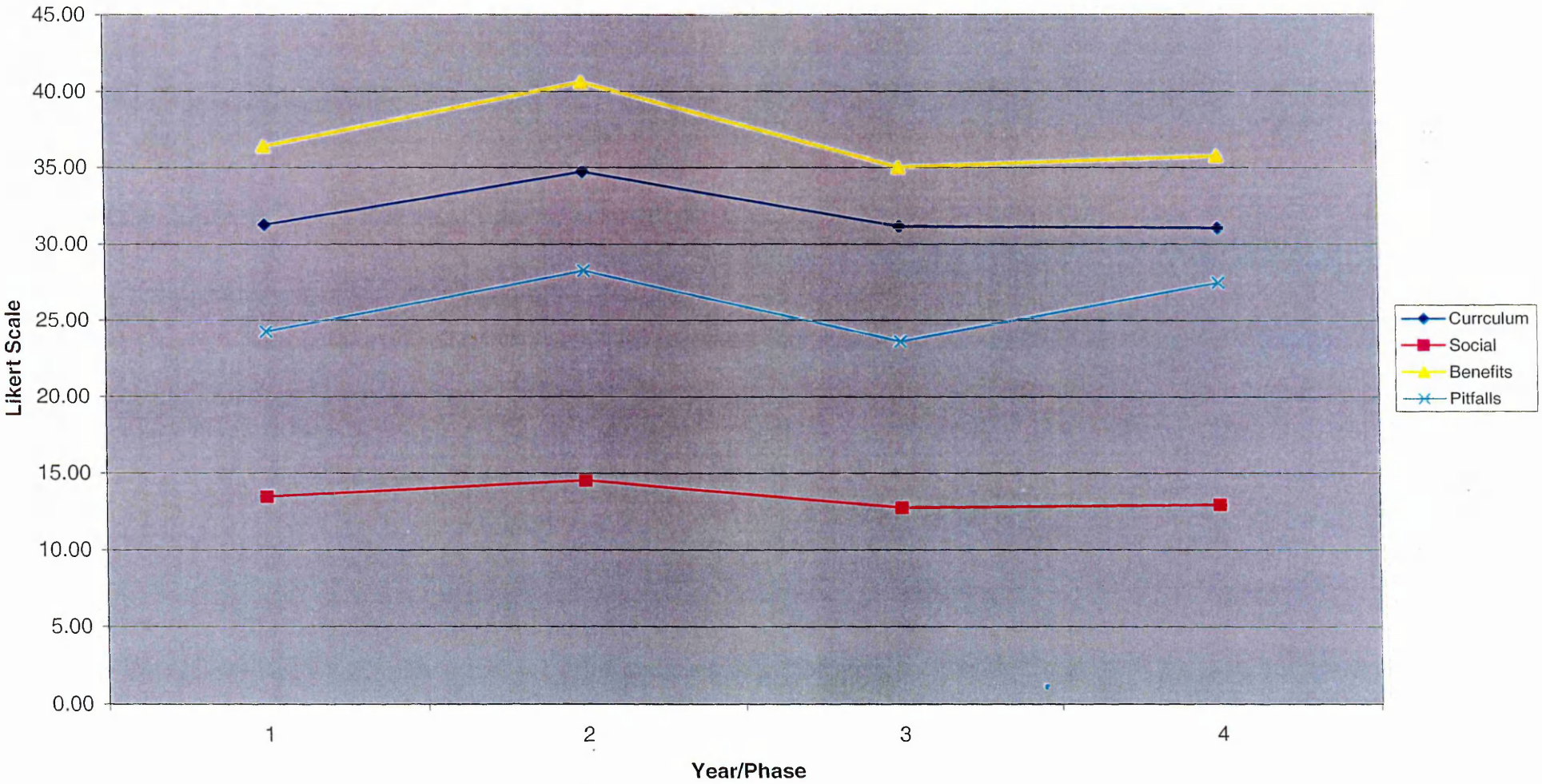


Figure 7 again shows that the Social Concept was the most positively reviewed by students over the four years. All third and fourth year students (irrespective of phase) demonstrated a similar attitude to the Social Concept as did the year one students.

Although there were fluctuations for each concept, third year students (irrespective of phase) showed a slightly more positive attitude by the time they reached that year than they did in year one. The year four results again showed some fluctuation but this may be of no value due to the small number of responses obtained.

Possible Rationale

Measuring by year in this way, although of interest, cannot show a change in attitude as the students' progress through the programme. What is of interest is that despite the curriculum they are studying, all second year students have a slightly more negative attitude to shared learning for all concepts than they do in their third year. This needs to be borne in mind when reviewing the trends as students progress through their programmes.

3. The Changes in Attitudes Occurring as One Cohort of Students Continues Through the Three Years of Study

The first year of students to undertake the newly validated programme with shared learning elements in the curriculum was the 1994/95 cohort. In 1995, when the first set of results was analysed (phase 1), this cohort was in its first year of study and in 1996 (phase 2) these students were in their second year. By looking at a match between the phase and the year of study it is possible to track this cohort of students through their studies. The full time students completed their studies in three years and by the time the 1998 results were taken they were no longer studying on the programme. The part time Occupational Therapy students were undertaking their final year of study when the 1998 set of results was taken.

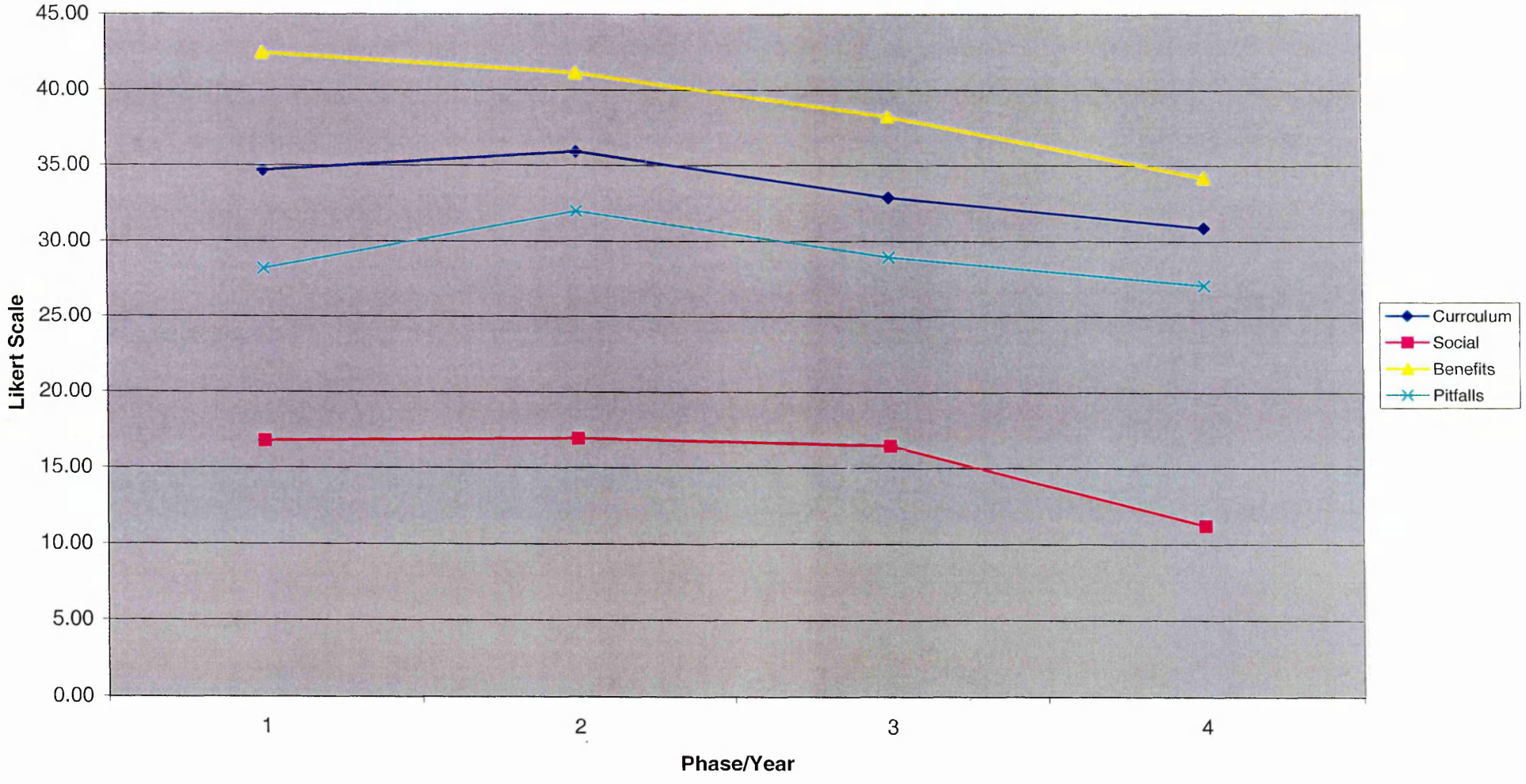
From the information contained in Table 16 (page 113) the numbers of students making responses in each of their years of study can be extracted to give information on the 1994/95 cohort as shown in Table 19 below:

Table 19: Measure for Phase =Year

	Phase	Type				Group Total
Year		Diagnostic Radiography	Therapeutic Radiography	Full Time Occupational Therapy	Part Time Occupational Therapy	
1	1995	13	2	19	5	39
2	1996	5	2	15		22
3	1997	5	3	12	4	24
4	1998				9	9
Group Total		**23**	**7**	**46**	**18**	**94**

The student responses varied across the years of study. Data for the full three years of full time study is available for Diagnostic Radiography, Therapeutic Radiography and Occupational Therapy. (It was not available for the Occupational Therapy part time).

Figure 8
Measures for Phase = year



The graphic illustration (Figure 8) of this cohort of students, as they move through their programme, shows that in all the Benefits and Curriculum concepts, the students are more positive at the end of the three years. Their attitude to the Pitfalls and Social concepts is, however, about the same after three years as it was in phase 1.

The Social Concept remains the concept for which the students show the most positive attitude and the trend over the three years for this concept does seem to remain constant. For the Benefits Concept the students become more positive over the three years whilst for the Curriculum and Pitfall Concepts the students attitude fluctuates but is still more positive by the end of their studies than it was at the beginning.

Possible Rationale

The 1994/95 cohort of students was the first group of students to study on a programme that had been designed with shared learning opportunities in mind.

The students had more opportunities to get to know each other and to get to know about each others' profession through the Curriculum Concepts of the programmes as well as through the Social Concepts.

These results demonstrate that students who have an appropriately designed shared learning curriculum have a more positive attitude to the Curriculum and Benefits Concepts by the end of their study.

The Social Concepts, whilst remaining generally more important than the other concepts, do not show as much change through the three years of study as do the other concepts.

Conclusion

In undertaking any longitudinal study, external factors and changes which impact on the respondents cannot be overlooked. As seen with the number of responses received in phase 4, a simple change in the method of collecting the responses resulted in a significant change in the response rate.

The knowledge that a purpose built facility was being planned could have accounted for a greater consensus of opinion in phase 4 than in phase 1 and for a much more positive attitude being expressed with regard to the Social Concept in phase 4.

Phase 4 (1998) also saw an external change for the students in that an additional shared learning evaluation was being conducted which would lead to the programmes being validated with shared modules with Social Workers, i.e. as well as undertaking shared learning with Occupational Therapy (full time and part time), Diagnostic Radiography and Therapeutic Radiography students, all of these students would then undergo some shared learning with students on the Social Work courses.

During the evaluation of this project with Social Work students, the Occupational Therapy students had stated that they felt they had more in common with the Social Work students than with the Diagnostic Radiography and Therapeutic Radiography students. This may have accounted for the Occupational Therapy students not being as positive to the concepts in phase 4 as the other students. It is apparent in the first analysis that the students clearly view the Social Concept as most important to the shared learning activity.

The positive emphasis on the Social Concept is again demonstrated in the analysis of measure by year and measure by type. In addition the measure by year shows that the students have a more negative attitude to all the concepts when they are studying in their third year.

The key to this whole study is that when the first year students (who have studied on a specifically designed shared learning programme,) are tracked through their

programme of studies in a progressive manner, (as shown in the analysis phase equals year,) whilst they still indicate that the Social Concept is the most important of the concepts, they also have a more positive attitude to the Curriculum and Benefits Concepts by the end of their studies.

So, a programme which is designed with shared learning in mind does seem to have a positive effect on the attitude to shared learning of all the students as they progress through their programme of studies. This is indicated by the analysis of the **quantitative data** from the questionnaire. Chapter 8 now considers the **qualitative data** obtained from the questionnaire, from monitoring the minutes of meetings and from the video taped sessions.

CHAPTER 8

QUALITATIVE RESPONSES PROVIDED BY THE STUDENTS AND STAFF TO THE SHARED LEARNING ACTIVITIES

(a) Qualitative Responses Provided on the Questionnaire

Background

As already stated, the questionnaire was designed in such a way as to determine general information first, then to question more specifically the attitudes of the students to shared learning in order to collect and analyse quantitative data, and finally to allow students to make any additional comments which they thought appropriate, which would then form part of the qualitative analysis. (The analysis of the quantitative data has already been presented in Chapter 7).

The five questions of the questionnaire which gave rise to qualitative information (Questions 3, 4, 7, 10a and b, and 11) are discussed below and examples of some of the statements made by students are presented in Appendix F.

The questionnaires were given to students on all three years of the programmes and to the staff for each of the four years in which the study was undertaken.

(i) Changes in the students' qualitative responses over the four years.

Question 3.

Shared sessions can be delivered in a variety of ways. Please tick the shared sessions in which you were involved.

a) Joint lecture programme
b) Small inter-professional group project work
c) Visits to other departments

d) Computerised packages
e) Problem-based learning
f) Other - please specify

It was apparent that throughout the four years for which the data was collected the majority of the students felt that there was a predominance of lectures. Nevertheless, it was accepted that the later years did show a greater variety of teaching methods used on the course.

Question 4.

In these (shared learning) teaching sessions, do you feel there is a predominance of one professional group? If Yes, which group is it and why do you think it happens?

In 1995 the barriers that existed between the groups were evident, despite the shared sessions which had been undertaken. Comments such as:

" Yes, Diagnostic Radiography students in Anatomy and Physiology lessons" This was thought to be *"due to their previous in depth knowledge of the subject, as they have covered aspects of the course before the joint lectures began".*

(Full time Occupational Therapy Student)

and

"Yes, Occupational Therapy. The majority of students are Occupational Therapists and we are at the School of Occupational Therapy"

(Diagnostic Radiography Student)

Although students generally believed that there was a dominance of one group (and there were more comments along these lines), there was a difference in opinion as to which group was dominant.

Comments like these became less frequent in subsequent years and by 1998 comments such as;

" .....because we are in small groups no one group particularly dominates over the others"

(Diagnostic Radiography Student)

and

"the radiotherapists (the smallest in number) have a lot to say in our sessions"

(Full time Occupational Therapy Student)

became more prominent.

It appears that if small sessions are used and students become familiar with each other, no one group dominates over the others or if one group is felt to be the more dominant, there is no consistency as to which particular group this is.

Question 7

Please give as many examples as possible of clinical activities which involved you in an inter-professional setting and in each case state which other professional group/s were involved in these settings.

Throughout the four years, a wide variety of examples of clinical activities involving inter-professional settings were consistently recorded and an equally large number of professional groups were said to have been involved.

Question 10

Some people believe that shared learning has been introduced into courses to:-
a) make the courses cheaper and b) help the professionals to be more cost effective in practice. (State whether you agree or disagree with (a) and with (b) and give reasons for your choice).

In 1995 shared learning was new to each of the cohorts of students studying on the

programmes and there was a general belief amongst the staff that it was being brought in to save costs. In addition the emphasis of the staff at this early stage was more concerned with teaching the students all together in a lecturing situation. Hence the predominant comments for **10(a)** were;

"Agree. Everyone is trying to save costs so why repeat the same lecture twice in two closely placed venues".

(Part time Occupational Therapy Student)

By 1998, it was apparent that shared learning, if undertaken properly (with a variety of teaching and learning methodologies in which inter-professional learning could take place), would not be a cheaper option. Due perhaps to the changes in the format of the teaching, the feedback from the students was now changing. Comments included:

"Disagree. I think its about getting to know what the other professions do in a specific scenario, so that you know what the patient goes through before they get to you and what happens to them when they leave you".

(Diagnostic Radiography Student)

Throughout the four years of the research investigation, the responses to **10 (b)** reflected an understanding that knowledge of the role of each of the professions would benefit the patient. Some felt that this would also reduce costs in practice and yet an equal number felt that this may increase costs in practice.

In 1995 some students expressed great concern that radiographers and occupational therapists should not be the professional groups taught together, as they had little in common and did not interact together in clinical settings. By 1998 the number of students making such comments was much fewer in number. Although it is not clear why this should be the case, as noted earlier, it may be relevant that in this final year some shared learning had also taken place between Occupational Therapists and Social Workers, as part of the research trial supported by CCETSW and the College of Occupational Therapy. Although these students do interact in clinical settings, it is interesting to note that at the early stages of this research investigation, some of the

feed back from the research reported the students as saying that they had little in common with each other!

Question 11.

Please add any personal comments derived from your experience of using shared learning techniques/approaches.

In 1995 the comments in this section tended to duplicate the concerns which had been found in the quantitative information derived from the earlier sections of the questionnaire. These concerns can be summarised as:

i) Too many students being taught in too small a room.
ii) Occupational therapists and radiographers having little in common.
iii) The small inter-professional group sessions giving a far more valuable experience.

In addition, other comments in 1995 expressed concern that:

- Students had had little experience of shared learning and so had little on which to make comments
- Despite the shared sessions the different groups of students had tended to remain attached to members of their own profession.
- Shared learning was important but not enough time had been spent in actually outlining what it was all about.

Examples of these comments included:

"It was good to mix with radiographers but we did not interrelate much" (Occupational Therapy Student)
"Not enough time with other professional groups" (Diagnostic Radiography Student)
"The groups were too large for such a confined space" (Diagnostic Radiography Student)

"At break times and lunch times, it was very noticeable that students generally joined students in their own profession" (Therapeutic Radiography Student).

By 1998, judging from their qualitative comments, the students had clearly warmed to the idea of shared learning and could see the benefits this would have in clinical settings. Indeed, some attempts had been made to incorporate shared learning in the clinical setting as part of the curriculum. It was still acknowledged that the smaller group sessions provided the best forum for shared learning and that joint social activities also enabled the students to build confidence in participating in inter-professional learning.

(ii) **Changes in staff qualitative responses over the four years**

Due to the small number of staff, the number of questionnaires distributed and returned were not considered to be statistically viable for analysis. In terms of the qualitative responses to the questionnaires, the responses of the staff remained fairly consistent. It is pleasing to note that, although in 1995 staff expressed some concern that shared learning was being brought in as a cost cutting exercise, by 1998 no such comments were being recorded.

(b) Attitudinal change and shared learning – as provided by the qualitative analysis of the minutes of meetings

The Cronbach alpha result for the questionnaire indicated that the questionnaire was a valid tool from which indications in the students change in attitude could be measured. Nevertheless the changes which had occurred during the running of the programme were also examined, to see if they gave any further indications of a change in the students attitude to shared learning.

Also, when managing programmes with shared learning components, it is critical to the success of the programme that the academic staff and students are well motivated. It is therefore most important for anyone managing the shared learning process to be conscious of the motivational factors which may affect the staff and students in this scenario, and to bear these in mind at all times. This is particularly true where changes in attitudes are already being monitored on the course. It is clearly necessary

to look at the motivational theories of attitudinal change and to apply these theories to the shared learning environment, in order to see whether certain approaches by managers help to ensure greater success with shared learning.

Motivational Theory

Every management text has a section on motivational theory and all initial programmes for managers will include "Maslow's (1954) hierarchy of needs". Motivating staff is seen as a key issue to an organisation's success. Yet, when implementing a change, managers seldom fully think through the effects of that change and how to motivate the staff to acquire the skills and behaviours to make the new system a success. Managers should remember Huczynski and Buchanan's (1991) statement that:

"Motivation is a decision-making process through which the individual chooses desired outcomes and sets in motion the behaviours appropriate to acquiring them".

Motivation and Attitudes

From Huczynski and Buchanan's definition the link between motivational decision-making and behaviours can be made, but where do attitudes fit in? Cole (1993) makes this link between Herzberg's (1987) motivation, hygiene theory and attitudes. Herzberg's research had derived the following motivator and hygiene (demotivators) factors:

Motivators/Content Related Factors

Achievement
Recognition
Work itself
Responsibility
Advancement

Hygiene (demotivators)/Context Related Factors

Company policy and administration

Supervision

Relationship with supervisor

Working conditions

Salary

Relationship with peers

Personal life

Relationship with subordinates

Status

Security

It is important to recognise that addressing the motivational factors can, and usually does, improve performance whereas addressing the hygiene factors may not lead to improved performance, as each of these factors are *context* or environment related rather than *content* related.

Relationship Between the Context Factors and the Pitfalls Identified Earlier

Table 20 below shows the hygiene factors affecting job attitudes and their similarities with the pitfalls identified earlier in the literature review:

Table 20: Relationship Between the Hygiene (Context) Factors and Pitfalls Identified Earlier

Hygiene Factor	Pitfalls
Company policy and administration Supervision Relationship with supervisor	The need for institutional support
Working conditions	Getting the logistics correct
Relationship with peers Relationship with subordinates	Identify common goals
Status	Inequality of professional status
Security	The need for institutional support
Salary Personal life	Do not apply

Mullins (1994) supports the view that interpersonal relationships can have a negative effect on attitudes to work while Hicks (1990), who is also mentioned by Mullins, emphasises that the positive attitude of managers towards their subordinates is also of

paramount importance to good motivation at work.

Context and Content

In the analysis of written Course Committee minutes and Annual Reports particular attention was given to the factors affecting the content and the context as related to shared learning, for both staff and students. Documentation in the form of Course Reports was reviewed and where records had been made which related to the shared aspects of the course these were categorised as either *content* or *context* related.

Context

The minutes of the meetings of the shared programmes date back to January 1994 when the questionnaire was being constructed. At this time, all three professions involved in the research had shared the previous summers induction week. These minutes, record:

"Despite some logistical problems this (the induction week) appeared to be successful ....."

Clearly there had been context-related problems here. The Occupational Therapy minutes of the 30th March 1995 recorded that for the module "Management in Organisations", (a shared module)

" Student attendance in the small group format has been excellent and there has been full engagement with the material delivered within the sessions. Informal feedback from the students has been very positive."

So, the previously identified problems seem to have been resolved by this time.

Content

An example of a statement with regard to the *content* of the module was provided in the 1996 course report for Diagnostic Radiography where it was stated that:

" Block teaching of the Research Methods module - shared with Occupational

Therapy and Therapeutic Radiography students (as well as the Diagnostic Radiography students) has worked well. Small group work had been especially well received by the students."

A summary of statements taken from the Course Committee minutes of the meetings is included in Appendix G, where it can be seen that of the statements which appear in these minutes, most were *context* related.

As Herzberg (1987) would regard these *context* related statements (many of which also relate to working conditions) as hygiene factors or possible de-motivators, it is interesting to note that between 1994 and 1997 statements relating to *context* gradually improve, as evidenced by the statements which relate to the changes in conditions of class size, accommodation, teaching strategies etc. Furthermore, it is interesting to note that although changes could not be made in the facilities available to the large lecture group, the sequencing of teaching and smaller format teaching became more the norm. The smaller group format teaching was, in itself, acknowledged to encourage the discussion and debate of inter-professional issues.

The minutes of these meetings demonstrate that the staff and students' initial concentration was on the "mechanical" aspects of the course and that the motivational (*content*) aspects, although intrinsic to the programmes, only became of a higher profile when the hygiene (context) factors were resolved.

To further examine the content aspects of the programme, in addition to the minutes of the meetings being analysed, one shared learning session each year (for three years) was video taped. This provided a means of monitoring the changes in the 1995 cohort of students in the Diagnostic Radiography and Occupational Therapy courses as they progressed through their course. Each year a different topic was chosen.

In 1995 (on the first year of the students programme) the students were video taped in an anatomy and physiology session.
In 1996 (on the second year of the students programme) the students were video taped

in a research session.

In 1997 (on the third year of the students programme) the students were video taped in a management in health and community studies session.

Each year the 5 key factors below were monitored with regard to both spoken reference and body language:

- Applicability of the topic to each profession as determined by the students
- Tutor's reference to the topic as applied within the work place
- Tutor's reference to the topics relevance to each profession present
- Demonstration of the students' knowledge of the other profession
- Reference to shared learning by the students'

The results for each factor are tabulated below in Tables 21-25:

Table 21: Applicability of the topic to each profession as determined by the students

Year / Session	Spoken Reference	Body Language
1995 / Anatomy and Physiology	This session on kidney physiology was delivered by a Diagnostic Radiography tutor and seemed to have more relevance to the Diagnostic Radiography students than the Occupational Therapy students	There was evidence of the Occupational Therapy students looking bored during the session
1996 / Research Methods	This topic on questionnaire design was relevant to all the students involved in the session	All students seemed attentive
1997 / Management in Health and Community Studies	Again this topic was relevant to each professional group, there was evidence in the discussion with the tutor that some were having difficulty in considering the topic at this stage in their career	All students appeared to interact well with each other and with the tutor

Table 22: Tutor's Reference to the Topic as Applied within the Work Place

Year	Spoken Reference	Body Language
1995 / Anatomy and Physiology	As Diagnostic Radiographers need to take examinations where they will be expected to monitor kidney physiology this topic is more applicable to the diagnostic radiography than to the occupational therapy work place	There was some fidgeting during the session
1996 / Research Methods	The students and the tutor cited many work place examples	All students were seen to engage with each other both verbally and in the body language used
1997 / Management in Health and Community Studies	Many work place examples were given by the students and their tutor	There was evidence that the students were giving careful consideration to the work place examples being given

Table 23: Tutor's reference to the topic's relevance to each profession present

Year	Spoken Reference	Body Language
1995 /Anatomy and Physiology	The tutor tried (not always successfully) to give examples of the topic's relevance to each profession	The Occupational Therapy students did not always seem engaged in the session
1996 /Research Methods	Examples included those relevant to the individual professions and across professional boundaries	Students used open, positive, expressive gestures
1997 / Management in Health and Community Studies	The management issues mentioned crossed the professional divides of the group	All students seemed to engage with the topic

Table 24: Demonstration of the Students' Knowledge of the Other Profession

Year	Spoken Reference	Body Language
1995 / Anatomy and Physiology	In the discussion sessions the Occupational Therapy students demonstrated a poor knowledge of the techniques used in diagnostic radiography	The discussion elements of the session resulted in more engagement from all the students
1996 / Research Methods	By considering the examples where a questionnaire could be used in practice, the students gained more knowledge of each others profession	All students were attentive when the various examples were given
1997 / Management in Health and Community Studies	The management examples given were mainly those relevant to the NHS as a whole and to departments within the NHS irrespective of the professional group working within those departments	Many discussion groups were used during the session and the proximity of the seating and body language used demonstrated cooperation

Table 25: Reference to Shared Learning by the Students

Year	Spoken Reference	Body Language
1995 / Anatomy and Physiology	No real references were made	Many of the students in the group looked bored during the session
1996 / Research Methods	Design of joint questionnaires was discussed. In these examples reference was made to the patient and to the fact that if the professions worked together, a greater degree of information could be made available than when working separately	All students appeared to be engaged with the topic and with each other
1997 / Management in Health and Community Studies	Team work approaches were used both as a teaching method and in examples of good practice in management terms	All students seemed to engage in the team building sessions

Undertaking the video taped sessions in this way proved valuable in that it echoed the information that was being derived from the minutes of the meetings. The students had difficulty with the sharing of Anatomy and Physiology sessions and little shared learning was occurring in 1995. In 1996 and 1997 there was evidence of more shared learning. In contrast, the topic "Management in Health and Community Studies" was not seen as relevant by the students to their career at that stage of their course, irrespective of their aspiring professional base.

One regret of this research investigation was that the video taping was not undertaken for the same sessions in each of the years. Too many difficulties arose in the timing of the sessions and in gaining the agreement of the staff and students for this to be implemented . So it was not possible to do this. If the exercise was to be repeated video taping of the same sessions each year, may well be shown to be valuable.

As stated earlier, (Chapter 2), Lewin (1951) proposed a 3 stage model reflecting the nature of the change process, in which he called the primary stage of the process "unfreezing". Once this "unfreezing stage" has been accomplished, good communication and continuous reinforcement of the positive nature of the changes is required. As can be seen in the Course Committee minutes, good communication is in evidence. Problems, particularly with regard to the size of the rooms for large scale lectures, have been a feature of concern throughout the four years. The minutes also record the discussion and the ways in which this issue was resolved, namely by

looking at and using facilities at another site (Kingsway), and by sequencing, and small group teaching of the sessions.

On-going communication and the gathering of positive feed back, throughout what Lewin describes as the "fluid phase" of the change model, is evident. This continuous input helps to overcome tendencies of inertia and of slipping back to previous comfort zones of familiarity.

The final phase of Lewin's model is one of "refreezing" or consolidating the changes that have been made into new comfort zones. This process is evolutionary by nature and it is suggested that after four years the processes are only now being put into place at Derby.

Conclusion

The qualitative aspects of the questionnaire show a progressively more postitive attitude to shared learning during the four phases of the study.

With regard to the qualitative aspects from the minutes of the course committees and examination boards meetings, motivational and demotivational (hygiene) factors were considered, using Herzberg's model in the consideration of the content and context of the programmes, as expressed in the Course Committee and Annual Reports minutes and the video taped sessions.

It was found that the references to context matters in the minutes outnumbered those relating to the content of the programme and that the major context factor affecting the running of the programme related to the room size when all students were being taught together. This presented a logistical problem that had already been acknowledged in the literature review as one of the pitfalls to shared learning.

It was acknowledged that even if the hygiene factors affecting the course could be resolved, this would not lead to a motivation of the staff or students. As outlined in the Course Committee minutes, although changes were made to the accommodation

available during the four years (i.e. acquisition of Devonshire House and some accommodation at Kingsway hospital), facilities large enough for large lecturers were still not available. However, the teaching staff had resolved some of this problem by alternative sequencing of the sessions and by using smaller group work, and this in itself had been acknowledged as supporting inter-professional discussion.

With regard to the content of the programme, the video taped sessions demonstrated that the topic had to be relevant to the students if a better shared learning experience was to be achieved.

Overall, in all the qualitative aspects of the study the results became progressively more positive over the four phases of the study.

The next and final chapter will discuss the findings of the research undertaken, its relevance to the current information available in the literature and how the results may be of value to the future developments of shared learning within the allied health professions and in health education.

CHAPTER 9

SUMMARY, DISCUSSION OF THE RESULTS, AND RECOMMENDATIONS

Knowledge of the Area Prior to Commencement of the Research

Shared Learning was, and still is, an area which is crying out to be researched!

The push from the Government in the direction of shared learning can be traced back in the UK, through various White and Green Papers, which have tried to encourage multi-disciplinary and inter-disciplinary practice in both health and social service settings since the 1960s (Forman and Nyatanga 1999). Across the world and in various fields, including industry and commerce similar attempts to bring about shared learning can be seen. (Barber, 1979; Engel and Clark, 1986; Majoor, 1991; Barr, 1994; Areskog, 1995; and Gorman, 1998).

In the 1980s, small groups of practitioners had started to work in teams for specific client needs, e.g. issues involving mental health, old age, childhood conditions etc, but work of this kind had been fragmented and teams had educated themselves in establishing what was good and poor practice.

Despite all the push from the government and the fragmented developments, prior to this current study being undertaken, no one had monitored the effects on the staff and students participating in these developments, and very little research had been undertaken in the health care environments in the early 1990s. Nevertheless, there was a "belief" that educating health care professionals together would bring about better working practices and more focus on the service user.

By the mid 1900's the background literature was indicating that shared learning was being discussed, debated and, in some cases, implemented. The World Health Organisation (1988) had stirred some of this action by publishing the findings of study groups on Multi-professional Education entitled "Learning to Work Together for Health: The Team Approach". A key participant in this group was Nils Areskog, who later became a founder member for the establishment of the Faculty of Health Sciences at the Linköping University in Sweden. Nils was also a founder member of the first multi-professional group which operates across Europe (EMPE see page 18)

Until these developments, the examples of good practice in shared learning were largely at post graduate level and often in small groups. Even with the developments in Linköping, no research and little monitoring of the effects shared learning had been undertaken and no one had undertaken research to investigate the change in attitude of the participants.

To this day (2001) no research has been found to demonstrate that inter-professional education will bring about benefits to the service user. Indeed Zwarenstein et al (1999) reveiwed 552 articles from CINAHL and 510 from Medline using the cochrane collaboration methodological criteria and concluded that:

"...no rigorous quantitative evidence exists on the effects of Interprofessional Education"

Before carrying out research into shared learning, a key question at the start of this study therefore had to be "Why has the Implementation (of shared learning) been so difficult" (see page 25). It is clear that in the UK the top down approach from the government, through legislation, has not proved to be effective. In fact the change towards encouraging inter-professional practice could even be said to have been ill-managed.

In 1989 the White Paper "Working for Patients", Working Paper 10, (DHSS 1989) brought about a change in the education of health care professionals. These professionals, who formerly had been educated in the health service, were moved into higher education establishments. For the first time, professionals who had previously been educated in uni-professional establishments were entering establishments in which other professions were also being taught.

At the same time, the state registerable qualification for many of these professions was at diploma level. So, in moving into higher education establishments there was a push towards upgrading this initial registration qualification to that of a degree. As new students were entering clinical environments as part of their training, existing practitioners felt obliged to undertake a "top up degree", in order that they too could gain a degree qualification (Forman and Gallop, 1991).

It was these first "top up " qualifications and subsequently the Masters degree programmes which enabled the teachers, who were now established in higher education institutions, to provide programmes which could be open to a variety of health and social care practitioners. This was the start of multi-professional and inter-professional programmes in the UK. At this stage, however, it was still unclear whether the first multi-professional programmes were developed as an attempt to improve practice or to reduce the costs of the teaching staff required to input onto these programmes.

As teams of teaching staff and practitioners came together to design and deliver these programmes, it became apparent that some staff development would be necessary. It was not only necessary for staff to learn about the other professions (thereby ensuring that they could give relevant examples to the students in the multi-professional groups), but it was also necessary for the staff themselves to undergo some team-building exercises. In this way all involved would thereby be able to overcome the barriers which had grown up between the professions. (Vuori, 1976; Fry, 1980; Berring, 1983; Forman and Gallop, 1991; Darmont, 1992; Forman, Jones and Morley 1994 and Tope, 1996;)

In order to facilitate the teachers (and then ultimately the practitioners) to overcome the barriers which had historically been built between the professions, the teachers were encouraged to concentrate on scenarios in which the patient or service-user was seen as the central point of concern. (Goble, 1991; Leathard, 1994; Areskog, 1995; Forman and Nyatanga, 1999; and Tope, 1999)

Once post registration courses had been developed, the staff in the School of Health and Community Studies at the University of Derby were encouraged to look at ways of incorporating inter-professional learning into some of their professional undergraduate programmes. The Diagnostic Radiography, Therapeutic Radiography and Occupational Therapy Honours degree programmes were reviewed with this objective firmly in mind.

By this time, various forms of shared learning had been tried at post registration levels; the Linköping University in Sweden had set up an undergraduate programme in which six professions had participated; various reports on shared learning had been written (Barr, 1994; Leathard, 1994; and Areskog, 1995 etc) and multi-professional bodies had been set up (See Table 4, page 16). Armed with the information from the literature review, it became possible to identify a number of pitfalls and benefits that might be accrued in the implementation of shared learning and, at the same time, to identify the need to undertake a review of a variety of educational models for shared learning. Such information could then be considered for implementation in the programmes which were to be revalidated in the School of Health and Community Studies at the University of Derby (Forman, Jones and Morley, 1994).

As a consequence of the available information on shared learning, the Diagnostic Radiography, Therapeutic Radiography and Occupational Therapy programmes, were validated with the modules below being taught as shared modules:

i) Anatomy and Physiology,

ii) Profession-related Practice,
iii) Research Methods,
iv) Management,
v) Clinical Education,
vi) Independent Study.

It is interesting to note that these subject areas are similar to those being used in shared learning situations at post graduate level (Goble 1994) and therefore the experiences gained at post graduate level could be utilised in delivering the curriculum at undergraduate level.

A variety of different teaching and learning methods were introduced into the programmes. Thus the traditional lectures and demonstrations were complimented by self - directed skills for independent study; exercises on problem-solving were also introduced to develop qualities of judgement and decision-making; the teachers, (and later the practitioners), were encouraged to see the problem-based learning exercises as a means of knowing when to hand on to another profession, so that the benefits to the service-user were maximised. This "handing-on" had previously often been viewed as giving away the individual profession's expertise and as eroding the individual profession's practice-based knowledge. Clinical reasoning and ethical practice sessions were incorporated, to ensure that the gap between theory and practice was bridged. Methods to facilitate the discussion of experiential learning not only included the standard tutorial and seminar sessions, but also incorporated a greater degree of case studies and practical sessions. Also, independent learning was incorporated at all levels of study to encourage the students to assess their own learning needs, set goals, locate resources, implement strategies and evaluate progress. Multi-media learning, including video and computerised technology, was also used within the programmes for both the shared learning and the profession-specific modules, with problem-based learning becoming more prominent, particularly in the shared learning sessions.

Aim, Objectives and Methodology.

Once the management of the implementation of shared learning had been carefully considered and a curriculum derived, with a variety of teaching and learning methods incorporated, it was vital, that research should be undertaken to analyse the progress of the programmes. This research needed to be undertaken both as the programmes were initiated and as they evolved over the following four year period. A research investigation was therefore undertaken the aim of which was to:

Investigate the change in attitudes towards shared learning of staff and students over a four year period, focusing primarily on the benefits and pitfalls which other shared learning studies had identified.

Within this overall aim a number of objectives were also identified (see page 5) which between them sought to review the attitudinal change in shared learning experience of the staff and students over the four year longitudinal study.

Each and every one of the objectives identified within the overall concept and aim of the research has been dealt with during the investigation. Initially the review of the available secondary data not only allowed a consideration of the existing information on shared learning at the start of the investigation but also resulted in a number of pitfalls and benefits related to the implementation of shared learning being identified (see page 51). These pitfalls and benefits were used later, in the questionnaire which was distributed to staff and students involved in the four year study.

In the initial stages, a review of the existing attitudes of the staff and students to shared learning was conducted and this revealed a less than positive attitude which was itself

identified into consideration before shared learning could be implemented. This ensured that before implementing shared learning in the School of Health and Community Studies at Derby, ways of minimising any existing negative attitudes to shared learning had been sought and a variety of appropriate research tools and methodologies had been considered prior to the analysis.

The Research Questionnaire

As a result of the considerations outlined above, and as research had not been undertaken in this area before, it was necessary to design a research questionnaire specifically for the study and then to ensure its reliability.

The questionnaire was designed incorporating both qualitative and quantitative statements/questions. (May, 1989; Morse, 1991; Sommer and Sommer, 1991 and Mitchell, 1996;).

In the quantitative section, statements relating to the pitfalls and benefits of implementing shared learning were used, as the emphasis on pitfalls and benefits had been derived from the literature review. During the design and piloting stages of deriving an appropriate questionnaire, it became apparent that the students felt that questions should be asked about the curriculum and more importantly, in their view about the social aspects of the programme. (see pages 97-98). In addition the questionnaire was also designed so that it would be appropriate to be given to all the students and staff involved in the programmes each year. (Harden, 1984; and Sommer and Sommer, 1991).

To check the reliability of the quantitative statements in the questionnaire several tests were considered and, due to the nature of the study, the Cronbach alpha test was considered to be the most appropriate. (see page 103). This test was initially performed on the results of the first phase of the data collection exercise and on each of the four areas under investigation i.e. pitfalls, benefits, social aspects and curriculum aspects. A

positive Cronbach alpha result was obtained for each of these and in this way, the reliability of the questionnaire was confirmed. It was still tested each year, in order to verify that no adverse changes were taking place.

In addition to the analysis of the quantitative sections of the questionnaire, qualitative information was also collected (see pages 139-143), by using the minutes of Course Committee and Examination Board meetings, and video-taped sessions of shared learning tutorials for each of the programmes for the four year period of analysis. Analysing the qualitative aspects of the research in this way enabled the quantitative results to be validated as well as providing additional information about the shared learning experience of the students. A key example of the qualitative information derived in this way is the detection of the motivating and demotivating factors arising from the running of the shared elements of the programmes.

The demotivators were usually context-related problems. (Maslow, 1954; Herzberg, 1987; Hicks, 1991; Huczynski and Buchanan, 1991; and Mullins, 1994). The main context problem, which occurred throughout the four years, related to the size of the room where lectures were held for all the students studying on the three programmes together. Although, as already stated, this problem was never resolved, the minutes of the meetings record that the staff re-sequenced these sessions so that more small group sessions could be held and this was shown to enhance the shared learning experience of the students.

Enhancement to the Understanding of the Area by the Research Findings

As no attitudinal research had been undertaken prior to this study, designing an attitudinal questionnaire which was consistently proven to be reliable over the four years of the study is seen as a major outcome of the study.

In addition, the key findings of the analysis of the quantitative sections of the student questionnaires were that:

i) the students had a **more positive attitude** to all four concepts, (Curriculum, Social, Pitfalls and Benefits) in phase 4 than they had in phase 1.

Shared learning therefore did have a beneficial effect as judged by the students.

ii) the **Social concept** was seen to have the most positive attitude rating for all the professions over the four years.

The importance and relevance of incorporating social opportunities into the experience of students studying on shared learning programmes is therefore vital. Yet the social aspect had not been an aspect which had been considered in any of the previously reviewed literature and indeed the aspect was only included as a result of the pilot study of the questionnaire.

iii) the 94/95 cohort of students, who had studied **a programme specifically designed with shared learning in mind, become more positive** towards shared learning at the end of their three year programme with regard to their attitude towards the Benefits and Curriculum concepts while their attitude to the Pitfalls and Social concepts was at least the same after three years as it was in phase one.

Designing a programme specifically with shared learning was therefore beneficial to the students.

It was slightly disappointing that the number of questionnaires completed by the staff was too small to be considered statistically viable. However, although the qualitative statements made in the questionnaire reflect a more positive attitude to shared learning in 1995 than that of the students, they are broadly in line with the increased positive attitude shown by the students by 1998.

Reflections on the Study and Recommendations for Future Study in this Area

The results of the research will prove beneficial to anyone undertaking research in this area. The research questionnaire can and will be used as a means of monitoring attitudinal research in the future.

It is true that over the four year period of analysis, the students had experienced changes in attitude with regard to their shared learning experiences. Overall, by the final phase, however, they had a positive attitude to the four concepts, i.e. pitfalls, benefits, social and curriculum, and the questionnaire had proved to be a reliable tool for measuring the change in the students' attitudes. This therefore verifies that positive attitudinal changes can occur when undergraduate students are educated on a shared learning programme.

So, what could have been improved?

It is interesting to reflect on the concept of shared learning over the past four years of the study and indeed the last six years, if the planning period of the study is taken into consideration.

In hindsight some modifications may well have had beneficial effects on the study. These could take a variety of forms but would include the key aspects below, which are presented here in no particular hierarchical order:-

i) The Introduction of Shared Case Studies Rather Than a Shared Curriculum

Although problem-based learning is widely accepted to be the approach that should be used as the framework to promote shared learning (Harden, 1984; Malze-Shelly Muhl 1988; World Health Organisation, 1988; Gallop, 1991; Funnell, et al 1992; Foldevi and Trell, 1993; Forman and Forman Jones and Morley; 1994, and Forman and Fox; 1995) (and which was a key approach used at the University of Derby), programmes which are currently being designed for shared learning now seem more likely to follow the methodology which has been perfected in Linköping. This approach uses purpose-designed case study sessions interspersed throughout the programme. These case studies

are occasions when the different professions come together specifically to share their learning opportunities, rather than continuously sharing aspects of the curriculum which are common to each profession. These case studies are designed such that whilst they utilise problem-based learning techniques, they are also only appropriate to the level at which each of the professional groups is studying. This also allows the time-tabling of these opportunities to be much more flexible.

ii) Purpose-built facilities

One of the key difficulties British universities have experienced in implementing shared learning (and which was a problem in the planning and implementing of shared learning at the University of Derby) is that of the professions being taught on different sites. A lot of this difficulty stems from the professions having previously been taught on uni-professional programmes in a health service environment. The transferring of the responsibility for educating the health professions to higher education institutions ought to have solved this problem. However, many of the facilities of the health service were merely leased by the higher education institutions rather than either the transferring of the students into higher education premises or the building of new facilities which could have housed all the professions and so have provided better shared learning opportunities.

One key difference between the University of Linköping and any British University is that the Faculty of Medicine and Health at Linköping had buildings designed to house **seven** health care professions. No British University even teaches as many as seven health care professions and certainly does not possess a building appropriate to allow shared learning opportunities in a purpose-built facility!

The University of Derby has already experienced the problems associated with the current arrangements of separate locations for the professions and has recognised the

opportunities which could result from a purpose-built facility. It is now in the process of designing such a building.

iii) Shared practice sessions

The main focus of educating a student entering a profession is to ensure that each student is equipped to be "fit for practice". Currently at least 50% of the programme of studies for each profession is in clinical practice and yet, until very recently, this part of the programme has not been considered for shared learning.

Linköping, again, has led the way in creating a "training ward" run solely by students from different professions, together with a focus on the patient, and this demands a sharing of information and knowledge.

iv) Primary Care

The last six years have seen the focus on Primary Care become a reality rather than just a dream. Primary Care itself demands that professions work together, often with one individual from one profession working with one individual from another profession, rather than full departments working with other departments. An example of this would be where a physiotherapist works with an occupational therapist in a primary care environment, rather than in secondary care where a full Department of Physiotherapy would liase with a full Department of Occupational Therapy. This individual relationship in Primary Care has resulted in there being more of an understanding between the professions involved and in there being more respect for the contribution that each profession makes to the welfare of the patient.

v) Methodology

The basic methodology used in the current research investigation, which included the questionnaire, video taping of sessions and the monitoring of Course Committee and Exam Board minutes proved to be effective for the monitoring of this study. So, with some fine tuning, any subsequent research in this area of study ought to utilise similar research methods, not only to verify the methodology but also to look at similar and different trends. Further use of the qualitative data, particularly in a clinical setting, would also be an advantage, as this is an area where shared learning is applied but it was not a major focus of this thesis.

What factors helped in undertaking this study?

In addition to the factors which could have been improved, two aspects were most important in ensuring that this study could be conducted:-

i) Management of the implementation of shared learning.

As stated on page 144:

"...when implementing change, managers seldom think through the effects of that change and how to motivate the staff to acquire the skills and behaviours to make the new system a success."

In any situation where shared learning is to be introduced, it is most important that its management is conducted with enthusiasm and dedication. Key to the implementation of shared learning within the School of Health and Community Studies at Derby was, therefore, the commitment of management to its success. As Dean of this School, the management of the School and the implementation of this study was therefore undertaken in the knowledge that its management would be one of the most fundamental aspects of

its success. At the same time, this allowed the matters of reviewing the literature, motivating staff, distributing and analysing data to be undertaken in a manner of consistency and commitment to the implementation of shared learning and the monitoring of its implementation.

It is therefore, pleasing to report that the success of the implementation of shared learning in the School of Health and Community Studies was noted at a recent Quality Assurance Agency review for the "Other Subjects Allied to Medicine", which included students studying the programmes which have been monitored in this study.

ii) Ongoing Commitment by the Government to the Implementation of Inter-professional Practice.

Appendix A lists the government acts and reports which have over the past 40 years demonstrated the Government's commitment to inter-professional education and practice. The knowledge that this was seen as vital not only in the UK but internationally (Areskog, 1995; Bent, 1996; Majoor,1990;) reinforced the need to monitor the implementation of shared learning at the undergraduate level. In fact, the force of the Government's commitment to shared learning has increased and has been reinforced by its most recent publication (Department of Health, 2000) which places emphasis on the following:

- *Team working* across professional and organisational boundaries;
- *Flexible working* to make the best use of the range of skills and knowledge of the staff;
- *Streamlining workforce planning and development* which stems from the needs of patients not professionals;
- *Maximising the contribution of all staff to patient care*, doing away with barriers which say only doctors or nurses can provide particular types of care;

- *Modernising education and training* to ensure that staff are equipped with the skills they need to work in a complex, changing NHS;
- *Developing new , more flexible, careers* for staff of all professions;
- *Expanding the workforce* to meet future demands.

The identification of these specific factors again emphasises the need for research studies such as the one reported here!

Recent Developments and the Opportunities for Further Research, Policy and Practice

This research has provided a reliable research questionnaire, which can be used to continue the studies in Derby beyond the four years outlined in this thesis. Similar studies at other Universities can also be carried out thereby verifying or challenging the findings given here.

It has been shown that although inter-professional health care education was being mentioned as early as the 1960s, the emphasis on this being a means of ensuring benefits in practice has not yet been proven (Zwarenstein 1999). However, it is almost universally accepted that shared learning is even more relevant to the working environment of today's practitioners, who are now having to work in a more primary care-led setting (Meads and Ashcroft, 2000).

This current study, (which is the first to consider monitoring the attitudinal changes of health care students studying an undergraduate curriculum), has only recently been completed. It has therefore not yet been possible to evaluate whether it has helped to develop a more effective professional in the practice setting. However, in reviewing the results which students are achieving in their practice-based assignment, a qualitative improvement can already be seen.

In this context, it is interesting to note that at a recent conference, Schmitt (2000) outlined developments in America, which had evaluated the work of students in practice-based settings. As part of their studies, these students had to investigate real problems in the community health care setting. They then needed to propose ways of resolving a problem, implementing the change, and monitoring the effects of the change. This demonstrated that by working in an inter-professional way in practice, the health care of the service users could be improved!

The research at Derby has, therefore, highlighted a number of issues, which demand further study. These can be summarised into the following questions:

i) Will this trend in positivity to shared learning continue with students at the University of Derby?
ii) Would similar results be experienced at other Institutions with the same professional groups?
iii) Would similar results be experienced with other professional groups?
iv) Should programmes which incorporate shared learning incorporate more social activities for the students?

All these questions have been raised as a result of the current research investigation, other researchers MUST be encouraged to attempt to answer them!

The major question that still remains to be answered, however, is:

"Does this emphasis on shared learning at undergraduate level improve the effectiveness of the health care professionals in practice?"

The intention is therefore to follow students who have experienced this input of shared learning and to evaluate their effectiveness in inter-professional work in the practice setting using the research questionnaire developed in this study.

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APPENDIX A

APPENDIX A Government Acts and Reports Influencing Inter-professional Co-operation. (Updated from Forman and Nyatanga, 1999)

DATE	DOCUMENT	IMPACT	AFFECT ON HEALTH CARE PROFESSIONS "SHARING"
1962	The Hospital Plan for England and Wales. Ministry of Health HMSO, London (Cmnd 1604).	To forestall illness and disability by preventative measures.	To develop services to match preventative needs.
1966	The GP Charter (RCGP). Ministry of Health, HMSO, London.	To safeguard clinical freedom and identity. GP as a generalist.	Generalist/specialist dichotomy in shared learning reviewed.
1971(a)	Better Services for Mental Handicapped Persons DHSS, London. (Cmnd 4683).	Services for the full range of mental health needs.	Holistic view of service -users and care. Integrated service -user services for the mentally handicapped.
1971(b)	The National Health Service Reorganisation: Consultative Document, DHSS, London. (implemented 1974).	To ensure the health and welfare of people in their areas.	Joint consultative committee set up with the statutory obligation to: coordinate allocation of resources; consider policy and interaction.
1973	Report of the Working Party on Collaboration Between, the NHS, DHSS and Local Government. HMSO, London.	To ensure effective and efficient use of resources to meet mutual concerns and promote mutual benefits. To share information to benefit practice.	Plans for the provision of closely related services. Staff allocated by skills (advent of skill mix). Need to forge effective links to the benefit of healthcare services.
1974(a)	Community Health Service transferred from local authority to NHS. DHSS, HMSO, London.	To improve standards. Better co-ordination of primary and community care.	Stronger links between community and hospitals. Staff attached to a practice not just to hospitals.

DATE	DOCUMENT	IMPACT	AFFECT ON HEALTH CARE PROFESSIONS "SHARING"
1976(a)	Democracy in the NHS, DHSS, HMSO, London.	Changes made to the management structure. Introduction of teams of managers and a new planning system.	Attempted to bring teams of managers together. Unsuccessful when service short of funds.
1976(b)	Priorities for Health and Personal Social Services in England DHSS, HMSO, London.	Greater emphasis placed on preventative services and community care	The scope for rationalisation in acute care was stressed.
1976(c)	Prevention and Health: Everybody's Business DHSS, HMSO, London.	To develop community - based services to keep people out of hospital. Effective overall deployment of resources. Essential rationalisation and redeployment, leading to compensating financial savings.	Joint care planning teams set up. Strategic rather than operational. Equal commitment. Joint financing to ease short term difficulties.
1976(d)	Court Report "Fit for the Future". (Report of the Committee on Child Health Services). HMSO, London. (Cmnd.6684, Vol 1&2).	Integrated child health services.	Multi-disciplinary teams. Multi-disciplinary education and training.

1977	The Way Forward, DHSS, HMSO, London.	To improve co-operation between agencies and make "service-users" aware of services.	Statutory duty for various agencies to cooperate.
1978	Collaboration in Community Care: A Discussion Document. Personal Social Service Council. (Winner Report) HMSO, London.	To enforce greater co-operation for the betterment of patient care.	Better communication. Joint training (in practice). Multi-professional working.
1979(a)	Report of the Committee of Enquiry into Mental Handicap Nursing and Care (The Jay Report). HMSO, London. (Cmnd.7468, Vol 1&2).	Comprehensive service to meet perceived needs.	Shared training between social workers and students studying learning disabilities.
1979(b)	Royal Commission on the NHS. (Merrison Report) HMSO, London. (Cmnd 7615).	Encouraged closer working relationships between health care professionals. Established effective collaboration without structural merging.	Determination and "positive attitudes" towards working together. More appropriate shared training.

1979	Patients First. Consultative paper on the structure and management of the NHS in England and Wales. (DHSS). HMSO, London.	Encouraged "response to needs" approach. Attempted to overcome the lack of support for suggestions of transferring services.	Promoted "working together". New philosophy and jointly financed projects administered together.
1980	Hospital Services, Future Plan of Hospital Provision in England. DHSS, HMSO, London.	Dissolved: -Central Health Services Council -Health Service Board -Area Health Authorities and created 192 District Health Authorities.	Local decision making. Simplicity. Planning committees pruned.
1981(a)	Care in the Community. DHSS. HMSO, London.	More flexible use of resources.	Sharing of resources.
1981(b)	Care in Action. A handbook of policies and priorities for the health and personal social services in England. DHSS, HMSO, London.	Broad spectrum of care including voluntary and private as well as statutory services. A common challenge - best services within the limits of resources.	Ministerial dictate, "I want to see as close a collaboration as possible". Identified priority groups and services.
1981 (c)	Report of a joint working group of the Standing Medical Advisory Committee and the Standing Nursing, Midwifery Advisory Committee. (Harding Report). HMSO, London.	Primary Health Care teams formed.	Emphasis on prevention and health education.
1983(a)	NHS Management Enquiry. New central NHS Board and accountable General Managers. (Griffiths Report) HMSO, London.	To improve efficiency and value for money.	Management at key level of change. Clinician accountability.
1983	Care in the Community and Joint Finance. HC(86) (DHSS). HMSO, London.	Joint finance, direct payments from health authorities, time limits and tapering extended.	Community Care. Preventative medicine. Increased services for priority groups.

1984(a)	Report of the Working Group on Collaboration Between Family Practitioner Committees and District Health Authorities. (DHSS) HMSO, London.	Rationalised of services and resources. Identified areas of common interest and concern. Formal arrangements and informal links by simplest means and at levels appropriate to functions.	Closer working partnerships to serve the interests of the community. Encouraged co-operation and health promotion. Identified aims and principles of collaboration. Mutual understanding and respect for each others roles and responsibilities.
1984(b)	Great Britain; Parliament; House of Commons; Social Services Committee Report on Community Care, with reference to the adult mentally ill and mentally handicapped. DHSS, HMSO, London.	Maintained present degree of integration between Social Services and other local authority services. Priority of NHS and local authority to mandatory services. Greater financial and policy autonomy.	Recognition that: (i) Joint planning depends on acceptance that all involved are in the same business and (ii) Realism comes through specifying priorities and phasing work. Joint Consultative Committee to present reports to DHSS and Regional Health Authority.
1985	Health Authorities to contract out laundry and catering. DHSS, London.	Competition to push down costs.	Some financial savings. Higher quality services.
1986(a)	Resource management and waiting initiatives in hospitals. DHSS London.	Improved information technology and decreased waiting.	Increased management skills of clinical leaders by 30%.

1986(b)	NHS Training Authority. DHSS, London.	To meet co-operate objectives.	Training.
1986(c)	Progress in Partnership. (Report of Working Group on Joint Planning, Local Authority Association and National Association of Health Authorities). DHSS, London.	Resources allocated and improved use. Key appointments for programming, implementation and co-ordination.	Balanced teams and no separate teams. Training in joint planning at all levels. Collaboration and consultation .
1986(d)	NHS Health Pickup Modules. DHSS London.	Dealt with health care issues.	Development of common learning packs/units.
1986(e)	Collaboration between the NHS, local government, voluntary organisations and (DHSS).HMSO, London.	Followed government strategy to develop community- based services. Regional Health Authorities monitor, review and assess. Informal links between members and officers. Annual report to Minister.	Joint planning. Effective and economical. Meeting individual needs of each service-user. Provided a consultation forum. Provided leadership from Joint Consultative Committee.
1986(f)	Primary Health Care; An agenda for discussion (DHSS) HMSO, London. (Cmnd 9771).	Allowed better use of resources. Full potential of primary health care working realised.	Recognition of dependence of health care on co-operation recognised.

1986(g)	Neighbourhood Nursing : A Focus for Care. (Cumberledge Report) HMSO, London.	Formal agreements to define and to cater for local communities.	Comprehensive care programmes set up to meet local needs.
1987 (a)	Promoting Better Health: The Government's Proposals for Improving Primary Health Care HMSO, London. (Cmnd. 249).	In time, led to an amalgamation of AHA & FPC health authorities and family practitioner committees. Co-operative written agreements made.	Development of multi-disciplinary services extending beyond the boundaries of the NHS. Prevention and health promotion. Improvements in co-operation and teamwork. Multi-professional training in promoting teamwork and management of primary health care teams.
1987(b)	Promoting Better Health. (The Trethowan Report) Standing Mental Health Advisory Committee. DHSS, HMSO, London.	Services responsive to consumer needs. Increased fair and open competition . Consumer access to information.	Encouraged further effective collaboration between all relevant agencies. Reviewed collaboration and raised standards of care. Promoted health and prevented illnesses.
1988	Community Care : Agenda for Action. A Report to the Secretary of State by (Griffiths Report) HMSO, London.	Following this, the Prime Minister separated DHSS into Health and Social Services respectively.	Duplication of bureaucracy.

1989(a)	Working for Patients DoH, HMSO, London. (Cmnd.555).	Alarm about untested market reforms.	Increased efficiency and patient choice. Rewards for response to local needs.
1989(b)	Caring for People: Community Care in the Next Decade and Beyond DoH, HMSO, London. (Cmnd.849).	Patients seen more holistically.	Multi-disciplinary practice encouraged.
1989(c)	General Practice in the NHS: A new contract. DoH, HMSO, London.	GP fundholding. Increased consumer and management accountability.	Increased shift from GP to practice. Attitude change to clinical freedom.
1990	NHS and Community Care Bill, Working for Patients and Caring for People DoH, HMSO, London.	Internal market, purchaser provider, split trusts. FHSAs/DHAs to balance needs of local population and stakeholder views to drive change.	Promotion of care in community rather than in hospitals. Service turmoil, culture change -increased accountability -increased efficiency.
1991	Patient's Charter. Department of Health DoH, HMSO, London.	To focus on acceptability to consumer. Manipulation of waiting lists. Customer-friendly emphasis.	Emphasis on "customer" satisfaction.
1992	Health of the Nation: A Strategy for Health in England HMSO, London, (Cm 1986).	First national health strategy to focus on population health objectives.	Increased health promotion. Re-emphasised public health and performance monitoring. Performance monitoring beyond process measures.
1993 (a)	Research For Health. DoH, HMSO, London.	R & D strategy and appointment of a director (NHS). To focus on effectiveness and application of research.	Research outcome to measure orientation.

1993 (b)	Vision For the Future: The Nursing, Midwifery, and Health Visiting Contribution to Health and Health Care. DoH, HMSO London.	Integration of primary and secondary care. Increased involvement in commissioning.	Decreased senior management in primary care. Better joint working between DHA and FHSA.
1994(a)	Managing the New NHS. Functions and responsibilities in the New NHS, DoH, HMSO London.	The Government announce their plans for another restructuring exercise.	RHAs reduced from 15 to 8 (and abolished all together in 1996). Eight regional directors, DHA and FHSAs merge.
1994(b)	Towards a Primary Care-led NHS. DoH, HMSO, London.	Promotion of a comprehensive primary care service of good quality and appropriate skills.	Power to be given to primary care, to shape range, mix, content and quality of services to meet collective and individual needs.
1996(a)	The NHS: A Service With Ambitions. DoH, HMSO, London. (Cm 3425)	All skilled professionals would be encouraged to work across boundaries.	Inter-professional team development. Working across the boundaries of health and social care.
1996(b)	Primary Care, the Future: Choice and Opportunity. DoH, HMSO, London.	Implications for all skilled professionals working in primary care/community care.	A vision of collaborative multi-disciplinary practice for primary care.
1997	The New NHS. Modern; Dependable. DoH HMSO, London. (Cm 3807).	Primary care professionals working in partnership with the local authority. Develop clinical governance.	Develop primary care by joint working across practices, sharing skills. Quality measures for joint working.

1998	A First Class Service. Quality in the New NHS. DoH, HMSO, London.	High quality care. Establishing the National Institute for Clinical Excellence (NICE).	Partnership for quality in the NHS. Encouraging the sharing of ideas to help to ensure a modern NHS.
2000	A Health Service of All the Talents : Developing the NHS workforce. DoH, HMSO, London.	Promoted: Team-working across professional and organisational boundaries. Streamlining workforce planning and development which stems from the needs of patients not of professionals. Doing away with barriers which say only doctors or nurses can provide particular types of care.	Proposed: Greater integration. More flexibility. Better management ownership, clearer roles and responsibilities. Improved training, education and regulation.

APPENDIX B

APPENDIX B

A MODEL OF PLANNED CHANGE – Schein (1985)

Stage 1	Unfreezing:	Creation of the motivation to change.	
	Mechanisms:	(i)	Lack of confirmation or non-confirmation of present beliefs attitudes, values or behaviour
		(ii)	Induction of "guilt – anxiety" by comparison of actual with ideal states.
		(iii)	Creation of psychological safety by the reduction of threats or removal of barriers to change.
Stage2	Changing:		Developing new beliefs, attitudes, values and behavior patterns on the basis of new information obtained and cognitive redefinition.
	Mechanisms	(i)	Identification with a particular source of information and redefinition through perceiving things as the source perceives them.
		(ii)	Scanning multiple sources of information and redefinition through new integration of information.
Stage 3	Refreezing:		Stabilising and integrating new beliefs, attitudes, values and behaviour patterns into the rest of the system.
	Mechanisms	(i)	Integrating new responses into the total personality or culture.
		(ii)	Integrating new responses into ongoing significant relationships and into total social systems through reconfirmation by significant others.

APPENDIX C

APPENDIX C

SEVEN JUMP MODEL

The premise of problem - based learning is that it provides a forum where individuals can bring their own expertise to help resolve a common problem.

Ideally, in this forum, there will at some point be a handing on of responsibility from one of the "experts" to another "expert". This interaction will occur when one expert has given his/her advice and then recognises that another expert will be able to provide a different and perhaps greater contribution to the scenario.

In a health care scenario, "the experts" are members of the different individual professions and the problem tends to be one involving a service-user. An example of this would be a pregnant woman who is expecting her child in the next month and yet is also a single parent of an existing three year old with no parental support. The service-user in this scenario is the pregnant woman who would interact with her GP, midwife, the hospital team and the health visitors during her pregnancy. The woman would also interact with her GP, social worker and possibly even temporary foster parents for the care of her three year old child whilst she is hospitalised for the birth of her second child.
The simple "problem", when looked at holistically, should involve dialogue between all the professional groups so that the service-user issues are seen as a whole, rather than two separate "problems". The planning for the birth of the second child could incorporate issues pertaining to the welfare of the three year old at this time.

Whether "experts" or health care professionals are involved, a reality-based situation is the scene of the "problem". The team would look at the problem -solving process as a whole, yet individuals may undertake self-directed learning to bring back to the team in order to address the reality-based situation. Tutorial and group-based support could be involved to help in either the self - directed process or the interaction during the problem - solving process. Throughout the whole of this process, the individuals would be expected to evaluate their own interaction, as well as how they set about resolving the problem.

Seven jumps have been identified by Silen (1991) to help in this problem - based learning process. These are to:-

1. clarify the terms and concepts of the problem which may not be readily comprehensible. This would involve a discussion amongst the team to identify exactly what the issues are and to clarify any terms which may not be familiar to all of the professionals/experts present.

2, define the problem. This would involve identifying the key issues which need to be addressed.

3. analyse the problem. This would involve looking at all aspects pertaining to the problem and the involvement of each of the professionals/experts.

4. make a systematic inventory of the explanations inferred from number 3. This would involve a systematic listing of each of the aspects of the problem, possibly identifying the professionals/experts who should be involved at each stage.

5. formulate learning objectives. This would ensure that an ongoing evaluation of the problem is undertaken and that each of the professionals/experts evaluates their part in the problem-solving process.

6. collect additional information from outside the group. This relates to the self - directed learning process, where additional information may be required to enhance the professionals/experts knowledge.

7. synthesise and check the newly acquired information. This would involve the team reflecting on all the information gathered and applying it to the problem.

The following diagram demonstrates how the Problem-Based Learning approach can be implemented in practice.

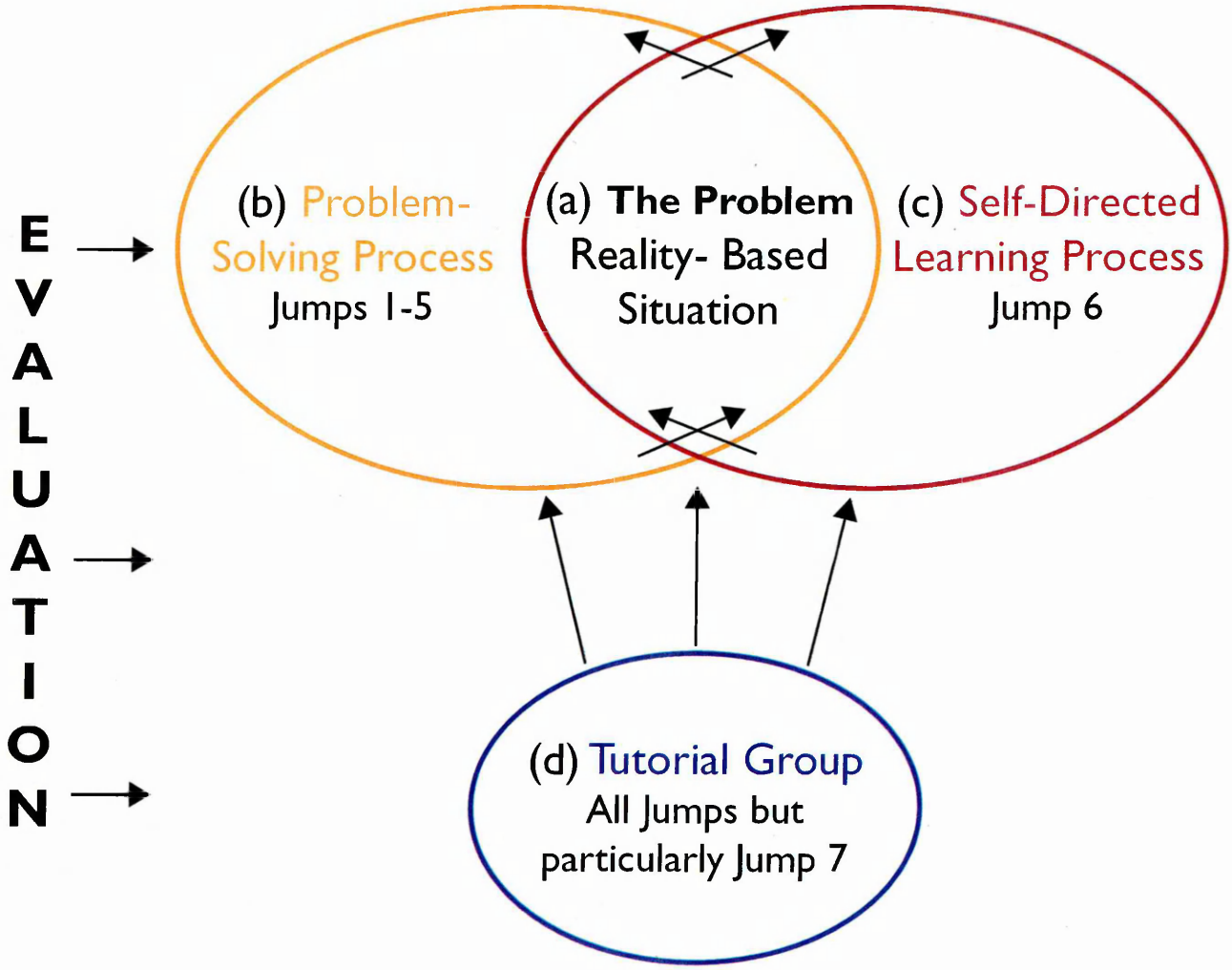
a) The "problem" is a situation which is based in reality .
b) The problem-solving approach uses the steps 1-5 identified above in the seven jump model.
c) Self Directed Learning enables the student to access additional information as jump 6 indicates.
d) All the jumps in the process but particularly jump 7 are discussed in the tutorial group.

Evaluation

The tutorial support will ensure that the students not only address the "problem" but also evaluate the learning, which takes place both for the individuals and as a group.

PROBLEM-BASED LEARNING

Fundamental processes



Problem-based learning

The "Seven Jumps"

Jump no. 1: *Clarify terms and concepts not readily comprehensible*
Jump no. 2: *Define the problem*
Jump no. 3: *Analyse the problem*
Jump no. 4: *Make a systematic inventory of the explanations inferred from jump no. 3*
Jump no. 5: *Formulate learning objectives*
Jump no. 6: *Collect additional information from outside the group*
Jump no. 7: *Synthesise and check the newly acquired information*

APPENDIX D

APPENDIX D

THE RUSSIAN DOLL

In reviewing the curricula of existing pre-registration programmes, with a view to encouraging the sharing of curricula between the students involved on these programmes, many institutions have initially identified a **core curriculum**. The idea of a core curriculum is controversial, due to the disparate nature of the health professions, the multitude of programmes, and accreditation and regulation requirements. A core curriculum can, however, streamline the education and allow greater articulation, improve access for the under-represented minorities of the profession, and promote interprofessional and multi-skills training. Furthermore, an analysis of common elements reveals considerable overlap among the existing core curriculum.

The term core curriculum, refers to common curriculum areas of study that can be identified on most of the professional courses. These include Anatomy and Physiology, Health and Safety, Professional Conduct, Research Methods, etc, etc. Many programmes have been presented with core curriculum to be undertaken during the first year of the programme, so allowing a common foundation from which each of the professions can develop. A further advantage of this would mean that once they have gained an insight into each others professional roles, students could choose, at the end of the first year, which profession was the most appropriate for them to study. However, due to the amount of profession-specific areas of the curriculum and the clinical practice which is necessary for such a programme, a common foundation such as this, would mean that the course would need to be extended from a three to a four year programme. At the moment, this is not seen to be an option, due to the financial implications of running an additional year.

An alternative way in which the core curriculum could be taught, would be to bring the students together at various points throughout their programme, specifically to teach the common curriculum areas of study.

Majoor (1991) outlines how the core curriculum can be broken down into three main areas:-

i) elements which are specific to the individual profession.

ii) common curriculum - which includes areas of study such as Anatomy and Physiology, Research Methods, Management, Education and Independent Studies.

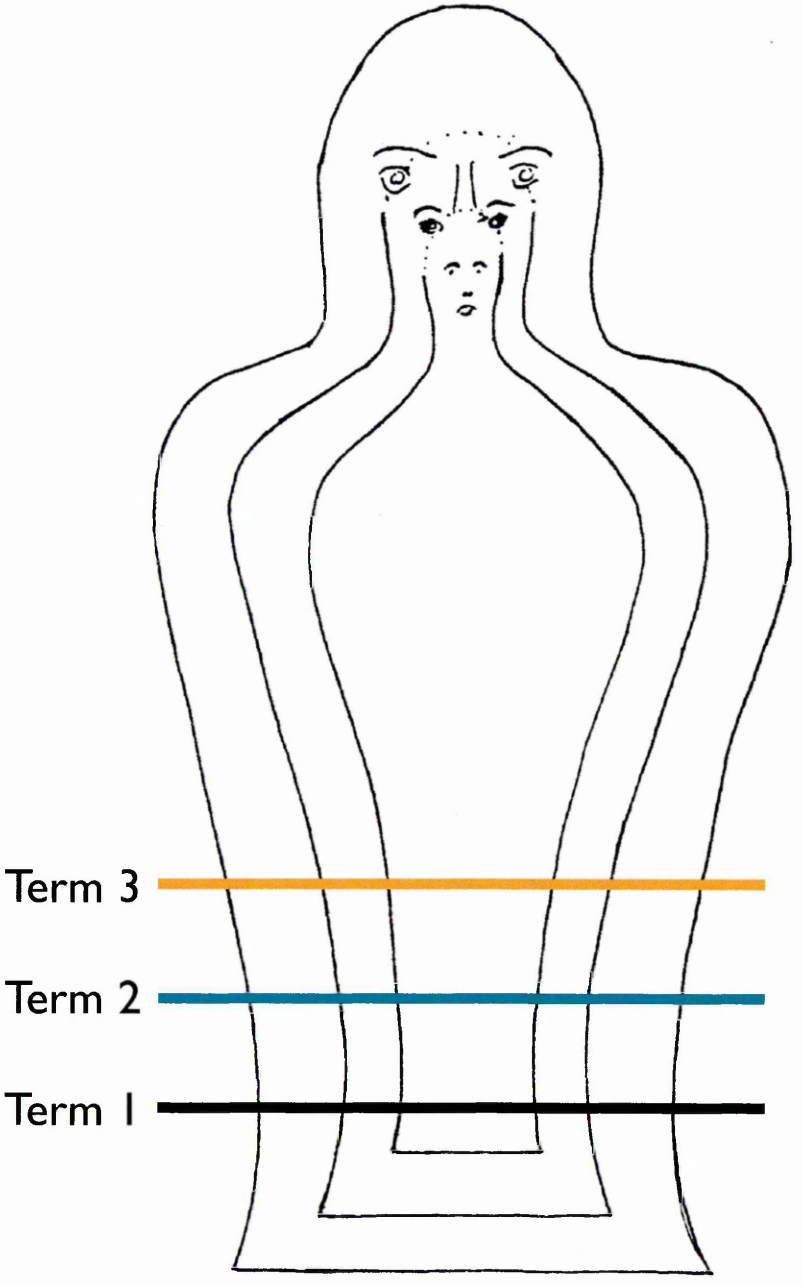
iii) elements of Professional Practice – i.e problem-based activities, common clinical scenarios, etc.

The concept of the Russian Doll has developed in higher professional education. This is where the three sets of curriculum areas identified above are studied and developed **simultaneously** in relation to each other, and where the development of the profession-specific curriculum areas provides a relevant and realistic context for the study of the basic sciences and the development of generally applicable professional

competencies. In the following model therefore, the common curriculum areas would in this analogy be the innermost doll. The elements of professional practice (Joint Professional Areas) would be the second doll and the elements specific to the individual professions would be the outer-most doll.

Each term, therefore, throughout the course, students would study together areas of the first common curriculum and the second joint professional area, and would study in their specific individual professional groups those aspects which were profession-specific. This model has the advantage of the students coming together at various points throughout their programme and learning more about each other's professional areas as they study alongside each other. This therefore encourages the student to consider further what their own profession offers to the "service-user" and how a relationship between their own profession and other professions would best serve the service-user's needs.

The Russian Doll concept of higher professional education, where three sets of competencies are studied and developed simultaneously in relation to each other; and where the development of profession - specific competencies provides the relevant and realistic context for the study of the basic sciences and the development of generally applicable professional competencies.



APPENDIX E

APPENDIX E STUDENT QUESTIONNAIRE

You are asked to complete the following questionnaire with regard to aspects of your course which are shared with students studying for a different professional qualification.

Please tick the appropriate box(es).

BACKGROUND INFORMATION

1a Please indicate the professional qualification for which you are studying:

- Diagnostic Radiography ☐
- Therapeutic Radiography ☐
- Occupational Therapy (full-time) ☐
- Occupational Therapy (part-time) ☐

1b Please indicate which year of study you are undertaking:

- First ☐
- Second ☐
- Third ☐
- Fourth ☐

1c With which other health care groups are you taught?

- Diagnostic Radiography ☐
- Therapeutic Radiography ☐
- Occupational Therapy (full-time) ☐
- Occupational Therapy (part-time) ☐

2. Which subjects are taught in a Shared/Interprofessional setting?

* *The Occupational Therapy Programme*

YEAR I

Profession Related Practice

Occupational Therapy Professional Studies

Behavioural Sciences

Anatomy and Physiology

Clinical Sciences

Creative Use of Self

Fieldwork Education

YEAR II

Research Methods

Occupational Therapy and the Individual

Theoretical Frameworks

Fieldwork Education 2

Therapeutic Activity

The Practice of Occupational Therapy

Management and Social Policy

YEAR III

Fieldwork Education 3 ☐

Occupation - The Relationship Between Health and Lifestyle ☐

Groups and Group Processes ☐

Human Performance and the Environment ☐

Critical Issues ☐

Independent Study ☐

Skills and Media ☐

Management in Health & Community Studies ☐

* ***The Therapeutic Radiography Programme***

YEAR I

Health Studies ☐

Oncology (Principles of) ☐

Physical Science ☐

Biological Science ☐

Radiotherapy Physics ☐

Clinical Education ☐

YEAR II

Health Studies ☐

Oncology (Clinical Applications of) ☐

Research Methods ☐

Physical Science ☐

Biological Science ☐

Clinical Education ☐

YEAR III

Health Studies ☐

Oncology and Radiation Technology ☐

Physical Science and Technology ☐

Project ☐

Clinical Education ☐

* *The Diagnostic Radiography Programme*

YEAR I

Radiographic Physics ☐

Structural and Functional Anatomy ☐

Diagnostic Radiographic Anatomy & Arthrology ☐

Profession Related Practice ☐

Radiation Protection ☐

Radiographic Studies I ☐

YEAR II

Radiographic Studies II ☐

Management and Social Policy ☐

Research Methods ☐

Physiological Mechanisms in Health & Disease ☐

YEAR III

Professional Practice in Imaging ☐

Critical Issues in Diagnostic Radiography ☐

Management in Health & Community Care ☐

Practice Based Module ☐

3. **Shared sessions can be delivered in a variety of ways. Please tick the shared sessions in which you were involved.**

a. Joint lecture programme ☐

b. Small inter-professional group project work ☐

c. Visits to other departments ☐

d. Computerised packages ☐

e. Problem based learning ☐

f. Other - please specify ☐

ATTITUDES INTERPROFESSIONAL/SHARED LEARNING

4. **In these teaching sessions do you feel there is a predominance of one professional group?**

YES ☐

NO ☐

If yes, which group is it and why do you think it happens?

5. **Here are some popular statements/concepts often applied to Interprofessional/shared practice/learning. How far do you agree with them?**

Concepts	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Inter-professional learning can only involve joint lectures				
b. Inter-professional practice involves professionals working together in a team with a doctor as the leader.				
c. Inter-professional practice looks at the patient as a person rather than as someone with a specific health problem				
d. Inter-professional practice is a group of people coming together to solve a particular problem				
e. Inter-professional learning can only take place in the classroom				
f. Clinical practice should be shared with students studying other courses				
g. Inter-professional learning takes too much time out from the main course programme				

6. **Here are some issues which might be thought appropriate for inclusion in a shared module. How important would you consider these to be?**

Curriculum Issues	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Life and Death Issues: abortion, euthanasia, bereavement				
b. Professional Ethics				
c. Privacy and Informed Consent				
d. Understanding the Roles of Various Professions				
e. Quality of Patient Care				
f. Substance Abuse				
g. Communication				

7. **Please give as many examples as possible of clinical activities which involved you in an inter-professional setting and in each case state which other professional group/s were involved.**

   a) **Example**

   b) **Other Professional Groups**

8. **Inter-professional/Shared Learning is a fairly new development in most health care professionals educational programmes. How strongly would you agree/disagree with the importance of the following statements?**

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Courses in inter-professional awareness should have high priority in professional programmes				
b. Societal values do significantly influence the role of the professions in society.				
c. An inter-professional approach does not necessarily improve patient care.				
d. The Professional Bodies should take a lead role in promoting inter-professional activities				
f. Professional educators should attempt to deal with the ethical issues of their profession.				
g. The clinical education component of the programme should include inter-professional interaction.				
h. Inter-professional co-operation can significantly promote communication and understanding among professionals.				
i. Most professionals need training in group dynamics before inter-professional involvement.				

9. The following attitudinal statements relate to specific aspects of your shared learning experience. How far do you agree with them?

	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
	A) SOCIAL ASPECTS OF THE COURSE				
	I don't think the other group really wanted to be with us				
	I feel we need to get to know people in our own professional group better before sharing sessions with another group				
	I am pleased we don't have all of our sessions with students from the other professions				
	I look forward to learning with the other professional groups				
	I enjoy socialising with the other groups of students				
	I wish all of the sessions could be shared with other students				
	B) CURRICULUM ASPECTS				
	I think we should share the clinical sessions as well				
	I would rather my tutor just tell me what I need to know				
	I feel we are being taught things which are not relevant to us				
	I feel we should have more sessions with the other professions tutors				
	I didn't think the assessment related to my profession				

	C) PROBLEM-BASED LEARNING				
	I enjoy a problem-centred learning approach				
	I enjoy researching/finding out about a topic with my colleagues from the other profession(s)?				
	D) WORKING PRACTICE				
	I believe knowing about the other professionals role while training enables me to know when, in practice, I should refer a patient to another profession				
	I cannot see what possible help shared learning with other groups will be in my career				
	I can not see how shared learning sessions with the other groups will help in dealing with the patient				
	I believe the shared learning sessions will help me to perform better in practice				
	E) THE OTHER PROFESSIONALS ROLE				
	I believe knowing about the role of the other professionals will enable me to work more efficiently when I qualify				
	I don't get chance to talk to my colleagues from the other professions				
	I understand the differences between my professional role and that of the other professions, e.g., Occupational Therapist, Radiographer				
	I believe that due to shared learning I now know more about another profession's role with regard to the patient				
	I can't see the point of shared learning				
	I enjoyed the profession-specific aspects of the programme				

F) SUPPORT FROM THE INSTITUTION					
	I think the tutors really believe shared learning will be of benefit to us				
	I think the tutors need more up-dating on what shared learning is				
	I think shared learning has been forced on the doctors by "management"				
	I don't think enough thought went into planning the shared learning sessions				
	No one explained to me why we were shared with the other group(s)				
	The tutor didn't seem to know anything about my profession				
G) LOGISTICAL ASPECTS					
	I like the small tutorial sessions with the other group(s)				
	The room was far too small for the shared learning sessions				
	I enjoy working on a University site away from my normal base				
	The lecture room is too cramped for all of us				

Cost Effectiveness

10. Some people believe that shared learning has been introduced into courses to

a) make the courses cheaper Agree ☐ Disagree ☐

Please give reason(s) for your choice

b) help the professionals to be more cost effective in practice Agree ☐ Disagree ☐

Please give reason(s) for your choice

11. **Please add any personal comments derived from your experience of using shared learning techniques/ approaches.**

THANK YOU FOR HELPING BY COMPLETING THIS QUESTIONNAIRE

PLEASE NOW RETURN TO

Dawn Forman
School of Health and Community Studies
UNIVERSITY OF DERBY
MICKLEOVER
DERBY DE3 5GX

APPENDIX F

APPENDIX F

QUESTION 4 - **In these teaching sessions do you feel there is a dominance of one particular professional group? Yes/No**
If yes, which group is it and why do you think it happens?

Phase 95 (Blue)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
X					X Yes - Diagnostic Radiography students in Anatomy and Physiology lessons due to their previous in depth knowledge of the subject, as they have covered aspects of the course before the joint lectures began.		
		X			X Yes - Because the lectures are based at that professional groups study base (e.g. college).		
X							Yes - There is more than double numbers of diagnostics so there is obviously going to be a dominance over the therapy students. There is not a dominance in the technical aspect of the lectures though.
	X					Yes - 30 Diagnostic Radiographers versus 10 Therapeutic Radiographers.	

QUESTION 4 - In these teaching sessions do you feel there is a dominance of one particular professional group? Yes/No
If yes, which group is it and why do you think it happens?

Phase 95 (Blue)

Year of Study				Occupational Therapy	Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time Full-time		
X				X Yes - Full time Occupational Therapist Students. All part time students are already working within the Occupational Therapy profession, in one area or another and full time students would find this informative. I find studying with the full time students gives a different perspective on how we study, and can give us good ideas and support in areas where we perhaps have not picked up on what information is being given. They are valuable to us for added information.		
X					Yes - Occupational Therapy - majority of students are Occupational Therapist's and we are at the School of Occupational Therapy.	
X					Yes - a) Occupational Therapy bias especially with Lecturers who work in that field. b) No examples applied to both professions equally	

QUESTION 4 - In these teaching sessions do you feel there is a dominance of one particular professional group? Yes/No
If yes, which group is it and why do you think it happens?

Phase 96 (Green)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
X					X Depended what session - sometimes Occupational Therapy dominant and with no relevance to Radiography and sometimes the other way round, e.g. bone lecture in A&P, the Lecturer went into a lot of detail - 3 hours, no relevance to Occupational Therapy, but for Radiography I think it was quite brief.		
X					X Occupational Therapist - since within the year, there seems to be around 70 Occupational Therapists and only 12 Radiography students hence the lecturers are directed towards Occupational Therapy.		
	X				X Occupational Therapy because the lectures are on the Occupational Therapy site and there is more Occupational Therapy students than Radiographers		

QUESTION 4 - **In these teaching sessions do you feel there is a dominance of one particular professional group? Yes/No**
If yes, which group is it and why do you think it happens?

Phase 97 (White)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
	X				X		
				Yes – I think we dominate due to our larger numbers, but I don't think the students fined it a problem.			
		X			X		
				Yes – Full time OT students are the largest in number			
		X					Yes – No one group particularly dominates the OT's do have the largest number but its not really a problem
X						Yes – I think the balance is pretty even. We may dominate a bit.	
X						Yes – The OT's dominate as they have the largest number	

QUESTION 4 - In these teaching sessions do you feel there is a dominance of one particular professional group? Yes/No
If yes, which group is it and why do you think it happens?

Phase 98 (Yellow)

Year of Study				Occupational Therapy	Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time Full-time		
X				X Yes – We are but I find studying with other students gives a different perspective on how we study, and can give us good ideas and I believe the same is true for the other students.		Yes –Occupational therapy students because of they are larger in number but we make sure our views are taken seriously.
	X					
		X		X Yes The full time occupational therapy students are larger in number but you could say that the part time students dominate because the majority of them are older or that the therapy students dominate because they are the smaller group and therefore everyone is interested in their views		
				X The Radiotherapists have a lot to say in our sessions		

QUESTION 4 - **In these teaching sessions do you feel there is a dominance of one particular professional group? Yes/No**
If yes, which group is it and why do you think it happens?

Phase 98 (Yellow)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
		X				Yes. The OT's are the largest in number but because we are in small groups no one group particularly dominates over the others.	

QUESTION 7a - Please give as many examples as possible of clinical activities which involved you in an interprofessional setting.

7b - State which professional groups were involved.

Phase 95 (Blue)

Year of Study				Occupational Therapy	Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time Full-time		
		X		X a) On placement with the hospital environment, planning part time care Planning discharge b) Physiotherapist, Social Workers, Nursing staff Occupational Therapist		
		X		X a) Ward rounds, ward/team meetings. b) Occupational Therapists, Consultants, Doctors, Nurses		
X						a) Therapy students have to take part in diagnostic techniques as these need to be used to diagnose possible problems i.e. I have visited X-ray depts/CT/MRI scanners, whereas diagnostics do not really need to visit Radiotherapy depts to gain a better understanding of their profession. b) Doctors, Radiotherapists, Nurses Diagnostic Radiographers.
		X		X a) Care planning, treatment, home visits- MDT approach. b) Doctors, Nurses, Physiotherapists, Social Workers		

QUESTION 7a - Please give as many examples as possible of clinical activities which involved you in an interprofessional setting.

7b - State which professional groups were involved.

Phase 96 (Green)

Year of Study				Occupational Therapy	Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time Full-time		
X				X a) Difficult to define since I have yet to go on my first year placement		
				X a) Fieldwork placements - treatment sessions, MDT meetings, family therapy, visits to other professions b) Nurses, Psychiatrists, Social Workers, Physio=s, Speech & Language Therapists, Psychologists.		
	X				a) Liaising with Doctors, Radiologists, Nurses, staff on wards in Clinical Departments.. b) Doctors, Radiologists, Nurses.	
				X a) Attending multidisciplinary team meetings, visiting other departments whilst on placement e.g. spending a day with Physio Therapists etc.		
	X					

QUESTION 7a - Please give as many examples as possible of clinical activities which involved you in an interprofessional setting.

7b - State which professional groups were involved.

Phase 97 (White)

Year of Study				Occupational Therapy	Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time Full-time		
X				X a) Handling practice in profession related practice. Anatomy and physiology module, visit to morphology, handling, manipulation of muscles etc. b)Diagnostic&TherapeuticRadiographers		
X				. X a) Lifting and handling techniques Use of wheelchairs. Use of walking equipment (crutches, sticks etc). Resuscitation. b) Occupational Therapy.		
X				Therapeutic Radiography Diagnostic Radiography X a) Hoists, how to use etc. Wheelchair manouvering/practicing. Lifting, ergonomics. First Aid - very brief, too large group b) Occupational Therapists and Radiographers		

QUESTION 7a - Please give as many examples as possible of clinical activities which involved you in an interprofessional setting.

7b - State which professional groups were involved.

Phase 98(Yellow)

Year of Study				Occupational Therapy	Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time Full-time		
		X		X (a) Mulitidisciplinary teams meetings (b) Physiotherapists, Doctors, Nurses, Social Workers		
			X	X (a)Ward rounds (b) Doctors Nurses Chaplain Physiotherapists Radiotherapy Radiographer		
X					(a) Casualty (b) Doctors, Nurses, Consultants.	
		X			(a) Ward patients, Casualty (b) Radiologists Occupational therapists, Physiotherapists, Nurses, Doctors.	
	X					(a) Radiotherapy Departments (b) Nurses Diagnostic Radiographers, Consultants, Speech Therapists, Doctors, Social workers

QUESTION 10 - Some people believe that shared learning has been introduced into courses to:-
a) make the courses cheaper and b) help the professionals to be more cost effective in practice

Phase 95(Blue)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
X					X Disagree a) We were taught together for such a short length of time - it would not have made much difference.		
X				Disagree b) I do not see how this relates to being taught together.			
					X Agree a) Partly agree with this, but I understand it gives more opportunity to more students to gain access the University courses. More room is required, and more toilets, refreshment facilities. Lunch-time is horrendous in a small canteen, also not enough seating outside around the campus at Whittaker Road.		
					Agree b) Budgets have to be kept to.		

QUESTION 10 - **Some people believe that shared learning has been introduced into courses to:-**
a) make the courses cheaper and b) help the professionals to be more cost effective in practice

Phase 95 (Blue)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
X						Disagree a) I understand that shared learning was introduced to give each faculty experience of learning other Sectors and Professions in the Health Service. Unfortunately this does not appear to have worked, especially mixing first year students. Perhaps the concept may be more useful in the second or third year. Disagree b) Unless a full knowledge of other Professions was to be taught, cost effective practice would appear to be an impossible task.	
X				X Agree a) Everyone is trying to save costs so why repeat the same lectures twice in two closely placed venues.			

QUESTION 10 - **Some people believe that shared learning has been introduced into courses to:-**
a) make the courses cheaper and b) help the professionals to be more cost effective in practice

Phase 96 (Green)

Year of Study				Occupational Therapy	Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time / Full-time		
	X			X Agree. a) I think it has a dual purpose, i.e. it cuts costs but is also worthwhile to the different professions in some cases. Agree b) It could make referrals to other professions clearer/easier/quicker.		
X				X Disagree a) Our two courses Occupational Therapy and Radiography need to know some of the same stuff b) No comment		
X				X Agree a) We had very little interaction with the other profession especially during lectures. Even in Tutor Groups we did not really mix with the Radiographers. We could have learnt what we did in those sessions without being together.		

QUESTION 10 - Some people believe that shared learning has been introduced into courses to:-
a) make the courses cheaper and b) help the professionals to be more cost effective in practice

Phase 97 (White)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
		X			X Agree a) Probably one reason, I would think. Disagree b) Probably one way to justify shared learning.		
	X				X Agree a) Although I thing shared learning would probably be a good idea Ashared@ inter- professional status such as communication/understanding group, dynamics, management etc, I do not think it should make up the bulk of training for fear of professions losing their speciality and becoming too generic. .		

QUESTION 10 - **Some people believe that shared learning has been introduced into courses to:-**
a) make the courses cheaper and b) help the professionals to be more cost effective in practice

Phase 98 (Yellow)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
X					X		
				Disagree a) I believe the shared learning may to save time, not particularly because of money. I also think shared learning was meant to get the different professions together, so that they could get to know each other. Disagree b) I can not so far relate cost effectiveness in practice to shared learning.			
X					X		
				Agree a) I feel joining and cramping students together is very likely to reduce costs. Disagree b) I can not see how this applies.			

QUESTION 10 - Some people believe that shared learning has been introduced into courses to:-
a) make the courses cheaper and b) help the professionals to be more cost effective in practice

Phase 98(Yellow)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
	X					a) Disagree I think its been about getting to know what the other professions do in a specific scenario so you know what the patient goes through before they get to you and what happens to them when they leave you b) Disagree I think its more about patient care which will happen if a) is correct.	
		X			X a) Agree I think it may be to make it cheaper for the consortia who purchase our education, but I think they have to make sure they allow enough time for the profession specific bits as well as the shared learning b)AgreeAs long as we get the balance right then I think it could be cheaper AND better for the patient.		

QUESTION 11 - Please add any personal comments derived from your experience of using shared learning techniques/approaches. Phase 95 (Blue)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
		X			X		
				Please understand, that during my course at Derby, I have not encountered shared learning whilst on college campus, but have encountered interprofessional settings in the workplace whilst on placement and it is from my practice, that I feel shared learning whilst in University would be beneficial. But, as each profession has its own unique approach to core, so I feel that shared learning is only appropriate when being taught certain aspects of the course e.g. Clinical sciences, ethics, approaches to Rx possibly, and certainly not all. (So us to preserve professional identity and personal roles).			
		X					It was good to mix with radiographers but we did not interrelate much
					X		
		X		We only experienced it for a maximum of six lectures. We rarely interacted with the other profession, therefore in our case I did not really see the usefulness for us as the students.			

QUESTION 11 - Please add any personal comments derived from your experience of using shared learning techniques/approaches.
Phase 95 (Blue)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
	X				X It was good to mix with radiographers but we did not interrelate much.		
X				.		We do very little shared learning. The Therapy Radiography students join us for one lecture a week in a tiny room. We hardly interact together, never mind socialising or seeing each other at work. Shared learning may be of some use, but I feel I could not effectively answer this questionnaire as I have little experience in the topic area. It was not relevant	
X						Not enough time with other professional groups. The groups were too large groups in a confined space.	
X							At break times and lunch times, it was very noticeable that students generally joined students in their own profession

QUESTION 11 - Please add any personal comments derived from your experience of using shared learning techniques/approaches.
Phase 96 (Green)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
X					X Groups were too big and there was not enough time available.		
X					X I looked forward to the experience, but was disappointed in the outcome - very little interaction between the two groups however if it were to be planned differently, it would be positive.		
	X				X As Occupational Therapists we do not work directly with Radiographers and do not refer to them, therefore there is not much reason for us sharing lectures. A more beneficial profession to share with would be Physiotherapists or Nurses.		

QUESTION 11 - Please add any personal comments derived from your experience of using shared learning techniques/approaches.
Phase 97 (White)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
	X				X I think the idea of **some** shared learning is beneficial - ie to get more understanding of other professionals roles (I, personally think this should be taught as an extra module for all during the 1st year). However, I think shared learning between professions who would actually work together, ie Occupational Therapy and Physiotherapy, would be more beneficial than Occupational Therapy and Radiography students together like at our University. I also think that profession specific modules so there is no danger of professions losing their uniqueness/ identity ie. Occupational Therapist.		

QUESTION 11 - Please add any personal comments derived from your experience of using shared learning techniques/approaches.
Phase 98 (Yellow)

Year of Study				Occupational Therapy		Diagnostic Radiography	Therapeutic Radiography
1	2	3	4	Part-time	Full-time		
X					X		
				I have enjoyed the sessions we have shared with the other groups I think it gives us a feel for what it will be like when we are qualified and it gives us all the opportunity to visit other sites of the University and feel more like University students I don't think the radiotherapy students often get that experience.			
		X		X Its good to share experiences with a variety of health professionals after all that's what its like in real life.			
	X						It was good top share ideas with the other students. I enjoyed the smaller group sessions more than the lecture room however as that was a bit cramped.

APPENDIX G

APPENDIX G COURSE COMMITTEE MINUTES

Date	Diagnostic	Therapeutic	Occupational Therapy
1994	**Content:** **Outcome of Validation:** Degrees in Diagnostic Radiography and Occupational Therapy Were approved for the maximum of 5 years with a few conditions and recommendations. Confirmation of the conditions and recommendations were filled by 1 June 1994.		**Context:** **Anatomy & Physiology** These sessions had caused problems regarding accommodation for a group of 100 plus students. **Context:** **Profession-Related Practice** Within the profession specific element, it is possible to have small groups. Evaluation to occur at the beginning of terms. The number of students (107) using either the lecture hall or the main hall does not contravene the Health & Safety or the Fire regulations. For the Resource Centre the details of room size will be taken to SASC by Dawn Forman.

Date	Diagnostic	Therapeutic	Occupational Therapy
1994			**Context:** **Professional Studies:** Both shared sessions are difficult because of the room sizes, with Thursday's session causing major problems. It would be advantageous to have a second session where groups are smaller. **General** **Research:** Dawn Forman asked permission to approach students requesting that they complete a questionnaire the findings of which will help to develop an attitudinal questionnaire. Permission was given.
1995	**Context:** **Year 1 Comments** It was reported that the joint Structural and Functional examination was now complete and had been through the Assessment Board. The shared learning with Occupational Therapy had been a new experience for the course team who would be looking at modifications for the future. Feedback to students from the examinations had been requested and these are to be discussed generally in the next academic block.	**Content:** It was reported that the preparations for revalidation were well in hand for the revalidation dates of 5th, 6th & 7th February, but clinical information from one of the departments was still awaited.	**Context:** There have been problems at times due to large groups staffing and size and number of rooms. **Content:** The single modules have been received favourably and the order, e.g. Anatomy and Physiology in the Autumn Semester with Clinical Sciences in the Spring Semester seems to have been correct.

Date	Diagnostic	Therapeutic	Occupational Therapy
1995	**Context:** **Shared Learning:** First year students feel disadvantaged by the shared learning with Occupational Therapy. Students do not see the benefits, so early in their first year, of mixed groups which are set up so that the two specialists groups can learn and share experiences with each other. A 2nd year student stated that shared learning in the 2nd year, Research Methods, had been a lot more successful, with smaller groups and students more knowledgeable and a lot more confident in discussing their specialist areas. **Context:** **Devonshire House:** The Derby School was relocated to the first floor of Devonshire House at the start of September, a week before the beginning of the new term. Both the staff and students are very pleased with the new accommodation which has the added attraction of the medical library on the ground floor and an open learning centre being developed on the second floor.		

Date	Diagnostic	Therapeutic	Occupational Therapy
1996	**Content:** **Profession-Related Practice:** This level 1 module has an element common to diagnostic radiography, occupational therapy and therapeutic radiography and a profession-specific element. When Therapeutic Radiography was revalidated this year,. it was stated that in, CAMS, this was not allowed. For this reason, and to simplify administration. Therapeutic Radiography had the common element validated as half module and the profession specific element validated as a separate half module. It is proposed that the other two courses should do the same. **Content & Context** **Teaching, Learning & Assessment** **Content** 6.1 Block teaching of the Research Methods Module - shared learning with Occupational Therapy & Therapeutic Radiography students had worked well. Small group work had been especially well Received by the students.		**Context:** **Stage 1 - Full-time Year Leader's Comments:** These tutors deliver this module. This staffing level supports group tutorials (14 students). In the student evaluation these sessions are rated necessary to that they can clarify topics, come to terms with the subject, handle bones and models and learn from each other. Visits to the Morphology Unit of Nottingham University and practical sessions at the DRI are seen as valuable learning opportunities. **Context:** **Profession Related Practice:** The sequencing of topics works better now than before, with the sequencing of the carousel groups (5 groups of among 25+ students) working well. Some problems still persist regarding facilities for large scale key note lectures, but the problems are limited as much as possible by revising their sequencing, in addition to varying the activities that students undertake. It is felt that this shared element of the module works well.

Date	Diagnostic	Therapeutic	Occupational Therapy
1996	*Content* 6.2 The Diagnostic Radiography Anatomy and Arthrology module had been changed to a Single semester and the Structural and Functional Anatomy module changed to a Through semester. *Context* 6.3 At the staff/student meeting, concerns had been expressed by the students over the timing of the Anatomy and Arthrology examination in December. The students felt that they had a lack of radiographic viewing experience as they had not yet been into the clinical department and suggested that the examination could take place at Easter.		*Content:* **Professional Studies:** Generally, the students are very happy with the way in which this course has been taught. The subjects have been covered in depth and at times repetitively, but, this was appreciated. On balance the students are satisfied with the time given for discussion and reflection, although sometimes it was felt to be too much or too little. Some students had difficulty keeping up with the lecturer and taking notes, but printed handouts have been informative, appropriate and thoughtful, so that extra resources have not been needed too often. **Stage 2: Year Leader** **Content: Research** There are three professions taking part in the Research module, and this is the first time it has run with two weeks block teaching.

Date	Diagnostic	Therapeutic	Occupational Therapy
1996			*Context* The facilities at Devonshire House were not adequate, although small group facilities were highly rated by the students, this is when compared to the size of rooms available on the Cedars site. The size of the group affected learning, and group sizes were at 25, also the change in seminar leader had caused planning problems, and there was a need for commitment by module leaders involved.
1997		**Content:** **Stage 1: Curriculum Design & Development:** The programme is slightly different from previous years, it has been strengthened in terms of the shared learning.	**Content & Context:** **Professional Studies:** There have been a number of changes to this module this year as a result of shared learning with social work students and due to the absence of Rachel Batteson from the course team. In the first part of the module the students shared 3 hour sessions with the 1st year social work students as part of a joint CETSW/COT funded project. This required a considerable amount of preparation and negotiation. Following an introductory session students were divided into three groups and the topics - problem solving, professional decision making and using an interpreter were delivered on a carousel basis over three weeks on the Cedars and Mickleover sites.
1997	**Content:** **Teaching of Physics** The student representatives expressed concern over the teaching of the physics module. It was felt that the diagnostic radiography students were taught at a different level than the therapeutic radiography students based at Nottingham.		

Date	Diagnostic	Therapeutic	Occupational Therapy
1997	It was also felt that physics was taught at a level which did not take into consideration each student's individual background. The students commented that they enjoyed the "teach-in" aspect of the module. It was agreed that a planning meeting should be held to look at how physics would be dealt with in the future. **Teaching, Learning & Assessment:** Block teaching of the Research Methods Module - shared learning with Occupational Therapy and Therapeutic Radiography students had worked well. Small group work had been especially well received by the students.		Students joined in practical activities and staff shared the delivery of the subjects. The value of these shared learning sessions is being evaluated by Isabel Jones. In the second half of the module there were some problems which necessitated changes to the delivery of the subjects because of paucity of rooms and staff. Some sessions were delivered to larger groups than previously, and other sessions were managed through re-negotiation of format and delivery. Thanks were expressed to staff who helped with the delivery of this module. Overall the syllabus was covered. Student evaluations have not been completed to date. **Content & Context:** **Professional - Related Practice:** This module was shared between therapeutic radiography, diagnostic radiography and occupational therapy students and delivered on the Cedars site. The therapeutic radiography students only participated up to reading week. The module was delivered in a similar format to 1996, with the first part being devoted mostly to the lecture format, and the second part to smaller carousel group work.

Date	Diagnostic	Therapeutic	Occupational Therapy
1997			Again the first part had to be delivered in two halves, sessions being either divided between 2 members of staff or delivered over 2 weeks because of the absence of a room to accommodate the full group. In the 2nd part students were divided into 5 groups, each group studying a different topic each week. Considerable logistical negotiation was required and students did not always ensure they were in the correct groups. Because of the need for resuscitation to be formally assessed for diagnostic radiography students it was necessary to divide the radiography students across only four of the carousel groups. This had a negative effect on the fifth "occupational therapy only" group, who regretted not sharing their sessions with radiography students. The module leader thanked everyone who helped with the delivery of this module and particularly Joan Kelly who was involved for the first time. **Contenx:** **Stage 2: Year Leader Research:** Facilities which were expected to be available had not opened for the start of the term.

Date	Diagnostic	Therapeutic	Occupational Therapy
1997			**Context:** **Teaching, Learning & Assessment:** Evaluation of Teaching Methods Three sessions had taken place jointly with Social Workers, these sessions will continue into the Spring term with Nursing students also taking part. The subject matter will be Interprofessional Issues incorporating simulated workshops. It may be possible that 2-3 joint sessions may take place within the Behavioural Sciences Module. **Context:** **Student Representatives:** There was still a need for adequate resources at the Cedars site. With 120 students taking part in joint teaching - it has meant that one group has had to go to Mickleover. Staff replied that students will have to be mobile in order to utilise resources at other sites.

Date	Diagnostic	Therapeutic	Occupational Therapy
1997			Evaluation of Assessments - no major proposed changes. Action Plan - outstanding items. **Context:** **Shared Learning: Improved Learning Environments:** Problems are being experienced at the Kingsway site with regard to Health & Safety. **Context:** **Difficulties & Problems:** Facilities - The problem with lack of resources and facilities is ongoing. They are mentioned in the December minutes, page 5, and the March minutes, page 5/6, and are outstanding from the 1994/5 Course Report. Efforts are being made to rectify these, and the following steps have been taken. More space has been leased at Kingsway for BA(Hons) in Art Therapies, and it is anticipated that this should lead to fewer on the Cedars site at any one time. This hopefully will decrease the pressure on resources and also increase room availability.

Date	Diagnostic	Therapeutic	Occupational Therapy
1998			**Context:** **Stage 1 - Year Leader; Behavioural Sciences:** As the module has not yet been completed, feedback at this stage is from the module leader and not the student cohort. Overall, the module JJ appears to have run reasonably smoothly though there are a couple of points which need to be reviewed. Firstly timing of lectures - at times they were out short leaving the students with unanticipated free time. The lecturer felt that this occurred mainly due to personal inexperience re: teaching and will be addressed through personal training at CPP. SWOT - unable to meet object for joint training for 2 identifiable reasons: difficulty in co-ordinating timing and appropriate subject matter due to differences in timetabling and commencement of programme. **Context & Content:** **Management in Health and Community Care:** The module was delivered as planned in a Shared Learning format. Student attendance has been excellent and there has been full engagement with the material delivered within the sessions.

Date	Diagnostic	Therapeutic	Occupational Therapy
1998			Informal feedback from the students has been very positive. Many have become very interested in Management studies.