# A focused ethnography of radiotherapy students' learning on their first clinical placement

## A thesis submitted to Cardiff University in fulfilment of the requirements of candidature for the Professional Doctorate degree of EdD

## School of Social Sciences

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# *Abstract*

Building on literature from the medical and nursing field, this study focuses on radiotherapy students on their first clinical placement. Clinical education is an essential component in the process of becoming a qualified therapeutic radiographer. Yet, as this research demonstrates, students are inadequately prepared for their first clinical placement.

The study explores the professional socialisation of students new to the clinical setting, identifying the challenges they face in this alien environment. It also examines students' perceptions of the clinical pedagogy. Three methods of data collection were employed for this focussed ethnography: six weeks of non-participant observation in two hospitals, interviews with seven students, and five focus group discussions with a total of 19 clinical radiographers.

The results show how student expectations changed over a short time interval. Clinical teaching was ad hoc and assessment of competence subjective. Hierarchy was revealed between radiographers and students, between students themselves and between radiographers. In trying to fit in and learn the job, students were affected by other demands on radiographers' time, which limited the attention they received. It was also notable that Band 5 radiographers spent more time teaching than Bands 6 and 7. The radiographers were aware of limitations in their clinical teaching, but defended themselves in terms of workforce pressures and the negative impact of increased student numbers, frequent rotation and short clinical placements. In the analysis, the concept of '*belongingness*' is used to interpret the impact that student exclusion had on professional socialisation, learning and the importance of teamwork. Foucault's concepts of '*governmentality*' and '*panopticism*' are employed in understanding on how the radiographers were bound and limited by the healthcare organisation and the university's curriculum.

In conclusion, students were unprepared for working in the clinical environment. A lack of 'belongingness' hampered the socialisation process and learning in the workplace. Efforts to make the 'hidden' curriculum (including values and expectations) more explicit could assist both students and radiographers and enhance the learning value of the first placement and support the development of critical thinking skills. One goal of this study is to provide an analysis that can be used to begin a dialogue between academics, practitioners, managers and students about the challenges experienced by undergraduates on their first clinical placement.

# *Declaration/Statements*

**DECLARATION**

This work has not previously been accepted in substance for any degree and is not concurrently submitted in candidature for any degree.

Signed ………………………………………………. (candidate)    Date …………………………

**STATEMENT 1**

This thesis is being submitted in partial fulfilment of the requirements for the degree of .........**EdD**.....................

Signed ………………………………………………. (candidate)    Date …………………………

**STATEMENT 2**

This thesis is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references.

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**STATEMENT 3**

I hereby give consent for my thesis, if accepted, to be available for photocopying and for inter-library loan, and for the title and summary to be made available to outside organisations.

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# *Acknowledgements*

I would like to express my gratitude to the students and radiographers who gave their time and consent to participate in this research and for the invaluable contribution they have made towards the future development of clinical education.

A special thank you to my supervisors, Professor Alison Bullock and Dr Sara MacBride-Stewart, whose constant support and advice ensured that I completed my research.

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# List of Abbreviations

| | |
|---|---|
| **AfC** | Agenda for Change |
| **AMA** | American Medical Council |
| **CoR** | College of Radiographers |
| **CPSM** | Council for the Professions Supplementary to Medicine |
| **DoH** | Department of Health |
| **HEI** | Higher Education Institution |
| **HPC** | Health Professions Council |
| **KSF** | Knowledge and Skills Framework |
| **NHS** | National Health Service |
| **NMC** | Nursing and Midwifery Council |
| **QAA** | Quality Assurance Agency |
| **SET** | Standards of Education and Training |
| **SoP** | Standards of Proficiency |
| **SoR** | Society of Radiographers |
| **VERT** | Virtual Environment for Radiotherapy Training |

# Transcript conventions

[...]  Material has been added to clarify meaning

....  Words, phrases or sentences have been omitted from the text

Pseudo names have been added to interview sessions to preserve practitioners' identity.

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# Chapter 1

## Setting the scene

### 1.1 Introduction

This study explores the experience of first-year therapeutic radiographers on their first clinical placement. This chapter aims to explain how I came to undertake this research. Firstly I trace how I developed an interest in clinical education from being a clinical radiographer for almost 10 years and a clinical and academic lecturer since 1993. Next I describe the context of the research detailing and offering a commentary on the curriculum of these first-year students at the time that the research took place. I also explore how the academic disciplines of medical education in particular, as well as nursing education, have documented research on professional socialisation and the learning and teaching involved in becoming a skilled and competent professional. A more in-depth review of this literature is given in Chapter 2. Finally I set out the research question and define the aims and objectives of the study.

### 1.2 Personal and professional trajectory

Prior to embarking on this research, I had been a clinical radiographer for 10 years, a full-time clinical lecturer for approximately 2 years and then a split role of academic and clinical lecturer for 13 years. During this period of time, I had experienced and witnessed the transition from diploma to degree status in radiography education at Cardiff, which was due to a change in radiotherapy education as a whole throughout the UK. The transition saw a substantial increase in student numbers in Wales, the location of this study; increased clinical

rotations of students (between hospitals) and the construction of a new radiotherapy department (not included in this study). Changes in the clinical assessment structure and the clinical curriculum were inevitable with the advent of the degree course together with a rapidly changing clinical environment due to advances in treatments and technology. During the 13 years which saw the change to degree status and change in my split role of academic and clinical lecturer, I witnessed students who seemed anxious, dissatisfied and critical of the radiographers in the clinical environment. Like many of my colleagues (clinical and academic) I put this down to student attitude rather than their training. During this period, the clinical lecturer role of my job had changed from one where I used to have prime responsibility for the teaching and instruction of students in the clinical workplace (particularly during the diploma training) to one, which was more of an administrative role. This changed role involved ensuring student rotas of clinical placements were organised, carrying out clinical assessments, as well as monitoring student progress and pastoral care. The clinical teaching role had become the responsibility of the clinical radiographer within the hospital (rather than the university).

The restructuring of my role as a clinical academic had happened so subtly over the years, that much like the students' experience of their training, I had not really recognised the impact of the changes on myself, or the students. However changes in my experience and that of students could be regarded as a parallel process, because we were both being influenced by broader changes of the restructuring of the degree course, its curriculum design and delivery in Higher Education. The examinations were no longer national examinations and the same for all students (as for the diploma); they were now set by the individual universities. The standards and curriculum were designed and approved in conjunction with the Health Professions Council (HPC) and Society and College of Radiographers (SCoR). At the level of the academic institution, the change in my job role meant that I was now spending more

time teaching in the classroom during academic placements - the academic lecturer role of my job, whilst ensuring all was running smoothly in the clinical placement in my base hospital – the clinical lecturer role of my job. The other two hospitals which had students on placements had their own clinical lecturers i.e. in one hospital the lecturer had a split role like myself – an academic/clinical lecturer and the other hospital had a clinical lecturer/clinical radiographer role, whereby the person was partly employed by the university for their clinical lecturer role and partly employed by the Trust for their clinical radiographer role. This ultimately meant that the three hospitals did not have full-time clinical lecturers and were not always available for the students.

Like the students, the changes generated my own sense of frustration and uncertainty at the new direction of clinical education, while maintaining my targets and managing new pressures and requirements such as Continuing Professional Development (CPD). My growing awareness of the impact of structural change in my own professional life encouraged me to delve deeper into the thoughts and perceptions of students towards their clinical education and the barriers and challenges that they faced, particularly first-year students embarking on their first clinical placement. I saw this as the greatest challenge for first-year students, entering an alien environment with little knowledge and skills of radiotherapy and the culture of radiotherapy itself.  In addition I felt that I needed to understand the pressures that radiographers were under and what they themselves thought about clinical education. Was I missing something? Was I so familiar with the environment that I was becoming blind to the problems and pressures? Nothing seemed to improve the situation despite slight changes in the academic and clinical curriculum and assessment structure. I felt that I wanted to make a difference to the students' experiences and to try to get around those structures, processes and barriers that were apparently standing in the way of doing what I thought was best for the learner. Presently I felt like an inevitable hapless deliverer of a course that was

the decision of a higher power (the university) following a required curriculum and being a helpless captive of various systems in operation such as the NHS and hospital Trust. I embarked on my postgraduate study both to fulfil my CPD requirement and in the hope that this research would help me make sense of the issues and challenges that students faced on their clinical placement. In addition, I hoped that the study would provide an insight and evidence base so that these could be addressed and overt changes made in the new curriculum for the forthcoming degree course scheduled to run in 2014. The opportunity of undertaking a professional doctorate degree meant that I was able to carry out research that had not been conducted in radiotherapy to date.

## 1.3 Radiotherapy education and the curriculum

### 1.3.1 The educators

The teaching of radiotherapy students has traditionally taken place within a hospital and academic setting. The clinical education of students was initially through an apprenticeship model of training during the 60s to the early 90s, but since then the training has been more structured, following an approved curriculum. The clinical teaching and supervision at the University involved in this study and the UK as a whole, is primarily undertaken by clinical radiographers (the educators in the workplace). These radiographers will have not received formal training in teaching students and there are no studies that report on the adequacy of their teaching skills. There is a push from the Society of Radiographers (SoR) to encourage radiographers to engage with teaching workshops such as the Practice Educators course (SoR, 2006) run by some universities, although as of yet this is not compulsory.

## 1.3.2 The students

Traditionally, radiotherapy education involves the student pursuing a three-year BSc degree course in therapeutic radiography. The curriculum varies between universities, but essentially the three years involve placements in academic and clinical practice. Much of the students' clinical teaching is undertaken by clinical radiographers who are employed by Trusts/hospitals. As noted above, these clinical radiographers are not expected to have undergone formal or even informal instruction in the basic concepts and principles of education. It is usually assumed that expertise as a practitioner, will translate into effectiveness as a teacher (Macleod *et al,* 2003).

However, therapeutic radiographers' training requires a substantial amount of time in clinical practice in addition to the academic component required of the curriculum. Some universities require that 50% of clinical time is devoted to clinical education in the workplace whilst a small percentage of universities offer substantially less e.g. 25%. In Wales, traditionally there has been an even split between academic and clinical placement time, including during the diploma era. The distribution of course time, represented in weeks, between academic and clinical education for the students involved in this study, is shown in Appendix A. It illustrates a roughly 50:50: split between academic and clinical time. The distribution and timing of these weeks are also important. The students in this study were scheduled to spend 11 weeks in their first clinical placement, preceded by 11 weeks in academic placement from the commencement of the course (see Block Plan - Appendix B). It is during the period of 11 weeks of the first clinical placement that the data collection took place.

During the preceding academic block, the students commenced a study of four modules, namely, Professional Practice (shared module with diagnostic radiography students), Radiotherapy and Oncology 1, Pre-Treatment Procedures and Physics year one (again a shared module with diagnostic radiography students). These modules span the whole of the

academic year and were assessed at the end of year one. During the first 11 weeks of academic placement (prior to the clinical placement) the Professional Practice module covered topics such as learning styles, reflective practice and teamwork. The Radiotherapy and Oncology module began by covering topics such as cell biology, the urinary system and lymphatic system and an introduction to terminology. Pre-treatment Procedures looked at common investigative procedures, an introduction to the treatment planning process and treatment calculations. Finally, the year 1 Physics module covered topics such as production of X-rays, basic construction of X-ray tubes and interaction of X-rays with matter.

The curriculum for clinical practice is presented as module descriptors, which are included in the BSc course document. The module descriptors for Clinical Education 1 for year one are shown in Appendix C. This includes the methods of assessment and learning outcomes but does not prescribe what clinical objectives and competencies are required and at what level of clinical learning. The curriculum for clinical education takes the form of a clinical education folder, which prescribes the objectives and competencies that need to be achieved during the students' clinical education and which level of training these apply to. An example of the first year clinical education 'curriculum' as prescribed by the clinical education folder is included in Appendix D. The professional education of therapeutic radiographers as described here, presented an opportunity to research and report on the clinical experience, training and pedagogy that form part of the students' learning and teaching.

## 1.4 Academic justification for the research

Nieweg (2004) has argued that one of the most pressing requirements for contemporary allied health education today is to develop a framework for the theory and practice of clinical learning and professional development which results in the attainment of professional competencies suitably robust for a lifetime's practice. Nieweg (2004) is identifying that there

have been changes in the clinical and the educational environment, which are on-going, and that training needs to be future-proofed to manage and respond to these changes in innovations in technology, the regulation of the professions and an increase in patient numbers as well as the number of students. Innovations in technology and cancer care, for example, have meant that the radiotherapy curriculum has had to keep pace with these changes and it may be perceived that the profession cannot rely solely on the traditional methods of teaching (White and Klem, 2005). Moreover, increasing student numbers and increasing pressures faced by clinical practitioners to achieve targets as well as changes in the infrastructure of the health service as a whole have meant that bridging the perceived gap between clinical and academic education remains a continuous battle.

Over the past 20 years there has been a substantial amount of research from nursing and medical (doctors) education into the way students approach their learning in higher education, how this relates to what and how much they learn, how it relates to the way they see and understand the teaching and learning context they are in, and the way they see and understand the discipline or professional practice which they are studying (Prosser, 2004). There has been a smaller body of research emerging from the allied health sciences i.e. physiotherapy, occupation therapy and radiography, and these have taken the lead from medical education. Over fifty years ago, a US study of doctors demonstrated the flexibility of student idealism in the context of an institutional culture where their clinical experience was arbitrarily organised, and the ability to rehearse professional roles was limited (Becker *et al,* 1961). The study suggested that the medical school course did not really prepare students adequately for their future medical profession. This problem however, was not limited to the USA. Over the years UK Higher Education Institutions (HEIs) have strived to produce curricula, for health related degrees as well as medicine that have encompassed organised clinical experience with suitable learning outcomes and have arrived at similar conclusions.

Education includes the professional socialisation of students (Dall'Alba, 2009). Professional socialisation can be described as an assimilation of the attitudes and values of the radiography profession, in a gradual although sometimes uncertain but challenging way. For example, Prince *et al* (2005), report the pressures faced by students entering the clinical environment including the 'shock of practice':

> *The need to display accepted forms of professional conduct becomes suddenly much more urgent when students enter the clinical phase. Students have to adjust to long working hours and to a new and very different environment. On top of that they are uncertain about what is expected of them. These socialisation factors may explain the crisis in students' learning that Boshuizen [1996] identified as among the symptoms of the shock of practice.* (p.705)

Becker *et al* (1961), and then Sinclair (1997) were key academics who reported on the perceptions of medical students. They were also interested in how the students' perceptions changed during their time in medical school. As academics they were interested in understanding the socialisation process into the profession (see also Merton *et al* (1957). The seminal work of Becker *et al* (1961) and the questions he and his colleagues raised seemed pertinent to my own questions and concerns. The starting place for my study then is Becker *et al*'s work (1961). As I argue in more detail in later chapters, the challenges I raise about the education of therapeutic radiographers resonate with findings from studies within related professional groups. These include the challenges of initially wanting to learn it all and soon realising that they could not, (due to the volume of work, being tired and the pace of work) and the students finding more economical ways of learning which satisfies the requirements of the educational institution. More specifically, I came to be interested in the academic questions of learning processes related to the development of new skills and knowledge, and the professional socialisation into a new working culture. This literature is explored in Chapter 2 where I argue that professional socialisation and teaching and learning are inextricably linked. This research may add to the current literature, as research in this area is

sparse in radiography and therapeutic radiography as a specific group and shows that similarities do exist between the professions.

## 1.5 The research question

My research questions emerged from my personal experience as an academic/clinical lecturer within the profession of radiotherapy and my observation of the pedagogy between radiographers and students in the clinical setting. The research interest evolved into an academic attempt to understand professional socialisation in the light of contemporary pressures on radiotherapy students and staff. These include the problems and barriers to learning experienced by students in a technically advancing profession in an environment burdened by financial and political pressures.

The focus of this research was primarily on the learners' experience and an understanding of the challenges of clinical pedagogy in a radiotherapy setting. However, attention was also given to the perceptions of the radiographers themselves who are involved in the training of the students and the model of clinical learning employed.

Posed as questions, in learning to become therapeutic radiographers, what challenges and stresses do students face on their first clinical placement, how do they adapt, and what do they learn?

### 1.5.1 Aims of research

The general aim of the research was to examine the perceptions of first-year therapeutic radiography students embarking on their first clinical placement, with special attention being paid to:

    (i)      How the students were socialised within the new clinical environment.

(ii)     How students acquired knowledge and skills of clinical practice across a range of clinical settings

(iii)    How students perceived their teaching from clinical staff.

## 1.6 Structure of thesis

The thesis is organised in the following way: The following chapter will begin by reviewing the literature on how the radiotherapy profession has evolved in the UK since the early 1920's to date and how the education and training of radiographers have consequently changed over the years. The literature sheds light on the struggle to keep pace with the advancements of technology, to develop suitably robust curricula to keep in line with such advancements and the learning styles and assessment methods as employed within medicine and nursing as models, in order to develop competent professionals. The literature on the professional socialisation process into medicine and nursing is explored, identifying research claims made about the barriers and challenges that new recruits may face in an unfamiliar environment. It emphasises that without professional socialisation, students' learning can be seriously hampered. Attention is also given to curriculum design and delivery, whilst distinguishing between the formal and hidden curriculum. Finally, the section on education for professional practice discusses how trends in learning modes have changed over time. This section discusses learning theories, in particular drawing on the learning metaphors as described by Sfard (1998).

The methodology chapter (Chapter 3) details a critical review of all the stages involved in the study, together with a justification of the methods employed, ethical considerations and methods of analysis. Chapters 4 and 5 examine the two main themes that emerged from the data analysis; namely 'professional socialisation' and 'teaching and learning'. The professional socialisation chapter is structured around subthemes including changes in

student perspectives over time; hierarchy; competition and culture. The teaching and learning theme is organised around issues which include good and bad clinical teaching; time pressures for teaching; learning styles; education for professional practice, the apprenticeship model and the assessment scheme. Finally, the overall conclusions are made in Chapter 6.

# *Chapter 2*

# *Literature Review*

## *2.1 Introduction*

### *2.1.1 Rationale for review*

The aim of this literature review is to highlight the challenges and barriers to effective clinical pedagogy and the implications that arise. As little attention has been paid to clinical education specifically within the radiotherapy profession, I draw on the medical and nurse education literature. Study of the challenges and barriers to effective clinical teaching within the radiography profession is a neglected area of research. In addition, I critique research that has suggested curriculum improvements, designed to overcome identified problems. My intention is to enable readers from the radiotherapy profession and radiography as a whole to learn from experiences in medical and nurse education.

A number of researchers have documented concern regarding the clinical education of health professionals in the workplace (Becker *et al*, 1961; Atkinson, 1997; Sinclair, 1997; Brown *et al,* 2005; Kinchin *et al*, 2008). Within the context of seeking to satisfy the objectives and goals of a curriculum set by the academic institution (the university), student perceptions of their clinical education changes significantly as they adapt to a new clinical environment. Research shows that during the clinical learning process, students (the learners) experience many challenges and barriers to effective clinical pedagogy (learning and teaching) (Nahas and Yam, 2001; Elcigil and Sari, 2007; Levett-Jones *et al*, 2009) and that the quality of instruction from the qualified clinical professionals (the teachers) can vary (Gray and Smith,

1999; Pearcy and Draper, 2008; Hickey, 2010). Links have been made between clinical pedagogy and the central role of professional socialisation of these students (i.e. the socialisation of the students in a specific professional culture). The documented challenges faced in modern healthcare today bear many similarities to those faced by students reported in older classic medical education texts such as *The Student Physician* (Merton et al, 1957) and *Boys in White* (Becker et al, 1961) and I demonstrate the continuing currency of these studies.

Thus, the rationale for this literature review relates to the importance of the clinical experience in the education of healthcare professionals and the concerns about the equality of student learning experience on placement.

### 2.1.2 Objectives and focus of the research

The literature review focuses on how clinical pedagogy has been conceptualised in medical and nurse education. Within this broad area, I consider student professional socialisation and associated anxiety; the experience of exclusion; changes in perspectives and behaviour; teaching and hierarchy in the workplace. I highlight the theoretical approaches adopted, the concepts/methods used by researchers and the main empirical findings. Given my finite resources, timescale and the limited size of this study, the breadth and depth of the literature is focussed and contained. The purpose of the literature review is to harvest ideas and concepts for clarification of my research questions and data analysis, rather than offer an extensive critique.

### 2.1.3 How the literature review was conducted

An initial exploration of the literature was undertaken using informal methods. Colleagues and supervisors who were experienced in the field of the social sciences were asked about

relevant or classic texts on medical education, key theorists and philosophers used in healthcare social research. I browsed libraries, the Internet (such as Google scholar) and then used the university e-library, 'MetaLib – electronic resources' for more in-depth searches of journals. Databases used in the search were:

*PsycINFO (Ovid); British Education Index (ProQuest); ERIC (ProQuest); IBSS (ProQuest); SCOPUS – V4 (Elsevier); Sociological Abstracts (ProQuest); PubMed; Zetoc; JSTOR (Arts and Sciences) and Web of Knowledge.*

I searched using key words that I combined with *medical education.* The terms searched included the following:

*Clinical education; professional socialisation; anxiety; stress; curriculum; clinical curriculum; clinical competency; professional competency; hierarchy; student exclusion; perceptions and clinical education; student culture; apprenticeship; teaching and clinical assessment*. The same was repeated for *nurse education, radiography (radiotherapy), physiotherapy* and *occupational therapy.*

In selecting and appraising the literature, I paid particular attention firstly to the abstract (for making a judgement about relevance), then the study design and the key findings of the research/studies. My initial judgements on including or excluding papers was based on relevance and whether the key findings were significant or had important theoretical ideas that could be related to my study. I found the literature review an iterative process and revisited this section several times to explore further topics of interest or to elaborate on existing ones during the thematic analysis of the data. Examples include the concept of 'belongingness', 'competition' and 'clinical competency'.

Through reading books and research papers in peer-reviewed journals, my searches extended as I became interested in key concepts cited in these sources. Although a time consuming and

laborious task, I felt that exploring all these avenues gave me a greater sense of the overall literature in the area of this study.

## *2.1.4 Structure of literature review*

This chapter is organised into six main sections: (i) a history of the development of the profession; (ii) studies in medical education and nursing; (iii) professional socialisation; (iv) the regulatory bodies; (v) radiotherapy curriculum and (vi) education for professional practice. I begin by looking at how the radiography profession has developed over time (section 2.2). The story looks at the role of radiography technicians from the 1920s until radiography emerged as a profession and how radiotherapy emerged as one branch of radiography. This section also looks at when the Society of Radiographers (SoR) was created and its role in the profession, together with the changes in recruitment, educational requirements and qualifications. The section also shows how equipment has evolved over the years and how these technological advances have impacted on the workforce and training of students. The next section (2.3) examines classic texts and studies in medical education and nursing. These texts serve as parallels with radiotherapy, as studies in the clinical education of radiotherapy as a specific group are rare. Attention is paid to those studies that look at how students cope with their clinical training and how their perspectives change over time. This section raises issues related to student exclusion and professional socialisation.

I then focus in more detail on professional socialisation of healthcare students (section 2.4) and how students learn to adopt specialised knowledge, behaviours and skills particular to their profession. The hidden curriculum and the consequences of a lack of professional socialisation are also raised. Both 2.3 and 2.4 sections are about using the literature to search out the big ideas that will help with my clarification of the research questions and later with the data analysis. Issues of hierarchy and professional socialisation appear to resonate with

the concept of belongingness and ultimately on self-concept, learning and competency to practice.

I turn to the regulatory bodies in section 2.5 and discuss the power and control that they exert over the professions in terms of regulation, membership, surveillance, and what this ultimately means for the practitioner and student. I draw on Michel Foucault's concepts of *panopticism* and *governmentality* to explain the impact these have on society (Foucault, 1977). This section will help to explain and highlight the pressures the radiographers are under in order to maintain their CPD, but which may erode the time spent on teaching the students.

The next section (2.6) takes a closer look at the curriculum in terms of content and pedagogical approaches. Distinction is drawn between the formal and hidden curriculum and the implications of formalising the latter for the benefit of practitioners and students. Finally section 2.7 looks at education for professional practice, including learning models and learning theories such as those described by Sfard (1998). This will shed light on the current models of learning used and indeed if current practice uses more than one model in the clinical education of students. The learning metaphors serve to clarify the difference between the didactic approach and experiential approaches to learning and how these appear to be used in clinical practice.

This chapter identifies key arguments and understanding related to professional education and socialisation, regulation and assessment in order to give the reader an awareness of the background to radiography training and how all these concerns are inextricably linked to the clinical education of radiotherapy students as they set out on their journey to becoming radiographers.

## 2.2 Not just 'Button-Pushers': the making of the field of radiation medicine

### 2.2.1 Introduction

By outlining a brief history of key moments in radiography, the training of early practitioners, the distinct roles of diagnostic and therapeutic radiographers and the changes in the course of radiography, I aim to shed some light on the evolution of the profession, how it is governed and how the education of radiography students has changed over the years. This will give the reader a better understanding of how far the profession has come and an appreciation of the current pressures that are faced in the clinical context in the modern healthcare era.

### 2.2.2 Historical development: Radiology/Radiotherapy

The discovery of X-rays in 1895 by Wilhelm Roentgen influenced modern medical technology following the First World War (Decker and Iphofen, 2005). The introduction of X-ray technology into modern medicine has been argued to have revolutionised modern surgery by enabling the surgeon to see the presence of foreign bodies (Assmus, 1995).

Following the Second World War, there was a struggle for professional recognition, which eventually received approval, through the Council for Professions Supplementary to Medicine (CPSM) Act of 1960. The CPSM lasted until the new millennium but has since been replaced by the Health Professions Council (HPC) (Decker and Iphofen, 2005) in April 2002 (HPC, 2012). The HPC has recently been renamed the HCPC (Health Care Professions Council) in 2012. However at the time of conducting this research it was called the HPC and therefore I refer to this professional body as the HPC for the remainder of the thesis. The Society of Radiographers (SoR) itself was founded in 1920 by radiologists (medical consultants) Albert Fowler and Dr Robert Knox of King's College Hospital. Membership to the SoR was offered to applicants who had at least 10 years experience in an electro-

therapeutic (radiotherapy) department or X-ray (radiology) department of a hospital, which had been approved by the Council. In 1921, entry to membership led to the introduction of examinations and thus a syllabus developed from here. There were only 67 members in 1921 (SoR, 2007) but now members are in the thousands. During this period radiography as a whole became a distinct profession, which was practiced by technicians/radiographers and not medical doctors. Radiology and radiotherapy were becoming distinct professions within radiography itself, which resulted in the growing numbers of members over the years.

The patriarchal nature of the medical profession and the belief that medicine was superior to radiography, contributed to the 'master-servant' relationship of radiology and radiography respectively, as radiography was seen more as a technical job (Larkin, 1978). Post Second World War, social relationships were changing and together with increasing numbers of consultants, doctors were subject to new pressures and were mainly concerned with status and money (Briggs, 2005). In its early days, gender issues were also prevalent creating a divide between male and female radiographers. The males were recruited mostly from the army and thus they considered themselves to be more technical than females who were recruited from nursing, a predominantly female profession.

### 2.2.3 The radiographer: a history of training

The Society took an active role in the national registration of auxiliary medical professions and in 1932 hospitals such as Guys and King's College were recognised as training schools (SoR, 2007). The status and training of radiographers continued to be an issue during and after World War 2. At this time much of the focus was on the development of the National Health Service, which was launched in 1948. The Cope Report in 1951, recommended that a council be set up - the CPSM, in order to maintain a register of medical auxiliaries working in the NHS. For Radiographers, the CPSM Act of 1960 was implemented in 1962, which

ensured statutory registration (SoR, 2007). The London was one of the first hospitals to use X-rays for diagnosis and treatment. The first clinical X-ray made at the hospital was taken in March 1896, only a few months after Roentgen had first announced his discovery of X-rays in 1885 (Stanford Report, 2007). Radiotherapy was first used to treat cancer at the London Hospital in 1900.

From 1926, students trained in both diagnostic and therapeutic radiography (Thomas, 2000). They paid no fees and had no formal lectures but were mainly employed in hospitals as dark-room technicians or medical electricians during the daytime. They received lectures in the evenings and studied on their own, preparing themselves for the examinations to be admitted for Membership of the Society of Radiographers. In 1948 the Diploma was separated into two distinct qualifications and students sat examinations for the diploma of the College of Radiographers (DCR) in diagnostic or therapeutic radiography.

During the 1970s, developments were made in education and industrial relations and the two-year diploma course was eventually extended to three years. The introduction of the degree course followed in the 1990s where national diploma exams were replaced by individual university examinations and degrees. The universities had to develop a curriculum and provide clinical placements with appropriate learning outcomes that had to be approved by the CPSM/HPC with input from the SoR.  Students were enrolled on the first degree courses in 1993 for diagnostic and therapeutic radiography (SoR, 2007).

In addition to the history of radiography training, it is important to understand the difference in roles of diagnostic and therapeutic radiographers in order to appreciate the need for specific clinical and academic education.

*2.2.3.1 The diagnostic radiographer*

Diagnostic radiographers use imaging modalities such as X-rays, ultrasound, CT (Computed Tomography), MRI (Magnetic Resonance Imaging), radionuclide imaging and other forms of imaging technology to examine patients. They are responsible for interpreting images and diagnosing illnesses and injuries and working alongside radiologists (a doctor who specialises in radiology). They can also be involved with intervention procedures e.g. the removal of gall stones and kidney stones and the insertion of stents to widen blood vessels. They have a patient care role and work in a variety of hospital departments including theatre, accident and emergency and on wards (DoH, 1999). The amount of time and contact they have with patients depends on the specialist area they work in. In general, diagnostic radiographers do not build a rapport with patients as they may only see them on one occasion compared with therapeutic radiographers.

*2.2.3.2 The therapeutic radiographer*

The therapeutic radiographer treats patients with cancer using ionising radiation, usually high-energy X-ray beams, which deliver an accurate dose of radiation to the tumour, often using complex equipment and techniques. This is necessary to minimize the radiation dose to normal surrounding structures. They are also involved in patient care from the initial referral clinic through treatment planning (i.e. X-ray imaging, CT and MRI scans and computer planning of the treatment) to clinical treatment. This means that therapeutic radiographers can build a relationship with their patients as they may treat them for up to 6 weeks, with treatments usually given on a daily basis (Monday-Friday). In addition they may participate in regular treatment review clinics and post-operative clinics.

Therapeutic radiographers work closely with doctors, nurses, physicists and other members of the multidisciplinary oncology team. As well as the planning and delivery of a highly

accurate dose of radiation using complex technical equipment, the radiographer at the same time attends to the psychological, physical and emotional needs of the patient. During the course of education, training and clinical practice, students are expected to acquire a wide range of transferable skills, allowing them to specialise for example in, research, treatment review, management and teaching (DoH, 1999). Many of these skills developed through education and training may not be fully appreciated or apparent to the layperson.

It is a requirement that therapeutic radiography students develop critical thinking abilities to keep pace with the new practical skills they are learning (HPC, 2004), though it is not given that students acquire these capabilities (Dearing, 1997). Students are expected to master a number of new skills including the technical dexterity to treat patients and in addition perform scans and X-ray images used to verify treatments, when on clinical placement. When performing these scans/X-ray images and the setting up of radiotherapy treatments, they need to be capable of interpreting these images and to evaluate the accuracy of treatment techniques. The value that the student must be able to think critically in order to be a successful practitioner is enshrined in education literature and policy (Edwards, 2006).

It can be seen that a considerable amount of knowledge underpins radiography training and competence, which requires more than 'just pressing a button' to take an X-ray image or to deliver a certain amount of radiation to kill cancer cells.


## 2.2.4 The profession of radiography – drivers of change

Modern healthcare reforms have resulted in global changes in healthcare systems (DoH, 1999). Value is now placed on professional recognition in a modernised and global system of health care in which students may receive training in a different country than the one they work. This in turn has made the attainment of professional recognition of professions allied to medicine, of considerable importance in the changes in the labour market. In addition,

organisational and service changes, (mostly driven by economic factors and consumer expectation) have been prime sources for the changes in the profession of radiography (DoH, 1999). The move into the higher education sector in the 1990s meant that radiographers were additionally encouraged to engage in research activities. Further, radiographers could choose career pathways in education, research, clinical practice, management or a combination of these (CoR, 2003). The profession has struggled to 'make' itself, to establish its identity over the years as a legitimate specialisation, a 'field' in the larger field of radiation medicine.

Advances in technology are changing the way people live and having an impact on the way in which people teach, learn and practice radiography. This has *'presented new challenges to the development of skills and in some cases has been seen as an attack on professional autonomy and clinical judgement'* (Allen and Pilnick, 2006, p.2). Moreover, it can be seen that these challenges not only present themselves for the students who are learning to become professionals, but for the clinical staff themselves who are immersed in these constant changes. As a result, skills and procedures are constantly updated and as Baumann (2004) points out:

> *Routine, the habits it requires, and the learning that results in both, do not pay any longer. In a fluid setting, flexibility is the name of rationality. Skills do not retain usefulness for long, for what was yesterday a masterstroke may prove today inane or downright suicidal.* (Baumann, 2004, p.22)

Information and communication technologies such as the Internet, e-learning, CD-ROMs and video conferences are increasingly being employed in education (Adams, 2004). The latest developments in radiotherapy education include VERT™, which is the Virtual Environment for Radiotherapy Training. This is a state of the art, back projected screen system with a life-size linear accelerator (radiotherapy treatment machine) model and the potential to walk around the treatment room. In addition it may help staff to refresh their knowledge and develop further skills. This type of VERT system is typically installed in large teaching

institutions or teaching hospitals. It aims to aid teaching the theoretical concepts of radiation therapy in a safe, non-pressured environment for students to practice set-up and technique. In addition it reduces linear accelerator time in the clinical environment required for learning the basics of linear accelerator operation in the early stages of training, thus leaving more time for clinical teaching (Vertual, 2012). The VERT system does not of course replace patient contact, communication skills and medical care. Likewise advances in technology have meant that radiotherapy equipment is ever increasing in complexity and accuracy, improving outcomes for patients through delivery of higher radiation doses to the tumour whilst minimising doses to normal surrounding tissue and thus less side-effects. This has meant greater accuracy in patient positioning and smaller and more precise areas treated.

This chapter has so far outlined the struggle for recognition of the radiography profession and innovations in technology and cancer care. As the interest of this thesis is the clinical education and the professional socialisation of radiography students, the following section explores classic texts in medical education and nurse education research which examine the challenges of the professional socialisation and clinical education of students and how they make adjustments in order to survive changes and innovations in medicine, nursing and the training and education of health professionals.

## 2.3   Studies in the sociology of health professions

### 2.3.1  A medical education perspective

Much has been documented over the years about medical education both in the academic experience of students as well as their clinical experience and how they learn to cope. Rather than reviewing this extensive literature, I use key classic texts to explore ideas about the education and socialisation of doctors. These ideas can be used to inform the analysis of data

in my study. Although I refer to dated, classic texts, these are still used today when analysing education in healthcare as well as medical culture. In my analyses of data in Chapters 4 and 5, show how these seminal works are still relevant to modern healthcare education. The purpose is to mine these texts for analytical ideas rather than provide extensive critique. The texts will be critiqued in terms of methodology and main conclusions.

The classic text '*Boys in White*' by Becker *et al* (1961), a US study set in a Kansas university hospital, describes how students learnt the informal or what Becker *et al* (1961) referred to as the 'hidden' curriculum (to be discussed in greater detail in section 2.6) to help themselves and each other get through medical school. Becker *et al* (1961) looked at how the students' motivation and values were shaped by the institution, for example, the curriculum, what and how much was to be learnt and the format of examinations (Leung, 2002). They also revealed the effects of postgraduate medical school beyond developing a technical education. Becker *et al* (1961) explored whether it can be assumed that the students would leave medical school with a set of ideas that they could not have had before gaining a 'taste of medicine' and medical practice/clinical experience. Becker *et al* (1961) also examined whether these new ideas and experiences would have an effect on their future choice of specialism/career pathway in clinical practice and where to practice.

Becker *et al* (1961) drew on symbolic interactionism to generate this concept of behaviour which:

> *…assumes that human behaviour is to be understood as a process in which the person shapes and controls his conduct by taking into account (through the mechanism of role taking) the expectations of others with whom he interacts.*
> (Becker *et al* 1961, p.19)

In their study (1961), they used participant observation, whereby the researcher participates in the daily lives of people they study. The research team did this by attending school with the students, following them from class to laboratory to hospital ward. They also conducted

formal and informal interviews with a random sample of 15 students from each of the four years. Overall it took two years to carry out the fieldwork.

Three main concepts that dominated their analysis were: group perspectives (those of the faculty and to a greater degree, those of the students), student culture and the organisation. A perspective can be defined as a:

> *…co-ordinated set of ideas and actions a person uses in dealing with some problematic situation, to refer to a person's ordinary way of thinking and feeling about and acting in such a situation.*                    (Sinclair, 1997, p.17)

The perspectives were divided into:

i) *The initial perspective* – which is immediate and situational. It consists of the students' definition of the present situation of the goals they set for themselves in it, and the activities they undertake in it such as learning as much of the medical theory as possible in case they may be examined on that particular topic. These behaviours are all considered under the term '*situational perspective'* (Becker *et al* 1961, p.93). With the *long-range perspective* no such immediacy of thought and action is possible. Students define medicine at this stage as the best profession and their goal is to become an ideal physician.

ii) *The provisional perspective:* Unlike the long range or initial perspectives, the provisional perspective is not something each individual student brought with them to medical school, but a collective development i.e. amongst a group of students. The idealistic perspectives of the first weeks of medical school belonged to an aggregate of students who did not know each other well and could in no sense, except nominally be called a group (Becker *et al*, 1961). As they continued through medical school, these groups of students who faced the same problems and were subject to the same environmental constraints began to get to know each other and collectively develop a group perspective. They discussed more economical ways of learning such as concentrating on what the institution wanted and focussing on what they may be examined on. Many students found it hard to learn it all and were discouraged in

their attempts to learn everything, as they felt overwhelmed by the amount of work they needed to learn. Therefore Becker *et al* (1961) deduced from this that the pressure for change in behaviour arose directly from the difficulties the students encountered in carrying out the initial perspective of fully engaged learning under a continuous and heavy learning schedule. Thus, the '*provisional perspective is a bridge between the initial perspective and their final views'* (Becker *et al* 1961, p.112).

iii) *The final perspective*: Rebellion may have been put forward by Becker *et al* (1961) as a way to interpret the students' possible solution to the overload problem. The students may have demanded that the faculty lighten their workload instead of deciding to do it themselves. However Becker *et al* (1961) reported that the freshmen (sic) did not unite further with any direct action against the faculty. Instead, the students united to find out exactly what the faculty wanted and continued as they had done through their changing perspectives, i.e. the initial and provisional perspectives, to define the academic situation for themselves and set their own goals.

This study was of great interest as I could relate this change in perspectives of medical students to radiotherapy students on their first clinical placement. Becker *et al* (1961) focussed on student culture that was situational, which had direct relevance to my own study. The findings seemed plausible and this ethnographic study was conducted over an extensive period. I was mindful that my own research was of short duration and more focused than the ethnographic piece of research such as Becker *et al's* (1961). Another ethnographical study on medical culture by Simon Sinclair (1997) was also of interest and helped me evaluate the quality of Becker *et al's* (1961) study.

Simon Sinclair's classic text '*Making Doctors'* (1997) provides detailed observations in a London medical school, whilst he participated as a medical student. His study gave detailed accounts of insights into professional socialisation; official (that is, what the doctors he

observed need to do to qualify) and unofficial activities (such as their social life in the bar) as well as the structures and discourses of power in the medical establishment (Leung, 2002). Sinclair shed fresh light on Becker's data and was insistent that Becker was only dealing with medical student culture and that Becker's perspectives are limited to that culture (Sinclair, 1997). Sinclair attempts to re-fashion Becker's results so that he can provide his own analytic framework that can be applied to the whole of medical culture including clinical education, the academic institution and within the profession of medicine itself (Melia, 1999). Sinclair's work looked at medical students from the standpoint of '*dispositions*' rather than '*perspectives'* as used by Becker *et al* (1961).

Sinclair (1997, p.20) took his concept of dispositions on medical education from Bourdieu's (1977) theory on dispositions and habitus. According to Sinclair (1997), cognitive psychologists use an analytic term, which is similar to Becker *et al's* (1961) perspectives – that is, 'schema'. Schema have cognitive, emotional and behavioural aspects which Bourdieu (1977) extends further in his concepts of 'dispositions and habitus' to include social aspects (Sinclair, 1997).

The three categories of dispositions that Sinclair (1997, p.25-30) used were:

(i) *Disposition of Co-operation*: This is seen by Sinclair as the paramount disposition throughout the years of training and is also the paramount general professional disposition. Here the students should co-operate as much as possible to make faculty assignments more convenient to carry out, to learn medical information and procedures and to help fellow students avoid making a bad impression on the faculty.

(ii) *Disposition of Idealism, Status and Knowledge*: Whilst Becker *et al* (1961) discuss changes in idealism by students, Sinclair (1997) states that idealism should be considered a separate disposition and that although initially considered to be a collectively held disposition by students, is originally a personal one (idealism is also to be found in Becker *et al*'s (1961*)*

*Long-range Perspective*). It emphasises the purpose of going to medical school – to become a doctor with all the implications of title, social status, income and power.

(iii) *The Economic Disposition*: the final approach to learning knowledge is by limiting such book learning to what needs to be done in order to pass exams – what the faculty wants as Becker *et al* (1961) tell us. Sinclair renames Becker *et al*'s (1961) *Final perspective* as the *Economic disposition* as he sees this as a final resolution of this conflict. Moreover Sinclair (1997) argues that Becker *et al* (1961) do not appear to illustrate this conflict between their perspectives as they are defined as being situationally specific and located in different physical settings.

Sinclair's (1997) research makes interesting assumptions and identifies the weaknesses of Becker *et al's* (1961) findings. These weaknesses that are highlighted include Becker *et al's* (1961) predominant focus on situational student culture i.e. in the classroom and clinical contexts. Sinclair (1997) addresses these limitations by examining the social life of doctors in the bar and medical culture in general. However, as my research concentrates on situated student culture (i.e. in the clinical context), I felt that Becker et *al's* study (1961) was more relevant than Sinclair's (1997). Even though I look at professional socialisation, I do not extend my research interests beyond the situational clinical culture and the radiotherapy profession as a whole, which goes beyond qualification, as Sinclair (1997) seemed to do.

Merton *et al*'s (1957) classic text *The Student Physician,* gives invaluable insights into the professional socialization of medical students. Merton *et al* (1957) looked particularly at human behaviour, which is embedded within the social structure of medicine. They discussed the historical and institutional context of medical education, how the Cornell Medical School in California became involved in this research; how and when students decided to study medicine; the influences that entered into these decisions; tendencies toward specialization in

medical training; the development of a professional self-image, and how physicians learn to deal with the uncertainty inherent in their work. It is evident that what underlies the research is the process of socialization by which the student acquires the culture of their future profession. Merton *et al* (1957) found that the students were exposed to quite a conservative medical school and tended to become more conservative, yet some students held out against their conservative faculty role models. They tried to find out what medical school experiences produced changes in the students, but these changes were not great.

The whole problem of the socialization of the professional person (which will be discussed in greater detail later in the chapter) is a matter of high interest and pertinence for public health workers and those who train them. This is because a major concern in teaching healthcare students is to take account of the various subcultures in which students become socialized in and studies such as ones conducted by Merton *et al* (1957) can help us to understand the intricacies of the process (Rosen, 1959).

There have been two major ethnographic accounts of medical training in the UK in the 30 years since the US studies– one from Edinburgh (Atkinson, 1997) and one from London (Sinclair, 1997, as discussed earlier). Both of these studies have provided deep insights into the world of medical training. Paul Atkinson's ethnography carried out in 1981, focussed on the clinical experience of medical students at a teaching hospital in Edinburgh (Atkinson, 1997). This was the first monograph to be written in the UK in medical education since Becker *et al*'s study (1961) in Kansas and has certainly informed health care professionals and researchers on the art of conducting an ethnographic study in a clinical setting. Atkinson's (1997) ethnography was conducted through participant observation and interviewing of students on the first year of their clinical studies. Atkinson (1997) provided a fascinating, detailed and candid account that gives the reader a taste of medical education. He focused on the professional socialisation of the students and their exposure to clinical

medicine and analysed this medical reality as being socially constructed, i.e. how social phenomena or behaviours develop in social contexts or within particular groups of individuals. However, it must be added that for an ethnographer to gain consent from patients in order to participate in wards rounds would be difficult today. This has more to do with pressures from patient rights rather than advances in education (Toon, 2000). Although there were no specific theories or concepts that I could draw upon from Atkinson's work per se, I found that it was an excellent example of how to carry out ethnographic research, which was well documented. Atkinson's (1997) research certainly influenced my decisions about methodology.

One aspect of the medical profession that several of the authors have touched upon is hierarchy which will now be discussed.

### *2.3.1.1 Hierarchy in the medical profession*

Atkinson (1997) witnessed hierarchy within the medical profession from the perspective of the medical students. He states that *'Surgeons come over to their students as more 'callous', 'brusque' or 'offhand' with their patients. They seem to approach their work with a much more limited focus than do physicians'* (1997, p.75). In addition he observed the students' attitude to patients as well as towards physicians and surgeons. He gives the impression that students treat surgeons and physicians differently and that students seem to be more eager to witness procedures that are carried out in surgery clinics than on the wards so that they can recount them to their peers. They appear to treat surgical procedures as more prestigious than perhaps working on the ward with physicians, as the surgeons themselves appear to rank themselves higher than their fellow physicians. Sinclair (1997) also noted the hierarchy that exists between surgeon and physician. The surgeons appeared more aloof and to be allowed to observe in an operating theatre was deemed to be the highlight of the medical students'

clinical experience. This was the perceived hierarchy observed by students between surgeon and physician.

This perceived hierarchy also manifested itself from association with patients. Wessely (1998) comments on Sinclair's view (1997) of hierarchy within the medical profession by association with different categories of patients that the students deal with, particularly psychiatric patients. Wessely (1998) argues that because psychiatric patients can never give a good history and are more likely to embarrass the students through their unpredictable behaviour, they are loathed by students and equally the doctors who have to deal with them are loathed, namely the psychiatrist. Sinclair comments that psychiatrists '*lack proper knowledge ('hard facts'), do not give proper experience (finding physical signs or learning practical procedures) and do not have proper responsibility (going on as they do about multidisciplinary teams)'* and are thus are perceived as the lowest form of medical life by students (Wessely, 1998, p.713). The students are desperate to acquire the duties and privileges of the tribe of medical doctors and therefore regard those who gave away this status with contempt.

Freidson (1988) also gives useful insights into the phenomenon of hierarchy between the medical and healthcare professions and states that the paramedical professions are a stratified system, whereby occupations are integrated, in varying degrees, with the work of the physician. The paramedical professions appear to be given less prestige than the doctor by society itself (Freidson, 1988). The backgrounds and entry requirements to university of those recruited into paramedical professions are likely to be lower than those recruited into medicine. Furthermore, there is a hierarchy of prestige and authority among paramedical workers themselves e.g. between radiographers, nurses and technicians. Paramedical workers are to a disproportionate degree, women (Freidson, 1988), and this is true of the radiography profession. Freidson (1988) notes that the social origins of the profession play an important

part in the hierarchy between medicine and paramedical professions, as historically doctors were mainly white males (Becker *et al*, 1961). Freidson's work (1988) has currency and is still used today in healthcare research. Although there are more recent publications in the sociology of the professions (Macdonald, 1995; Dall'Alba, 2009), I find that his original thoughts and reasoning behind his work are a useful addition to current texts in relation to the origins of the sociology of the professions and can be related to the profession of radiography.

To summarise it can be seen that such historical studies focus on how the students' *perspectives* change over time (as seen in Becker *et al's* (1961) study) and that these perspectives can also be viewed as *dispositions* as described by Sinclair (1997) in his re-fashioning of Becker *et al*'s (1961) data. No studies of this kind have been concluded since Becker *et al* (1961) and Sinclair (1997) but the principal ideas can be applied to modern health education today. Freidson (1988) gives insights into the sociology of medicine and the health professions, and professional socialisation with the professions. Along with Atkinson (1997) and Sinclair (1997), he also gives possible reasons for the perceived hierarchy that occurs within medicine and between the professions along with. Whilst many studies have been conducted within medical education which look at factors such as preparation for medical practice (Prince *et al*, 2005), doctor-patient interactions (Donetto, 2010), the medical curriculum (Howe, 2002; Goldie *et al*, 2007) and clinical teaching and assessment (de Cossart and Fish, 2005; Fish and de Cossart, 2006; 2011), the key studies reported in this section have not been replicated and are still used by researchers today.

### 2.3.2   *A nurse education perspective*

Merton *et al* (1957) explain that the sociological study of medicine could be used as a prototype for comparable studies in other health professions. He adds that there is evidence that other professions *'frequently look to medicine as a model, albeit not as a model immune from criticism, for the directions their own development might effectively take'* (p.37). Nursing is one such profession.

There are now many research publications in nursing which provide an invaluable insight into clinical education. The education or training of nurses has historically been conducted in the apprenticeship-style hospital-based setting. This was characterised by paid on-the-job-training but with little educational direction and ill-defined outcomes (Mallaber and Turner, 2005). Nursing students were often counted in staffing numbers and thus seen as an 'extra pair of hands' rather than a learner with specific needs (Maslin-Prothero and Owen, 2001). In this environment, there was greater emphasis on practice rather than theory and 'task accomplishment' rather than educational outcomes (Maslin-Prothero and Owen, 2001). In the latter stages of the last century however, this started to change, and today the education of nurses is led by nurses in hospital settings. The lead educators of nursing students (i.e. academics) are no longer based in hospitals. This can create difficulties for academics to maintain regular contact with the clinical environment and to ensure that their own clinical skills or competence is kept up-to-date (Elliot and Wall, 2008). This is similar to the radiotherapy profession, however some universities still employ clinical lecturers (such as myself) to oversee and monitor the students' clinical progress and conduct clinical assessments. The actual teaching of skills is undertaken by the clinical radiographers.

Today the training of nurses is a combination of academic studies and workplace placements. Some nursing studies have examined the effects of clinical practice on students. These reveal how clinical placements can be fraught with problems (Clare *et al*, 2003; Levett-Jones *et al*,

2009). The student going out into the clinical setting enters an alien environment, which they find is out of their control (Nahas and Yam, 2001). These studies have shown that stress factors for students include worries concerning going out into the clinical field for the first time, the fear of making a mistake, anxiety over possible criticism from peers, communication with health personnel and patients, the approach to take toward seriously ill or terminal patients, technical skills and procedures, attitudes and expectations of clinical nurses (Elcigil and Sari, 2007).

In addition, studies have been conducted which look at how alienation or inclusion impact on students' learning. This topic is of particular interest to me, as through experience I have found that radiotherapy students can often feel ignored or at the periphery of the treatment of patients. One such aspect is the concept of 'belongingness' as applied to nurse education by Levett-Jones *et al*, (2007, 2008, 2009) and further elaborated on by Levett-Jones and Lathlean, (2008). Levett-Jones and Lathlean's study (2008) explored nursing students' experience of belongingness whilst on clinical placement. The study was conducted using a mixed-methods approach, comprising questionnaires and interviews. It was a cross-national longitudinal study, which took place over a nine-month period. Two Australian and one UK Universities were used. Levett-Jones and Lathlean (2008) initially surveyed a large number of students using questionnaires, followed by more in-depth interviews of 18 participants. Through these interviews the students expressed their perspectives on belongingness and how this impacted on their clinical experience. This paper provides valuable insights into nursing students' experiences of belongingness as the authors integrated the interview transcripts with published literature. However, the authors did not witness first-hand through observational methods the interaction between the students and qualified nurses to obtain their own perspectives and thus strengthen the findings that they had obtained through questionnaires and interviews. The observational aspect would have been able to explore the differences

between what was said and what actually happened. Nevertheless, the cross-national nature of this study added to the strength and credibility of the findings. However, the two education systems and the different working cultures make comparison complex. Levett-Jones and Lathlean (2008) concluded that despite these major differences between the countries, the main findings were essentially similar, thereby improving the generalizability and thus the external validity of the study.

Belongingness can be defined as a '*Sense of personal involvement in a social system so that persons feel themselves to be an indispensible and integral part of the system*' (Anant, 1966, p.21). Levett-Jones and Lathlean (2008, p.107) found that feeling safe, comfortable, satisfied and happy were reported outcomes of a placement that facilitated belongingness. Where students felt they had a legitimate place in the nursing team, they felt confident and empowered and this maximised their learning opportunities. Where the staff were supportive of the students' learning, the students were able to focus on their learning rather than on trying to fit in. In the Levett-Jones *et al* (2007) study however, many students found clinical placements an alienating experience, particularly if the clinical staff did not have the time or inclination to teach the student. This then leads to student anxiety about being able to fit in and so they focus more on belonging than learning (Levett-Jones and Lathlean, 2008). Many students were also keen to become an 'extra pair of hands', perhaps helping by carrying out menial tasks and chores, so that they would be accepted into the team, but Levett-Jones and Lathlean (2008) found that this then compromised the opportunities for learning.

Levett-Jones and Lathlean (2009) developed a competence conceptual framework (illustrated in Fig 2.1 and adapted to radiotherapy practice), which they have adapted from Maslow's hierarchy of needs (Maslow, 1987). This pyramid of hierarchical needs illustrates that if belonging and acceptance are not experienced first, then the progression towards self-concept and competence will be greatly impeded. When students feel valued by the clinical staff and

develop a sense of belonging, it has been found that they gain more confidence and this then paves the way to learning and ultimately achieving competence in their work (Levett-Jones and Lathlean, 2009).



*Achieving competence of practice radiotherapy*

*Skills and knowledge of radiotherapy practice*

*Making a valuable contribution to the treatment of the patient*

*Fitting in with the radiotherapy team*

*Psychological and personal safety of radiotherapy students*
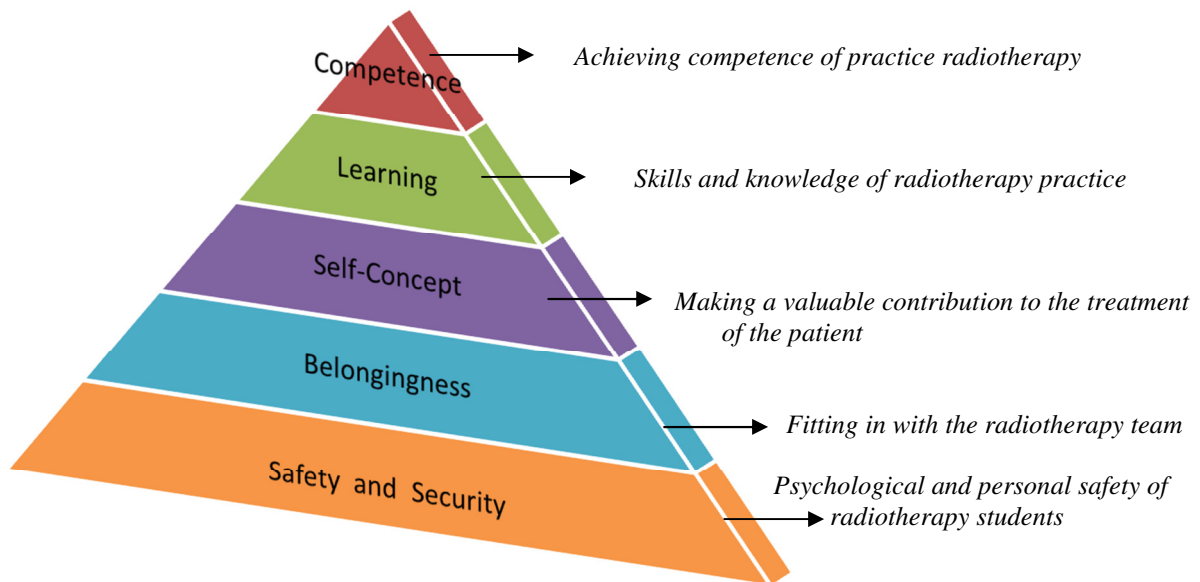
*Fig 2.1 'Ascent to Competence Conceptual framework'adapted from Levett-Jones and Lathlean, (2009, p.2873).*

A brief explanation of each hierarchical layer is given which I then relate to the radiotherapy profession:

*Safety and security*: A need for psychological safety and security for the students. In a radiotherapy context this may include care of the cancer patient and dealing with death and dying (as well as radiation safety).

*Belongingness*: A need for connectedness, acceptance and fit, as well as having a legitimate place in the radiotherapy clinical environment.

*Self-concept*: The need for the student to feel appreciated, recognised and respected for making a valuable contribution to the care and radiation treatment of the patient and as a person who is becoming a radiographer.

*Learning*: The need to learn in an authentic environment, beside professional role models (radiographers) and the opportunity to be autonomous and to test out one's skills (under supervision).

*Competence*: The need to become competent, confident, autonomous individuals with critical thinking skills and a commitment and enthusiasm in treating and caring for the cancer patient.

(Adapted from Levett-Jones and Lathlean, 2009, p.2873).

It can be seen that using this concept and examining the hierarchy of needs (as detailed in Fig. 2.1), in the radiotherapy context, the students' learning will be hampered if they are at the periphery of the treatments of patients which will in turn affect their feelings of self-worth. Such a peripheral position means they are unable to meaningfully contribute. This may then mean that they become bored and ultimately fail to take an interest in what is happening around them. As a result they fail to learn the necessary skills and knowledge that underpins their work which will in turn affect competence. Thus very early into the clinical placement 'belongingness' can affect the process of learning.

There are many studies which focus on student nurse's perceptions on clinical education (Brown *et al* 1998; Gray and Smith 1999; Pearcey and Draper, 2008) which reflect the anxieties, stress and lack of engagement by clinical staff. Hickey (2010) adds that '*teaching behaviours impact the student's ability to learn and assimilate new material*' (p.40). In addition, increasing numbers of learners in clinical placements has meant that the involvement of dedicated clinical staff is vital and that staff would be able to provide support with assessments. The impact of nursing educators/clinical staff on the quality of clinical education for nurses has been documented by Brown *et al* (2005) and Skog *et al* (2000) who

reveal how clinical staff deal with issues of conflict, offer timely feedback and support academic staff (Brown *et al*, 2005).

Linked to the number of learners is the length of clinical placements, which can also have an effect of feelings of belongingness. Nursing studies conducted in Australia by Turner *et al* (2006) and Walker (2005) reveal that typical clinical placements range from 2-4 weeks in a variety of short placements (2-5 days per week) with Nolan (1998) concluding that short placements had a negative impact on belongingness. However, Levett-Jones *et al* (2007) emphasise that quality of time is just as, if not more, important than the quantity of time spent on clinical placement in terms of the concept of belongingness. According to Nolan (1998), the time available is often not used effectively and that clinical experiences require difficult adjustments as students move from an environment which encourages *thinking* to an environment which encourages *doing* (p.623). If the clinical environment is not supportive of student learning, not only will desired learning be reduced even if the opportunities to learn are there, but there will also be a decrease in the application of skills learnt (Franke *et al*, 1995). Nolan (1998) used a descriptive, interpretive study with purposeful sampling of six second-year students in their second semester on a two-week medical surgical placement. The students had daily post-clinical conferences of one-hour duration (rather like a focus group session), where Nolan taped and transcribed the semi-structured discussions verbatim. Students were asked to describe and interpret a moment of the day which stood out for them. Nolan (1998) adds that additional data were collected from informal discussions and observations, though no detail is given on how she did this. I was initially sceptical about the generalizability of Nolan's findings. The number of students in the study was not necessarily the issue, but Nolan (1998) only covered a two-week period in one type of placement. A variety of short placements increasing the length of time of the study, could have given a better reflection of issues of time versus adapting to new situations. Her rationale for studying

second-year students as opposed to first-year students was not persuasive. By the time the students have entered the second year of study, they would have accrued some knowledge of the nursing culture and skills of clinical placement to be better able to adapt to new settings unlike first-year students. Although Nolan mentions that informal discussions and observations took place, she gives us no information on her method of observation (i.e. complete participant, participant as observer, observer as participant, complete observer), whether field notes were taken and how these informal discussions took place and where. In addition, asking the students to talk about their feelings in front of their peers may have affected the quality and truthfulness of their accounts. Follow-up interviews may have been beneficial, which would have added richness to the study. However, Nolan (1998) makes it quite clear in her conclusions that the purpose of the study was indeed not to generalise but to give an accurate and faithful account of these experiences, which may add insight and further thinking on such issues. Although I felt there were weaknesses in Nolan's (1998) data collection methods, they perhaps most nearly match the methods I used and the main aim of Nolan's (1998) study was to gain an understanding of the clinical learning experiences of undergraduate nurses, similar to my own research. One of Nolan's (1998) conclusions was that one of the biggest challenges of the nursing students was being able to fit into the social environment of the clinical setting and be accepted by the staff and patients. The new and alien environment brought about feelings of fear and anxiety whilst students were trying to familiarize themselves with new placements, routines and staff. Nolan (1998) concluded that by exposing the students to fewer different clinical placements and increasing the length of time of those placements, this would maximise learning time. The unfamiliarity of each new setting may hinder the student's abilities to develop knowledge of the placements decision-making skills. Levett-Jones *et al* (2008) also state that frequent changes in clinical placements could be unsettling and meant that students had to start from the beginning, trying to adapt

and settle, irrespective of how much experience they may have gained previously. The students needed this time to establish '*the fundamental interpersonal relationships that would allow them to progress from feeling like an outsider to becoming a recognised member of the nursing team*' (Levett-Jones *et al*, 2008, p.12). Nolan (1998) also adds that short placements leave less time for reflection and acclimatisation to new behaviours of practice. This results in superficial learning and limits the students' membership into the team of practitioners. Therefore, 'not belonging' may be exacerbated by the length and variety of placements. A quote from one of Nolan's (1998) student participants was of particular interest to me and perhaps of some relevance to my own study:

'*It's not the hospital or the patients, it's usually the staff that make your placement good or bad*' (p.265).

Walker (2005) adds that traditionally in curricula, the student-teacher (or radiographer/practitioner) relationship is hierarchical, whereby the practitioner can exercise control over the student, but by building a relationship between students and practitioner over a longer period of time (without frequent clinical rotation), this relationship becomes nurtured and more relaxed.

Nolan (1998) concords with Levett-Jones et al (2008) and Levett-Jones and Lathlean's (2007) argument that by valuing and accepting the students and giving them the opportunity to practice, gives them more self-confidence which encourages further learning and development of skills.

In supporting this sense of belongingness, clinical mentors are identified as the students' lynchpin in supporting clinical practice (Gray and Smith, 1999). The clinical setting and the

interaction the students have with their mentor (practitioner/radiographer) enables the development and refinement of the students' interpersonal and psychomotor skills and that is built between them and the team of practitioners (Walker, 2005). Walker (2005, p.39) also adds that for students to ask '*dumb questions*' and '*fumble*' and '*stumble*' their way through clinical practice, the support that they gain from a mentor makes this journey much more tolerable. The patients themselves also identify the students with the team of practitioners and this engenders a sense of belonging for the students (Walker, 2005). However, it has been reported that students perceived that clinical staff were sometimes too busy, did not always appreciate the students' anxieties and for a variety of reasons could not always respond (Brown *et al*, 2005) and sometimes made little attempt to hide their impatience, stress, or frustration; this could make the student feel that they were just a nuisance (Levett-Jones *et al*, 2009).

A robust curriculum that includes clinical education in the workplace needs to take account of all these factors so that clinical placements are appropriate and educational (Nieweg, 2004). This attention to curriculum design (to be discussed later in the chapter) is important given the evidence so far for involvement of academic and clinical staff and learning styles of students.

In conclusion it can be seen that many adjustments are made by students when entering the clinical environment for the first time. The research evidence suggests that perspectives appear to change quickly over time as they seek to manage the workload challenges, develop understanding of new concepts and knowledge of the profession, and adapt to the socially constructed hierarchy. The concept of belongingness is affected by the length and variety of placements, and has been shown to have a significant impact on student learning. Integration

of students into the working life of their chosen profession entails a process of socialisation, which forms the focus of the following section.

## *2.4 Professional Socialisation: Learning to become a radiographer*

Professional socialisation is a process whereby students learn to behave and act as therapeutic radiographers, by learning specialised knowledge, behaviours, values, skills and norms particular to the profession of therapeutic radiography – it is '*the process through which individuals are inducted into their culture'* (Merton *et al*, 1957, p.40). Professional socialisation enables them to perform their professional roles to the standards set by the Health Professions Council (HPC) discussed earlier. Usually universities and colleges are evaluated by the quality of knowledge and the amount and quality of technical training on offer to the student. However, Shinyashiki *et al* (2006) argue that '*little attention is given to the acquisition of values, behaviours and attitudes necessary to assume their professional role'* (p.601), which could lead to a lack of professional socialisation. This in turn could lead to underperformance, which could impact seriously on attaining professional status and higher attrition rates (Goldenberg and Iwasiw, 1993). Careless management of students, particularly during the first professional experiences in the clinical environment, has also been found to lead to low motivation, demoralization and decreased patient care (Kramer, 1974). Moreover, Hughes (1958) states that '*An occupation is not a priori by means of its expertise and knowledge – a profession, but a social status that is socially constructed'* (p.44-5). i.e. that a profession cannot simply be called a 'profession' because of the skills and knowledge required to be able to function, but one which is also dependant on the social behaviours and phenomena that develop within the social context of that profession. Riska (2005), goes on to explain that Hughes' (1958) interactionist perspective on the work of the occupations and professions, is seen as penetrating deeply into the personal and social drama

of work which is linked to professional socialisation. This, '*together with the social and psychological arrangements of work, makes it successful and indeed tolerable for professionals'* (p.146). This interactionist perspective, which focuses on the social drama of work, was also shared by Erving Goffman (1959) in the publication of '*The Presentation of the Self in Everyday Life'*. More recently, Dall'Alba (2009) has highlighted a concern that the manner in which we prepare students in the current climate of healthcare is '*generally limited in scope and inadequate for dealing with change and uncertainty they encounter in contemporary professional practice'* (p.4). Students bring with them their own life experiences and varying conceptions of work, interests and concepts, which at times may be at odds with the degree programme. As a result, these objectives and the various orientations that the students bring with them, '*converge to create a variety of problems and potential conflicts in the socialisation process'* (Shinyashiki, 2006, p.603). The interplay between the different communities involved in the socialisation of the graduate and professional student is illustrated in Fig. 2.2. It shows the interactive stages of socialisation from the anticipatory (*Prospective Students*) to one who is new to the profession *(Novice Professional Practitioner*) and the place of both the formal (*Institutional Culture*) and informal curricula (*Socialisation Process*) and *Personal Communities.* This socialisation model was developed by Weidman *et al* (2001, p.37), shown in fig. 2.2, which has been adapted and applied to radiotherapy students. Weidman *et al* (2001) explain that this framework takes into account differences as well as common threads and expectations among different types of students, academic and professional fields and anticipated career outcomes. The framework illustrates the '*non-linear, dynamic nature of professional socialisation and the elements that promote identity with commitment to professional roles'* and that the '*identification and commitment to professional roles are complex, continuous and developmental'* (p.37).

PROFESSIONAL
COMMUNITIES
Radiographers
Society of Radiographers; HPC

UNIVERSITY

PROSPECTIVE
STUDENTS
Background
Predispositions

University/Clinical
Culture
Academic Programs
Peer Climate

Socialisation
Process
Interaction
Integration
Learning

NOVICE
THERAPEUTIC
RADIOGRAPHER
[Commitment]
[Identity]

Knowledge Acquisition
[Investment, involvement]

PERSONAL
COMMUNITIES
Family
Friends
Employers

*Fig 2.2 Interactive Stages of Socialisation: Anticipatory, Formal, Informal, Personal.*
*Weidman et al (2001, p.37)*

These factors that Weidman *et al* (2001) speak of can be illustrated in radiography:

*Prospective Students & Personal Communities*: Students bring with them to the university life experiences, religion, nationality, family culture and relationships with friends, all of which influence the socialisation process within radiotherapy.

*Professional Communities*: The radiographers (practitioners) and the associations – namely the professional body - the SoR and the governing body – HPC, all play a part in shaping the novice radiographer.

*Institutional Culture*: This includes the academic setting, clinical setting and their cultures, rules and standards. The degree programme - refers to the radiotherapy curriculum, administration and timing of academic and clinical placements and the interaction and relationships with between students.

*Socialisation Process*: This refers to the students interacting with radiographers in the clinical context, learning new skills, understanding the community of practice and the norms, rules and behaviours of radiotherapy practice as well as acquiring the knowledge that underpins the work of radiotherapy practitioners.

*Novice Practitioner*: This can be seen as the culmination of the transformation process. When the student has graduated and become a qualified radiographer.

It can be seen that the interplay between all these external influences can have the effect of transforming and shaping the individual from a prospective student into a novice practitioner who is now part of that professional community. Weidman *et al's* framework (2001) is therefore useful in understanding how different student backgrounds and experiences influence the socialisation process. I will now look closer at this concept of transformation.

Theorists from Heidegger to Bourdieu have attempted to theorise the kinds of transformations occurring from the spiritual (Heidegger, 1967) to the bodily (Bourdieu, 1984). The radiotherapy students are going through changes themselves in learning to become radiographers. Bourdieu's work (1984) focuses on the 'unfinishedness of the body', which is in the process of becoming. This process of becoming is not simply a case of bombarding a student with facts. The students have to undergo a transformation of the mind and the soul (Bourdieu, 1984) in order to become radiographers. Heidegger's (1967) work also focuses on the notion of education as transformation. He explores the ontological concept of education which takes him back to Plato's writings. The journey that student radiographers face in learning to play the part can be related to Plato's writings on *la paideia* (the Greek word meaning education, culture, civilisation, development or tradition).

Heidegger (1967) states that:

> *Plato seeks to show that the essence of paideia does not consist of merely pouring knowledge into the unprepared soul as if it were a container held out empty and waiting. On the contrary, real education lays hold of the soul itself*

*and transforming it in its entirety by first of all leading us to the place of our essential being and accustomising us to it.* (Thomson, 2001, p. 252)

From this citation, the students can be considered as the '*unprepared souls*' and their clinical learning does not merely involve the '*pouring of knowledge*' as if they were '*empty containers*'.

Heidegger expands on this in Plato's *allegory of the cave*, where prisoners in a cave are shackled and unable to move - they only see shadows. This account gives a deep and meaningful insight into how an individual learns to adapt to a new environment. Plato talks about the prisoners being released from the cave into the sunlight where they can actually see things for themselves and not rely on the shadows they once saw in the cave. The reference to the eyes acclimatising themselves to the light or to the dark gives meaning to the students needing time to adjust to a new environment that is alien and perhaps a shock to them. They are taken away from their comfort zone and familiar surroundings of the cave, but they have to be open to these changes – the soul being '*turned around*'. It is a process that cannot be rushed:

> *And just as the physical eye must accustom itself, slowly and steadily at first, either to the light or to the dark, so likewise the soul, patiently and through an appropriate series of steps, has to accustom itself to the region of beings to which it is exposed. But this process of getting accustomed requires that before all else the soul in its entirety be turned around as regards the fundamental direction of its striving, in the same way as the eye can look comfortably in whatever direction only when the whole body has first assumed the appropriate position.* (McNeill, 1998, p.162)

The change in behaviour of a student can also be exemplified by Goffman's (1968) reference to '*the man in the mirror*', written by Hathaway (1943, cited in Goffman 1968, p. 18). This is an account of a man who no longer recognises himself in the mirror. This can be interpreted as a kind of disguise which is put on voluntarily in order to confuse people of their true identity. This may be seen as a transformation of the person '*...from someone with a*

*particular blemish into someone with a record of having corrected a particular blemish'* (Hathaway 1943, cited in Goffman 1968, p.20). This transformation can be related to professional socialisation in that the students adopt the institutional norms, behaviours and values in order to fit in, even though initially they may not be comfortable with these changes.

Du Toit (1995) concords with Goffman's view and states that the effect of this can be so dramatic that the students may go through a personality change, completely internalising and immersing themselves in the profession's culture. The first-year student has not yet become a member of the fold. Freidson (1988, p.xvi.) encapsulates this by stating that:

> *New recruits into the profession are lay people and during their training must understand how the profession functions, how its members function together and how the knowledge and skills are learnt.*

Failure to adopt these professional values, norms and codes of conduct could indeed have an impact on the quality of the undergraduate's work and how they perceive themselves in their future role (Kelly and Ahern, 2008). Adopting these values and becoming a member of the fold may be compared to Goffman's (1968) interpretation of being accepted by the tribe. He states that:

> *...before taking the standpoint of those with a particular stigma the normal person who is becoming wise, may first have to pass through a heart-changing personal experience...And after the sympathetic normal makes himself (sic) available to the stigmatised, he (sic) often must wait their validation of him (sic) as a courtesy member. The self must not only be offered, it must be accepted.*
>
> (1968, p.41)

The above statement by Goffman (1968) can be related to the student (*the normal person who is becoming wise*) offering themselves through their keenness to work hard, providing help and seeking to please. However, to be considered a member of the professional team (*those with a particular stigma*) requires more than the students offering themselves, it needs the acceptance of the team.

Merton *et al* (1957) discuss medical culture and how this is imparted to the student. They add that it is the task of the institution:

> *...to shape the novice into the effective practitioner of medicine, to give him (sic) the best available knowledge and skills, and to provide him (sic)with the professional identity so that he (sic)comes to think, act, and feel like a physician.*
>
> (p.7)

Merton *et al* (1957) refer to Morgan's Discourse (Dr John Morgan was the first American professor of the theory and practice of medicine) who outlined how the process of education can be examined not only in terms of the psychology of learning, but also in terms of the *'...sociology of learning, focused on the social and cultural environment which facilitate or hamper learning'* (p.9). Based on a study by Huntingdon (1957), although medical students had a limited knowledge of medicine, they knew more than the patient. The patients in Huntingdon's study then expected the students to conform to the behaviour appropriate to that role, which gave the student more confidence in thinking of themselves as doctors. This was a patient-centred view that Huntingdon expressed. If the students are treated as 'students', or ignored or even treated as a 'lower class*'* of worker or team member, they are less likely to feel like confident doctors the making. Qualified doctors referring to students as '*the student*' may further exacerbate their feelings of low self worth as found by Huntingdon (1957).

Another factor to consider in the socialisation process is teamwork and the importance of being part of an efficient and effective team within healthcare. Teamwork can be defined as:

> *A group of individuals who work together to produce products or deliver services for which they are mutually accountable. Team members share goals and are mutually held accountable for meeting them, they are interdependent in their accomplishment, and they affect the results through their interactions with one another.* (Mohrman *et al*, 1995)

The novice practitioner has to understand how a team functions in order to be a useful member of the team. Here teamwork includes, not only a team of radiographers, but also a multidisciplinary team, comprised of radiographers, doctors, nurses and dieticians for example. Research by Clark *et al* (2007) discusses the development of a conceptual

framework for organising and analysing the different types of ethical issues in interprofessional teamwork. Their research was based on a review of the literature and extensive clinical and research experience in healthcare teamwork. No details were given on the search strategy when reviewing the literature and over what period of time. Clark *et al* (2007) also present a case study, which involved integrating a new team member into a community health care organisation. This case study was based on a real life situation observed by one of the authors. Details are given of the personnel in the team and the situation that arose. They make some interesting points and raise some pertinent questions. These questions include;

> *Does the team have time at its meetings to openly discuss conflict and communication problems?*
>
> *Are their personal feelings interfering with responsibility to the team?*
>
> *Has the organisation established standards for socialising its members?*
>
> *Has the team developed a shared moral language around interpersonal relationships?*
>
> *Why have team members not openly discussed ethical issues in socialising?*

(Clark *et al*, 2007, p.599)

However their discussions and conclusions are only based on one case study and I feel that the authors could have included more case studies and in different professions, particularly as they state that they have extensive experience in healthcare teamwork. I question the external validity of the study, in view that their intention was to develop a conceptual framework. Therefore to practice teamwork, healthcare professionals need to have an understanding both of their own discipline and how other disciplines work, their strengths and limitations and how they view the patient (Clark *et al,* 2007). Many factors can inhibit effective teamwork, especially in the context of health care. These factors include - separate managerial lines of control, gender issues, lack of clear objectives and roles, the size of the team and lack of training for team working and people management (West, 1999). This is apart from the

complexity of the job or procedures. Therefore practitioners working in such teams should ensure effective communication between the team members and encourage full participation of individuals in the team, including the student, and support innovation and practice (West, 1999). Practitioners within the team have a shared obligation to address communication problems and to constructively confront any conflict between team members that may interfere with the group dynamics and the team's ability to work effectively on solving complex clinical problems (Clark *et al*, 2007). Purported benefits of effective teamwork in healthcare documented by Olupeliyawa *et al* (2009) include improved quality of patient care, reduced medical or technical errors treatment errors (in the radiotherapy context), improved staff satisfaction and morale, addressing workload problems and reduced burnout of practitioners. Their conclusions are interesting and the paper they present is a review of the literature on teamwork competencies. They state that a comprehensive search of the literature was conducted. They outline their search strategy and the databases use, but fail to state how they refined their search in arriving at the significant studies that they refer to. Was a systematic review conducted and if so what was their rationale for choosing specific studies and what time period did they cover? Their conclusions nonetheless seem feasible as I have had experience of teamwork in healthcare myself and can appreciate that their conclusions of effective teamwork would promote the benefits to which they allude. Evaluation studies in healthcare suggest that team training can have a positive impact on provider behaviour and attitudes, the use of evidence-based clinical practices, patient outcomes and organisational outcomes (Weaver *et al*, 2011). Such training in undergraduate education, such as medicine, is limited but *'...should be inculcated during basic professional education'* (Olupeliyawa *et al*, 2009, p.61). From this it can be surmised that the student has to understand how a team works as well as understanding the culture of the profession in order to be able to fit in and be socialised within that profession.

To summarise it can be seen that the students have to face many challenges and a personal transformation both spiritually and bodily when being socialised into a profession. Professional standards must nonetheless be upheld and scrutinised which is carried out by an overarching professional body and professional society, which will now be discussed.

## 2.5 The regulatory bodies: The Health Professions Council

### 2.5.1 Surveillance and discipline

Over recent years, the new modes of organisational governance within the healthcare system, and changes in systems of work and accountability in these organisations has had a-

> *...profound impact on the social organisation of work, changing the sites of provision, increasing labour intensification, challenging traditional lines of demarcation and prompting the development of new roles and modes of working.*
> *(Allen and Pilnick, 2006, p.4)*

In order that we may understand how the impact of regulatory and professional bodies can influence the behaviour of radiographers, we need to firstly understand the concept of governmentality, as described by Foucault (1977).

The concept of 'governmentality' as first developed by Foucault (1977) can be used when analysing the effect of power and control over practitioners. Govermentality '*is concerned with the relationship between government interventions and political programs*' (Merlingen, 2006, p.183) and '*...as a political rationality that shapes the "conditions of possibility" for thinking and acting in a certain way'* (Collier, 2009, p.96). It can be understood as the way in which governments try to produce citizens that are best suited or able to carry out the government's policies thereby exerting control over them. Govermentality can also be viewed as controlling the organised practices of its citizens which it governs and '*...requires both shaping the personal conduct of individuals so that they become civil and productive members of society'* (Merlingen, 2006, p.183). Foucault (1977) not only uses this definition

of governmentality in terms of the standard definition of 'government', or 'governing', but as a broader definition of government such as self control, guidance and management. Governmentality is linked to other of Foucault's concepts and is deeply entrenched in his notion of power-knowledge (Collier, 2009). Foucault (1977) explains that power is not only thought of in terms of a hierarchical top-down power of the state, which is the view of Karl Marx, but also power in terms of social control in disciplinary institutions such as hospitals and schools. Government to Foucault therefore meant not so much the political and administrative structures of the modern state but rather the way in which the conduct of individuals or groups may be directed – such as the HPC acts on its members.

In his innovative work Freidson (1988) was one of the first to consider the impact of professional bodies on the regulation of the professions. While no similar work has considered the role of the HPC, it is helpful to consider what he says about the AMA (American Medical Association) – one of the most powerful of the health professional bodies in America. Freidson (1988) stated that the AMA, such as the way the HPC acts, exercises its power over health affairs. Apart from having great influence over the careers of individuals by being able to deny them membership, the AMA sets the standards that have to be maintained in order to practice i.e. the Standards of Proficiency and the Standards of Education and Training that Higher Education Institutions must adhere to (the AMA may refer to this under a different title), in order for their relevant professional degrees to be validated. Since Freidson's time the role of these bodies has expanded. In the case of the SoR, there is a role for ensuring that advanced and new technical information is made available to its practitioners through professional journals, monthly newsletters, postgraduate refresher courses and postgraduate educational courses. The SoR has also recommended that practitioners have a CPD (Continuous Professional Development) portfolio, which must be

kept up-to-date so that practitioners can demonstrate that their knowledge of best practice is current and ensure that they are competent to practice. In the words of Freidson (1988):

> *...it is the interaction between formal agents or agencies of the occupation and officials of the state that the occupation's control over its work is established and shaped.* (p.23)

The roles of professional bodies have expanded in number and are also now more similar than they were in Freidson's time. These professional bodies still borrow from medicine (GMC – General Medical Council) as a key exemplar, which means that there may be possible similarities or overlaps between them. Like the HPC, the NMC (Nursing and Midwifery Council) exercises its disciplinary power and self-management of nurses by requiring the latter to keep a personal professional profile of their continuing professional development (NMC, 2006). The SoR like the NMC, use their discreet power whereby an individual practitioner may or may not be called upon to submit their CPD portfolio to audit how they have met the HPC's requirements of being competent to practice (Bradbury-Jones, 2008). The mere potential to be selected to undergo this audit thereby has the effect of disciplining the practitioners in a discreet fashion, to manage themselves.

Foucault's concept of '*Panopticism*' is useful in understanding this 'invisible' power that the SoR and HPC have over its practitioners. The panopticon, designed by utilitarian philosopher Jeremy Bentham (1748-1832), is a tower from which warder, doctor, teacher and foreman can observe behaviour. The subjects under surveillance never quite know when they are being watched and so effectively police themselves (Horrocks and Jevtic, 1997), similar to the effects that the HPC, exerts over its members – the practitioners. Boyne (2000) states that the panopticon:

> *...enshrines a shift in the regular protocols of social power, from the principle of the specific sovereign whose every action will be seen as an actual or potential command, to the general thematic mass, to be shaped and recorded, within the impersonal context of an abstract system. In the panopticon, the peripheral mass*

*cannot see their observers, and must assume that someone may be watching over them all of the time* (p.288).

For Foucault, Jeremy Bentham's panopticon is *'...a compact model of the disciplinary mechanism'* (Foucault, 1977 p.197). The concept is generally concerned with the way society orders individuals by training their bodies. This marked a heightened interest in the 'disciplining' effects of power (Lindgren, 2000).

However, Fish (2012) stresses that the effects of the disciplining power, *'the rules'* of these regulatory bodies can impact on the autonomous and critical thinking behaviour of its professional members so that they develop this *'learnt helplessness'*:

> *...professions have become so rigidly bound by regulation and the threat of litigation that members have adopted a learnt helplessness in the face of 'the rules', expect to look outside themselves in order to be told what to do, and then accept and thus bow to the conditions that make the problem insoluble beyond a little technical tinkering around the edges.* (p.5)

To summarise, the key concepts discussed in this section are:

*Governmentality*: which examines the surveillance and control of the registered practitioners.

*Hierarchy*: A hierarchical top-down power of the state.

*Panopticism*: the invisible power that the HPC exerts over its registrants and how the latter police themselves

*Belonging:* the sense of the practitioners belonging to an organisation – the professional body (SoR) and the regulatory body (HPC).

The HPC bears many similarities to other governing bodies (Freidson, 1988) such as the GMC and NMC and dictates what knowledge and skills are required of professionals as well as the Standards of Education and Training (SETs). The HPC therefore has control over curriculum content and validating degrees. But what constitutes a good curriculum and how does this impact on the learner? The next section aims to address such questions.

## 2.6   Radiotherapy Curriculum: not just a case of content

### 2.6.1 Introduction

Work from the Society of Radiographers, research into innovations in radiotherapy and oncology and the Standards of Proficiency (HPC, 2007) and Standards of Education and Training (HPC 2004) as set by the Health Professions Council, can be brought together in order to identify the key principles that are most likely to result in acquisition of desirable professional attributes and hence the development of a suitable curriculum. The Standards of Proficiency (SoPs) are standards required of registrants and those applying for registration for the safe and effective practice of their profession (HPC, 2007, p.3). The SoPs set out knowledge/understanding and skills (Knowledge and Skills Framework – KSF) required so that registrants meet the SoPs. The KSF is used by departments to ensure that staff meet the SoPs and also informs the Standards of Education and Training (SETs) for clinical practice. The SETs are the standards which education providers must meet to ensure all those completing an approved programme meet the SoPs (HPC, 2007). Successful professional development in accordance with the HPC is based on explicit values, which are repeatedly demonstrated in the learning environment – in this case the clinical environment and modelled by clinical staff and tutors from educational establishments (HPC, 2007).

But how do we design a 'good' curriculum?

### 2.6.2 Striving for the ideal curriculum

The content of a proposed curriculum may be reasonably straightforward to establish from policy documents and public expectations, but the process of achieving the desired outcomes is more complex (Howe, 2002).

In educational terms, an Australian study conducted by Walker (2005) presents an epistemological and operational contour of a successful collaboration between the Tasmanian

School of Nursing and Midwifery and St Vincent's private hospital in Sydney. The curriculum is forged from a pedagogy that looks at the process of how knowledge is produced as well as the notion of teaching and learning as a transformative practice in terms of the clinical context and change. Here both the student and the teacher become reciprocal agents in the making of (new) knowledge from their praxis-oriented curriculum whereby theory informs practice and practice mutually informs theory. A harmony between theory and practice has always been a struggle to achieve in radiotherapy education, which is a technologically driven profession with practice that is in constant flux. The benefits of this collaborative curriculum is discussed and compared to the traditional nursing curriculum, although Walker does not offer any methodological description of how she did this. Her conclusions nevertheless were of interest to me. Walker (2005) is of the opinion that by adopting this praxis-oriented curriculum, students will foster a deep respect for the practitioner, and that the practitioners (the teachers in the clinical context) will have a better understanding of how their teaching can have a positive effect on the students' eventual outcome, that is, their preparedness for professional practice. Walker's (2005) comments give us a sense of the ultimate goal of a 'good' curriculum, but that its implementation or achievement in practice is not always straightforward. It relies on a sound collaborative relationship between the clinical (hospital) and academic (university) organisations. Walker (2005) adds that nurse education in Australia is not homogeneous, similar to radiography education in the UK. Different universities have their own curricula and the way they choose to deliver their curricula varies in terms of time spent in academic and clinical placements, the specific sites of that clinical practice and human resources. She found that by limiting the clinical rotation of students, i.e. staying in the same hospital for the first semester, enables the student to develop and sustain a relationship with that particular placement/department. However, Walker (2005) found that this was in tension with the idea that students benefit

from experience of different areas. In her examination of this collaborative curriculum, she found that students' time on clinical placement was more concerned with the development of both special and generic skills and knowledge and enabling the students to develop a deeper familiarity with their clinical surroundings. Longer placements enabled familiarity the students to relax and concentrate on the development of skills and knowledge. This also links with the same point made earlier by Nolan (1998) on the length of clinical placements. I found this interesting and through my own personal experience in my clinical lecturer role, I concord with Walker's views. Limited rotation of students in clinical practice, i.e. fixed placements in one hospital, was originally the case in my experience of the diploma course and the early years of the degree course. Since then the university and the professional bodies such as the HPC and SoR have encouraged greater participation with other clinical placements and increased rotation, which has been factored into radiotherapy curricula UK-wide, in order to broaden the students' knowledge. However, it needs to be questioned whether the move towards frequent clinical rotation has been of real benefit to the students.

As well as the design, organisation and timing of academic and clinical placement, the curriculum has to take into account the mode of delivery of teaching and learning. These modes include didactic models of delivery of knowledge and the Problem-Based-Learning approach.

A traditional approach to education tends to derive content from that which teachers themselves are most knowledgeable or comfortable with, or content they think will be useful for solving some problems (Tan, 2004). Learning to cope with knowledge and technology explosions in the second half of the $20^{th}$ century saw an increased emphasis on the skills of problem solving, with a diminishing emphasis on knowledge acquisition. For some, this cognitive skill orientation was over emphasised and the reliance on problem-solving skills in the absence of a sound knowledge base was criticised. Research in the area of clinical

reasoning and problem solving (Norman, 2005) has supported the essential link between knowledge and reasoning. Boshuizen (1992) identified the importance of the development of profession specific knowledge and cognitive skills – used concurrently in the process of developing clinical reasoning expertise. This curriculum shift to accommodate this problem solving approach to learning gave rise to Problem-Based-Learning (PBL). Figure 2.3 illustrates this curriculum shift, which is based on that of Tan's (2000):
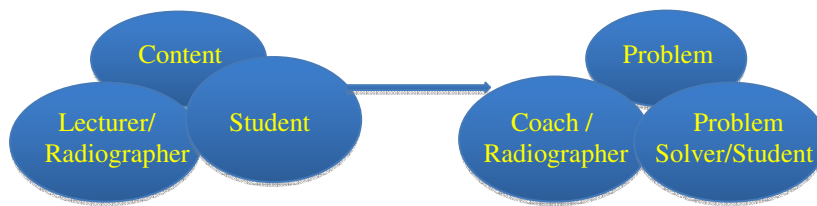


*Fig 2.3 Model of Curriculum shift (adapted from Tan, 2000)*

Here a shift of three loci is shown i.e. content coverage to problem solving, the role of lecturing to role of coaching students and students as passive learners to that of active problem solvers.

Turner *et al* (2006) reviewed a new approach to the clinical component of a nurse education curriculum in Australia. The objective of this paper was to describe the key features of a newly implemented undergraduate nursing programme and share new insights that might challenge traditional curriculum approaches in undergraduate nursing. It entailed the examination of different types of curricula offered, rather like Walker *et al* (2005). The aim of the paper was to share developments rather than critically analyse previous primary research literature on PBL, which I feel it lacked. The authors state that they felt justified in their decision, as the latter had been extensively reviewed elsewhere (Alexander, 2002; Duch, *et al* 2001; Williams, 2001; Tan, 2000). Turner *et al* (2006) offer no description of how this was undertaken and what key elements they were planning to examine in each curriculum. Their conclusions were of interest to me as a PBL approach to radiography education had

been considered in the past but was not adopted. This curriculum model emerged from a strategically planned partnership between health care providers and university with the intention of improving graduate outcomes and transition of nurses into professional practice. They looked at an integrated PBL approach that would respond to the changing needs of clinical practice. This was of particular interest to me as radiotherapy is a profession in constant change due to innovations in technology and practice. In addition the radiotherapy curriculum adopted at the university in my study still appears to rely heavily on knowledge acquisition and didactic methods of teaching.

The PBL approach uses '*real world problems to motivate students to identify, evaluate and apply research concepts and information, work collaboratively and communicate effectively*' (Turner *et al*, 2006, p.10). PBL began over 25 years ago and has since been implemented in various undergraduate and graduate programs around the world. Students involved with PBL acquire knowledge and become proficient in problem solving, self-directed learning and team participation, and develop excellent critical thinking and communication skills (Duch *et al*, 2001; Tan, 2000). Turner *et al* (2006) believe that the PBL approach works more effectively if the curriculum is not specifically divided into discrete courses from particular discipline/topic areas, but designed as an integrated whole. Here the curriculum is designed so that it consists of carefully selected and constructed problems and that the learning process replicates the commonly used systematic approach to resolving these problems (Duch *et al*, 2001). The advantage of this flexible approach compared to a more structured didactic approach to teaching is that it can easily be changed or updated so that the curriculum can keep pace with changes in health care requirements. This would seem to be appropriate to radiotherapy. I have observed that the current approach of a more didactic model of teaching and learning within radiotherapy (in the academic and clinical contexts) used by many universities, including the university in this study, is that overt changes are frequently made

to the curriculum. This requires formal approval by the Board of Studies within that university and from the regulatory body (HPC) in the case of 'major' changes. Therefore there appears to be more flexibility in the problem solving approach that Turner *et al* (2006) speak of. If the PBL approach appears to be the best fit for curriculum delivery in nurse education, one must question why there is reluctance for it to be adopted within radiotherapy and indeed radiography as a whole? Turner *et al* (2006) are of the opinion that academics have to deal with competing discipline interests in the development of curricula at universities and very often decisions made in relation to clinical education can be driven by political rather than educational motives. Changing from didactic methods of teaching to a completely PBL approach needs time and training of academic staff. Arguably, it is not a suitable model for radiography, which is a technologically driven profession. Although, to include some problem-solving tasks would be of benefit to radiotherapy students and would enhance their learning in some areas of the curriculum.

The curriculum also encompasses an assessment scheme and needs to take into account diverse learning styles and abilities, including overseas students. White and Klem (2005) argue that the current curriculum in radiography does not appear to assume any prior common knowledge or experience that this diverse body of students may have gained from other paramedical professions, hospital settings or indeed science-based courses. This point links to Weidman's interactive stages of socialisation, that is, the 'prospective student', as discussed earlier (Fig 2.2, p.44). There has been an increase in both the range and number of learners in the workplace (White and Klem, 2005). This is the result of attempts to recruit more allied health professionals, the role development and four-tier structure in radiography (i.e. the Agenda for Change banding, ranging from Band 5 at the bottom of the pay structure and KSF, to various grades of Band 8 ranging from a-d depending on responsibilities and size of department).Instead of traditional schooling, White and Klem (2005) argue that new ways

of engaging the individual should be considered, taking into account cultural, community and social environmental contexts.

Schools of Radiography in the UK have been expected to address not only the KSF, but also attitudes and to develop models of learning which enable attitudinal development (another area to be included in the curriculum) to be supported and addressed. This is dictated by the Department of Health (DoH), HPC and SoR and is similar to medical training where a student can lose grades or achieve a fail based on attitude and conduct.

The education of professionals is argued to be about empowering students with attitudes, skills and knowledge to adapt and effectively confront the dynamic changes in the world today and tomorrow. In addition to technical, biomedical aspects and attitudes, aspects related to technologies form a specific element of the curricula. Indeed, cognitive, meta-cognitive and social competencies are required to respond to many different pressures, such as the drive to use more multi-media, the need for lifelong learning and the changing labour market (Segers and Dochy, 2001). According to Howe (2002), the structuring of experiential learning (learning from experience) is important in maximising the impact on professional development particularly through the use of student-centred reflection and critical thinking skills. A robust curriculum and quality-learning environment could extend student strengths, challenge their complacencies and work with their weaknesses: this implies a tutor-student ratio that permits some level of individual mentoring, even in a group setting. Howe (2002) continues that there are benefits of widespread involvement of clinical practitioners in developing and supporting curriculum outcomes.

So far I have discussed what is termed the '*formal*' curriculum. The *formal* curriculum is the planned programme of objectives, content, learning experiences or outcomes, resources and assessment offered by an educational institution. The overall aim of the student radiographer's clinical experience is to learn to be competent. This is what the formal

curriculum aims to achieve. However there is also another term associated with the curriculum – the '*hidden*' curriculum.

The *hidden* curriculum*,* in contrast to the formal curriculum, involves all the incidental lessons that students learn such as behaviour, personal relationships, competition and sources of motivation for example in the clinical environment (Eraut, 2000). Phillip Jackson (1968) is generally acknowledged as the originator of the term '*hidden curriculum'* in his work '*Life in Classrooms'.* Jackson (1968) argues that the hidden curriculum should be understood as a socialisation process where students pick up messages through the experience of being in the clinical environment, not just what they are explicitly taught in the academic institution such as in the formal curriculum. He observed the values, dispositions and social behavioural expectations that brought rewards for students and that this learning was a feature of the hidden curriculum. Jackson (1968) argued that the hidden curriculum emphasised specific skills such as learning to '*wait quietly, exercising restraint, trying, completing work, keeping busy, co-operating, showing allegiance to both teachers and peers, being neat and punctual and conducting oneself courteously*'   (Jackson 1968, p.10-33). These skills and behaviours are important in the socialisation process and ultimately shape the practitioner but are not made explicit in the formal curriculum where students, clinical and academic staff place the most importance. According to Goldie *et al* (2007) the '*formal presence of professionalism in the curriculum made learning explicit and ensured it was no longer left to occur through a process of osmosis'* (p.612). What Goldie alludes to here, is that it is assumed that the students will acquire these skills and knowledge as they gradually progress through their training. However, by making these skills and behaviours explicit in the formal curriculum, there is an increased awareness by students and clinical staff thus ensuring that these skills and behaviours are actually acquired.

This section has looked at the importance of a good curriculum, the elements of a quality curriculum and the impact on the learner. It also differentiates between the formal and hidden curriculum and has noted to potential value in making the latter more explicit in the clinical education of radiotherapy students. With a curriculum in place, the following section looks at clinical learning and the modes of learning that facilitate clinical pedagogy and thus satisfy the learning outcomes as set out in the curriculum.

## *2.7   Education for professional practice*

### *2.7.1 The aims of clinical education in the 21st century*

The Dearing report (1997) provides an overview of the educational development in higher education in Britain and is a useful vantage point from which to see the aims of higher education in the 21st century. The Dearing report states that:

> *The world of work is in continual change: individuals will increasingly need to develop new capabilities and to manage their own development and learning throughout life.*                    (Dearing 1997, p.12)

This statement identifies the expectation of higher education institutions to produce confident, independent and autonomous students to sustain a learning society. However, according to Taras (2002), far from sustaining such a society it is becoming doubtful whether the end product of professional training programmes are actually confident, independent and autonomous learners. It is argued instead that these qualities are being submerged in the procedures and processes that the students encounter during their time at university (and when on clinical placement). Entwistle and Entwistle (1991, p.69) argue that:

> *In higher education there has always been an emphasis on a broad view of learning and on independent interpretation and judgement, but the way the course is presented to the student, and the nature of examinations, may give students the strong impression that it is detailed knowledge, and the correct use of procedures, which will bring the greatest rewards.*

Entwistle and Entwistle's (1991) concern encompasses much of higher education, including the radiotherapy setting. The students have to draw on the knowledge gained in a classroom setting and put it into practice in a variety of settings and different hospitals and departments. There appears to be a need to build on the pedagogy in the clinical environment, where the student's main aim is to learn skills and knowledge of the profession, but also to pass clinical assessments. What follows is an analysis of why we need to build on this clinical pedagogy and what kind of learning is actually occurring in the clinical environment.

### 2.7.2 The importance of the workplace learning experience

As clinical understanding is embedded in the physical act of practice (Benner, 1984), the clinical learning experience is an integral and essential part of clinical education (Hickey, 2010), providing students with opportunities to acquire professional knowledge and skills (Delany and Molloy, 2009) and how to perform in the clinical professional situation (Chesser-Smyth, 2005).

However, the healthcare context is recognised as an uncertain (Higgs and Titchen, 2001), continuously changing (Ryan *et al*, 2003) and a 'swampy' or messy (Schön, 1987) working environment where it is difficult to keep pace with changes and provide a suitable curriculum and assessments that are relevant, realistic and up-to-date. The clinical environment was seen as a place where there is direct transfer of accumulated skill. Now we better understand the complexities of workplace learning, including the lack of order of those environments. An important distinction of the healthcare setting compared with academic institutions, is the way in which a professional's knowledge is regulated, internally and externally by the councils of professional bodies (such as the HPC, NMC and GMC) and public accountability for what they know and do (Fenwick *et al*, 2012). The expectation of public accountability has increased and includes audits, evidence of consumer orientation and documentation of

errors (Freidson, 2001; Adler *et al*, 2008; Evetts, 2009). The drivers of increased public accountability (such as marketization, public managerialism) are argued to be at odds with the values of autonomy and discretionary decision making as has been historically associated with professionalism (Freidson, 1988). Further, Fenwick *et al* (2012) argue that new developments in digital technologies, audit regimes, and interprofessional practice serve to raise questions about professional practice and knowledge. These demands for public accountability, alongside other changes in professional practices (documented elsewhere in this thesis), seem to be changing dramatically in ways which have important implications for education (Fenwick *et al*, 2012). In the light of these changes it would be tempting to question the need for clinical placements. However most health disciplines acknowledge the continued importance of clinical placements and indeed recognise that it is essential to help students manage the complex clinical and professional demands of everyday work. Fenwick *et al* (2012) argue that conventional conceptions of learning are limited both in understanding learning in practice and in promoting forms of professional education that can really support preparation for and continuing responses to radical changes that confront the novice practitioner. This section takes a closer look at the trends in the different models of education over the years that have evolved in response to a clinical climate that is constant flux and some of the theories behind education in professional practice, in particular learning metaphors.

Table 2.1 outlined, by Higgs (2009), suggests the different models of education, which have been popular over the years, which are linked to the clinical education context. The following section will take a closer look at these learning models, with the historical ordering of the models being based on Higg's (2009) overview on trends (outlined in Table 2.1).

| Context | Early traditions of authority and experience | The scientific revolution of the 17th and 18th centuries and the pursuit of Professionalization into 20th century | 20th century knowledge and technology explosions | 1970s and 1980s (and recent renewed interest) focus on competencies | 1980s, the reflective turn | Late 20th and early 21st century, evidence for practice | Late 20th and early 21st century, quality person-centred care |
|---|---|---|---|---|---|---|---|
| **Practice** | Experiential and tradition-led | Medical model dominant in the recognised Western health occupations | Clinical problem solving | Competent practice | Reflective practice | Evidence-based practice | Critical person-centred care |
| **Education** | Apprenticeship | Move to degrees and science-based education of professionals such as nurses, radiographers, physiotherapists and occupational therapists. | Problem-based learning | Competency-based education | Educating the reflective practitioner | Teaching scientific evidence for practice | Education for social, service and professional responsibilities |
| **Knowledge** | Experiential and received | Propositional (research) and theory driven) | Tools for problem solving | Propositional and technical knowledge | Propositional and non-propositional or experiential knowledge | Propositional knowledge | Propositional and non-propositional or experiential knowledge |

*Table 2.1 Trends in health professional practice, education and knowledge, adapted from*
Higgs (2009, p.29)

## 2.7.3 Models of education of health professionals

### 2.7.3.1 Apprenticeship

Historically, the dominant model of learning for healthcare professionals was apprenticeship.

In this model, there is an emphasis on the learner acquiring knowledge and skills from an

expert or master with the goal of emulating their expertise (Higgs and Titchen, 2001).

Learning takes place in workplace settings where the apprentice studies what was deemed to

be the master's art, progressing through simple, highly supervised tasks to more complex and

independent tasks, becoming independent practitioners and, potentially masters themselves

(Higgs, 2009). The apprenticeship system focussed on the practice knowledge, craft and art,

and the practical role of the workers - a type of 'informal learning' that is not reflected by

explicit learning outcomes attached to a curriculum. This model was used by doctors in their

professional training and adopted by many other professional healthcare workers. The quality

of this system ranged from poor, with unquestioned or required adoption of ill-founded practices and knowledge reflected by poor role models, to robust. The ideal model is one in which the apprentice learns from expert role models who offered individual, knowledgeable tuition, direct demonstration and quality supervision, to become autonomous, confident, self-directed, ethical, flexible, collaborative, inclusive, organised and innovative professionals (Ryan et al, 2003). However there is some debate about the capacity of the apprenticeship model to produce effective and autonomous health professionals. Gamble (2001) for example is of the opinion that learning in apprenticeship offers opportunities for nothing more complex than reproducing task performance in routinized ways and adds:

> *While conventional wisdom has long held that skill is transmitted through modelling and practical example, the traditional 'master-apprentice' relationship represents a mode of pedagogy that is no longer deemed viable in modern workplaces where continuous change is the norm.* (p.185)

Here Gamble (2001) contends that the apprenticeship style of learning is no longer a suitable way of learning in a clinical environment that is in constant flux. In the context described by Gamble, practitioners need to learn to think on their feet and develop critical thinking skills that she argues cannot be achieved through apprenticeship. However, today, much learning activity in the clinical environment continues to occur in the form of some sort of apprenticeship, especially where high levels of knowledge and skill are in demand (e.g. medicine, nursing, radiotherapy and physiotherapy).

Lave and Wenger (1991) argue that there are variations in the forms of apprenticeship and the degree of integration of apprenticeship into daily life, as well as in forms of production with which apprenticeship is associated. Although traditionally claimed to be so, apprenticeship is not always or even often 'informal'; and increasingly is attached to a range of 'formal' learning' structures and practices. In formal learning, there is some explicit structure to the

learning curriculum and apprentices may enter into formal agreement with for example, universities, before the apprenticeship begins (Lave and Wenger, 1991).

The relationship between an apprentice and the 'master', and the institution in which the apprenticeship is performed is arguably key to understanding how and what is learnt in a traditional apprenticeship model. However, in a contemporary approach, the idea of the master transferring knowledge to the student is usurped in favour of an understanding of knowledge as being created or negotiated through the interactions of the learner and the practitioners/environment. In a contemporary view, subject matter is not always driven from people/teachers or objects embedded in the formal curriculum but rather may emerge from the cues provided in the environment, such as responsiveness, reflexivity and flexibility, and from the dialogue among the learning community. The structure of the learning is implicit in the experience rather than in the subject matter structured by the instructor or the formal curriculum that is, a written curriculum that explicitly specifies the syllabus, learning outcomes and knowledge and understanding required of the student. The students place much importance on the formal curriculum as it includes formal and summative assessments of their progress. Whereas the learning that is implicit in the experience may not be formally recorded or made explicit in the curriculum, but is important in the learning and development of skills, acquisition of knowledge and forms part of the socialisation process into the professional community.

In trying to understand how learning occurs in the apprenticeship model (informal, experiential), Lave (1997) sought to develop a model to explain how knowledge is obtained. Knowledge, Lave (1997) argued, is obtained by processes that s/he referred to as '*way in'* and '*practice*' (p.21). 'Way in' is a period of observation in which in a traditional approach, the learner watches the master and makes a first attempt at solving a problem and 'practice' is refining and perfecting the use of acquired knowledge. However as argued above, some

educationalists insist that the mere transfer of information from expert to novice does not constitute learning (Wolf-Michael and Lawless, 2001). There is agreement between academics that the internal and *tacit* nature of craft knowledge is what makes apprenticeship the age-old trusted mode of learning knowledge and skills

de Cossart and Fish (2005) have written much about tacit knowledge in the context of issues around a competency-based education in postgraduate medicine. Their work is explicitly focused on postgraduate education, yet much of what they say could be related, with caution, to undergraduate education of healthcare professionals in the workplace. Much of what practitioners do in their daily activities when treating patients for example (in the radiotherapy context), is not always explicit to the learners be they undergraduate or postgraduate. de Cossart and Fish (2005) define *tacit* knowledge in the context of postgraduate medical education as knowledge:

> *...which we do not even recognise that we have. This may be because it is buried inside our thinking and doing, and beneath our experiences and expertise, to a level that renders it unable readily to be retrieved and made conscious: or (in some cases) it may be that it is actually by its very nature ineffable (inexpressible, unable to be described and characterised).* (p.195)

Clearly postgraduate trainers have developed tacit knowledge to a much greater degree than the undergraduate. Yet, even on the first placement, the undergraduate is starting on that process of tacit knowledge development.

Eraut (2000) describes tacit knowledge in the context of apprenticeship (or the training of novices), as a phenomenon when practitioners '… *no longer need to think about what they are doing because they have done it so many times before*' (p.123). He argues that the routinisation of tasks may be straightforward, with student learning sequences of actions with one particular pathway as an endpoint; an example might be learning to take a blood, or set a a particular radiotherapy treatment. Eraut (2000) continues that learning by repetition will eventually not necessitate the need for work instructions or checklists, so much so that the

task becomes '*... an internalised explicit description of the procedure*' (p.123) or '*because routine and custom have put us on auto-pilot*' (de Cossart and Fish, 2005, p.195). There is however in an education sense, a need, to make explicit this tacit knowledge so that the novice student/learner can access it. Failure to do this arguably may slow down a student's development (de Cossart and Fish, 2005). In the words of de Cossart and Fish (2005), teachers and practitioners need to:

> *...unpack the tacit thinking, understanding, knowing and being, that they have long been using but which lies invisible beneath their practice, so as to enable learners to see and explore it.*

There are tensions raised in the academic literature between the view that tacit knowledge simply reflects routine knowledge, and on the other hand that tacit knowledge reflects knowledge that is 'beneath experience'. The latter presents challenges to developing a standardised curriculum; namely, whether is it possible to make something explicit that is by definition 'beneath experience'. Despite concerns about how to develop tacit knowledge, thinking critically and reflectively have been identified as ways to counter teaching strategies that rely on the routine transfer of knowledge between teachers and students. Critical reflection has also been proposed as a means to counter a positivist tendency in health sciences education to present knowledge and clinical skills in terms of measurable mastery and attainment of specific competencies (Kneebone, 2002). Critical reflection skills are recognised as having a role in both enhancing the learning process itself and as a means professional development (Pee *et al*, 2002).

Team level tacit knowledge is related to the collective knowledge of the team members or specifically in this study, a team of radiographers. The idea of a team level tacit knowledge is of particular significance to professions outside of medicine such as therapeutic radiography, which more often than not involve a team of radiographers treating the patient. It is argued by Friedman and Burnell (2006) that it is the shared experience of the professionals that results

in the ability to successfully anticipate the reactions of other members of the team in typical and non-typical situations. They add that this team approach is a learning experience that students will be a part of during their learning by apprenticeship (by virtue of their exposure to workplaces that are reliant on practitioners interacting in this way).

The teaching and learning (pedagogical approach) of tacit knowledge in a contemporary setting is argued to retain elements of practical mastery. At the same time because the ordering principles of its pedagogy are tacit the acquisition and assessment of tacit knowledge in an apprentice approach presents challenges for curriculum development. The point is that, what is argued to be attempted to be learnt in an apprenticeship model is 'craft'; but 'craft' is not always amenable to the explication and articulation demanded by curricula and the assessment of quality.


So far the discussion has been focused predominately on what apprenticeship means to educators and trainers. For the students, apprenticeship is seen as a learning process whereby they '...*learn to think, argue, act, and interact in increasingly knowledgeable ways with people who do something well, by doing it with them as legitimate, peripheral participants'* (Lave, 1988, p.2).

Recent critiques of apprenticeship models of learning suggest that they focus on building individually based, discipline-specific knowledge, operational competence and outcomes (Rees, 2004; Bleakley, 2006) and neglect adaptive, sociocultural and heuristic or interpretive processes (Eraut, 1994). On the basis of these critiques, experiential learning is argued to be insufficient to meet the need for health professionals to be flexible, aware and have an understanding of alternative perspectives held by patients, healthcare professionals, hospital administrators and others (Trede *et al*, 2003). That is, there is some concern that despite the

intent and ideal of apprenticeship models to develop flexible learning, in practice it falls short of being able to achieve these goals.

The main contender to the apprenticeship model was a competency-based model of learning and assessment.

### 2.7.3.2 Competency-based learning and assessment

Higgs (2009) claims that during the 1970s and 1980s there was much interest generated in competencies – principally technical skills, but later also cognitive and interpersonal skills and the capacity to learn, conduct research and self-evaluate. In many cases, competency-based education led to an atomistic approach to education and practice rather than a holistic approach of caring for the whole person. Current trends of increased accountability, professional malpractice and regulation (to be discussed later in the chapter), has meant that competencies have become popular again in some professions (e.g. medicine, nursing and radiography). The challenge of competency-based practice is that it is based on explicit, goal-driven learning and training, and can differ quite significantly in principle from the apprenticeship-based models discussed previously.

As mentioned, the move towards a competency-based approach has been determined in part by a perceived need to adopt systems that use pre-specified descriptions of learning outcomes – known as *standards, benchmarks* or *competencies,* as a basis for assessing and reporting learner's progress and achievement (Brindley, 1998). In higher education, quality assurance programmes such as the Quality Assurance Agency (QAA), expect educational institutions and its teachers to provide an education that meets given standards (QAA, 2001). While the influence of regulatory bodies emphasise the measurable aspects of competencies, educational advancements have led to a broader definition of competencies which includes higher level, generic and person-centred competencies with a greater but still incomplete

capacity to portray the complex, interactive nature of professional practice (Higgs, 2009). Both understandings of competency-based training and learning will be discussed. I will signal where I am explicitly referring to contemporary views that the meeting of standards involves flexibility, reflexive, high-level, person centred skills.

The competency approach to clinical learning within radiotherapy is inextricably linked to the clinical assessment programme as well as the formative-based clinical folder. The clinical assessment programme within radiotherapy, involves students carrying out a series of treatments, which vary in complexity, and level of competency depending on whether the student is a first, second or third year. This involves, the treatment of the patient, communication and team leading skills that are assessed by the clinical lecturer and a member of the clinical radiography team. This is a summative assessment as the student is awarded a mark and a grade. The clinical folder on the other hand, is a record of student competencies and objectives that are signed off by the radiographers and are not awarded a mark as such (formative assessment). It is required that radiotherapy students demonstrate that they have achieved these visible competencies, because even though they are not assigned a mark *per se* (in their clinical folder), they need to show that they have achieved them in order to pass their degree. This is clearly stated at the beginning of their clinical competency folder and would result in them being unable to be registered to practice if they failed to reach these competencies. Clinical assessment should be concerned with demonstrating how well, and in what manner, a learner has gained knowledge and skills from clinical practice, and with recording these attainments and the learner's clinical educational progress (de Cossart and Fish, 2005)

The competency-based approach to training believes that what is needed in preparing for practice as a professional is a collection of all the skills (competencies) that can be listed as

used in that job. de Cossart and Fish's (2005) idea of competence is one which is about 'intelligent and wise conduct':

> *...concerned with placing the necessary skills of professional practice into a wider context which takes account of the essence and core of what is really involved in being a professional. Competence recognises that professionals engage in intelligent and wise conduct, rather than trained behaviour, use professional judgement rather than following protocols, and draw on knowledge in creative ways rather than simply applying it unthinkingly.*
>
> (p.106)

This definition of competence offered by Epstein and Hundert (2002), accords with the definition above. They state that competence is a '*habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection*' (p.226). They believe that competence should build on a foundation of basic clinical skills, scientific knowledge, and moral development.

A competency-approach to clinical training may be somewhat limited and no longer fit for purpose for the complex, changing work of therapeutic radiographers or as de Cossart and Fish (2005) argue, it is a *'naive and rather tired and inappropriate approach to preparing professionals for practice'* (p.105); they argue that in practice it is mainly concerned with training people to give satisfactory evidence of skills and behaviour that is *visible* (and not tacit) in order to become a qualified professional. However, as noted, the demands for external scrutiny by professional bodies mean that health professional training is expected to demonstrate that students that have achieved visible competencies. Competency-based performance also arguably mirrors the practices and expectations that drive the contemporary health workplace. The way in which the clinical element of the course is presented to them and the input of teaching from clinical staff, has been argued however to give the students the impression that as long as they learn the procedures that qualified staff undertake, they will be able to pass their clinical assessments and become competent professionals (Entwistle and Entwistle, 1991). Other academics have highlighted that this approach is similar to the

regurgitation of facts during written examinations, which the competency-based approach was intended to overcome. The limitation of a competency approach in training, as in practice, results from students attaching the most importance to clinical competencies, as it is promoted as being central to learning and validation (Dearing, 1997). Moreover, Fish (2012) stresses that a competency-based approach to teaching could give the false impression that passing assessments (and thus being competent to practice), is a way of:

> *...controlling learners and ensuring that they have jumped through sufficient hoops in respect of what they must learn in order to be 'safe workers' and thus be allowed to progress through their careers.* (p.21)

The concern expressed by academics in the research literature is that there is a weakness in the model of learning in the clinical environment and that students may not fully understand the underlying principles and knowledge that underpin these clinical procedures. The result is that despite its laudable aims, a competency- based approach fails to produce these so-called 'challenging', 'autonomous' and 'critical thinking' students as desired by Dearing (1997). Rather, the students may simply be following procedures (Dearing, 1997).

The competency-based approach is argued to be problematic for several reasons related to the demands they impose on educators and ways in which reliability and validity can be measured (Brindley, 2001). O'Leary and Sheil (1997) state that competency-based assessments raise doubts about the validity of outcome statements and the reliability of assessment tools that are used to elicit student performance; due to the challenges of being able to ensure comparability of teacher-developed assessments (Brindley, 2001). Competency-based approaches also carry significant time demands due to the necessity of developing and administering individualised performance assessments as endorsed by Breen *et al* (1997). Additional challenges are presented by the increasing complexity of multiple stakeholders involved in the processes of accountability, and scrutiny including new expectations for academic and clinical institutions to work together in the assessment of

skills, competencies and learning outcomes (Strohschein *et al*, 2002). On this basis, de Cossart and Fish (2005) contend that competencies may be necessary, but they will never be a sufficient base for the education of members of a profession.

In conclusion, the most sustained criticism of a clinically-led, competency-based approach (in training and in practice) is that students focus on achieving the tick-box objectives and competencies and 'rehearsed' clinical assessments that the universities and governing bodies have set out in order to give proof of competence and upholding standards (de Cossart and Fish, 2005). The practices of 'tick box' clinical care, appears to fall short of producing the confident, critical thinking and reflective practitioners of the future as emphasised by Dearing (1997).

### 2.7.3.3 Problem Solving

As explained in detail in the previous section, education traditionally appeared to be more concerned with giving content which teachers themselves were most knowledgeable with rather than presenting students with problems at the outset, which they thought would be useful for solving some problems (Tan, 2004). Problem solving was the basis of PBL as discussed previously. The second half of the 20<sup>th</sup> century saw an increased emphasis on the skills of problem solving due to knowledge and technology explosions, with a diminishing emphasis on knowledge acquisition (Higgs, 2009). As a result there appeared to be a shift in the curriculum towards a more problem solving approach to learning which became very much en vogue during this period. With this problem solving approach to education in professional practice there followed a period where there was more emphasis on critical thinking and reflective practice.

### *2.7.2.4 Critical thinking and the reflective practitioner*

As mentioned previously critical reflection is argued to be a key and necessary component of any contemporary clinical training programme (Higgs, 2009). Critical thinking (a type of thinking that questions assumptions) is considered to be essential as students need to be able to act upon new situations and to able to make decisions that would not cause harm to the patient in the context of clinical learning (HPC, 2004). Schön (1983) for example has stressed that reflective practice (one form of critical thinking) is required to deal with the uncertainty and changing of professional work where the workers face complex goals and ill-defined problems. Schön's (1987) model of reflective practice was developed in response to concerns about the growing gaps between practical knowledge and actual competencies required of practitioners in the field and the research-based knowledge taught in professional schools. Schön's model (1987) essentially proposes that professionals who receive real-time coaching and encouragement to think carefully about what they do while they do it, will learn in a more profound way. He states that the learning, which significantly influences behaviour, is self- discovered and self-appropriated learning through reflection,

Critical thinking is dependent not only on the students being receptive to instruction, but also on the quality and depth of instruction (Dearing, 1997). Since Schön, methods of promoting and teaching skills in critical reflection have received increasing attention in clinical education literature (Higgs and Titchen, 2001) in recognition of both the clinical practice environment and the required qualities and abilities that practitioners need to continue to develop as professionals.

Higgs and Titchen (2001) outline teaching, learning and practice strategies that are necessary to promote these abilities and to reframe the interface between what has already been described previously in this thesis as an uncertain world of professional practice and health professional education. The strategies they outline include: developing a greater (and more

critical understanding) of professional knowledge; being attentive to personal and professional values and understanding underpinning healthcare practice; generating theories of knowledge derived from practical experience; incorporating practice knowledge into educational curricula so that students receive preparation for professional work from both propositional (factual) and emerging practice (experiential).

Teaching skills of critical reflection in health education has been proposed as a means to counter a positivist tendency in health sciences education to present knowledge and clinical skills in terms of measurable mastery and attainment of specific competencies (Kneebone, 2002). This knowledge transfer approach is a feature of experiential learning through an apprenticeship model, where students are exposed to a range of clinical practice (MacLeod *et al*, 2003) but are not encouraged or required to reflect critically.

Reflective practice has provided the impetus for further and wider exploration of the nature, scope and importance of reflective practice within patient-focused healthcare (Eraut, 2004; Fish and Coles, 1998).


### 2.7.3.5 Evidence-based practice

The latter part of the 20th century saw the emergence of the scientist-practitioner model which epitomises a commitment of professional groups to scientific rigour (James, 1994) and reflects the escalation of research into the scientific evidence for practice – known as 'evidence-based practice' or EBP (Higgs, 2009). In evidence-based practice, '*clinicians must be able to adequately justify their methods [because] the community demands a high quality of care and cost-effective system*' (Twomey, 1990, p.83). Some models of healthcare and healthcare education are emerging in recent decades to counter and broaden the narrowly focussed definition of evidence-based practice (Higgs, 2009). The application of evidence-based practice was broadened from evidence-based medicine (EBM), to encompass the allied

health professions. Sackett *et al* (1996, p.71) define evidence-based practice/medicine as '*the conscientious, explicit and judicious of current best evidence in making decisions about the care of individual patients'*. The use of evidence-based medicine/practice is perhaps more popular in some professions than others e.g. medicine, dentistry and nursing. To use EBP or EBM more effectively and broadly, the practitioners need to be able to critically appraise studies and study designs; be able to evaluate the methodology of any study for strengths and weaknesses; be able to choose statistical tests to analyse data and be able to interpret the results and be able to decide whether to change clinical practice based on the results of the study. However, in my personal experience in radiography, little attention is paid to using EBP effectively in education. This ultimately means that the qualified practitioners have little knowledge or experience on the use of EBP and thus have little to share with students (Higgs, 2009).

### 2.7.3.6 Mixed approaches

This section considers several approaches to learning: i) person-centred with evidence-based practice; ii) competencies with clinical (apprenticeship) training and reflective practice.

A person-centred approach is central to evidence –based medicine. In medical education this person-centred healthcare approach with evidence-based medicine, includes patients in the decision-making process which promises to result in more realistic and appropriate treatments, reduced patient concerns and complaints, better health outcomes and increased patient and clinician satisfaction (Trede and Higgs, 2003).

Numerous health professional training programmes including radiotherapy profession and radiography as a whole, currently adopt a mixed model of learning in undergraduate workplace experience which is based on a competency-based approach but also encourages

reflective practice and learning skills that occurs through some form of apprenticeship (see Appendix D –Competencies for clinical practice for radiotherapy).

As discussed earlier, each of these models have their own associated benefits and shortfalls as critiqued in the literature. By encouraging reflective practice alongside a competency approach to learning and the apprenticeship model, this mixed approach may guard against the pitfalls of the tick-box approach to learning and learning by rote, which do not allow for reflection and understanding. However, using several approaches to learning may pose tensions between the clinical practitioners and the academic institution. The students strive to document their competencies, reflect and ensure their inclusion within the clinical team for their 'hands-on' experience in order to learn clinical skills (as set by the academic institution). For the practitioners this ultimately means more demands on their teaching time and for evaluation of student skills and competencies whilst under pressure to complete their busy work schedules.

So far this section has looked at various learning models (as apprenticeship, competency-based, reflective practice). The next section examines understandings or theories of learning rather than models, and focuses particularly on the work of Anna Sfard (1998).

### 2.7.4 Learning metaphors and the clinical workplace context

There are numerous articles in professional journals and books that discuss radically new theoretical approaches to learning. Felstead *et al* (2005) define learning as:

> *…no longer a separate activity that occurs either before one enters the workplace or in remote classroom settings. The behaviours that define learning and the behaviours that define being productive are one and the same. Learning is not something that requires time out from being engaged in productive activity; learning is at the 'heart' of productive activity.* (p.359)

This statement suggests that learning, in continuing, postgraduate and undergraduate education, can arise in a variety of settings, including everyday work experiences, social interactions with colleagues and patients and not just in a classroom setting.

This section examines more closely the assumptions and claims that underpin theories of workplace learning, in order to give a better understanding of the tensions that might emerge in practice when they are delivered as is or combined with other models.

Sfard describes two understandings or theories of workplace learning, which fall into two categories: learning 'as acquisition' and learning 'as participation' (Sfard, 1998). The 'acquisition' metaphor sees learning as a product with an identifiable and visible outcome – quite often with certification, proof of attendance or performance (Felstead *et al*, 2005). The 'participation' metaphor, conceives learning as a process whereby learners improve their work performance by engaging in daily activities. This involves interacting with people (practitioners), equipment, and materials (Felstead *et al*, 2005). The following section examines the expectations and assumptions that underpin the notion of learning as 'acquisition' and as 'participation'.

### *2.7.4.1 The acquisition metaphor*

Sfard (1998) defines learning as the act of gaining knowledge. It is an idea about learning that is based on concept development. Concepts are defined as '*basic units of knowledge that can be accumulated, gradually refined, and combined to form even richer cognitive structures*' (Sfard, 1998, p.5). In this view, a learner is viewed as a container, to be filled with materials, (similar to Plato's view as alluded to earlier in the chapter) and the learner becoming an owner of these materials (Sfard, 1998). More correctly, it is the mind that is considered to be filled with materials; giving primacy to intellectual thinking over bodily practice and focusing on learning as an individualistic activity.

In contemporary practice, the focus of educational practice and policy is to enhance this accumulation process and make it visible (Felstead *et al* 2005). In a contemporary acquisition approach, learning is not limited to accessing knowledge concepts, but in Sfard's (1998) view, it can be extended to *"conception, acquisition, construction, internalisation, appropriation, transmission, attainment, development, accumulation* and *grasp"* (p.5). The role of the teacher is to help the student by delivering, facilitating, conveying or mediating knowledge, which once acquired and 'owned' by the learner the (self-contained body of knowledge) can be applied, transferred (to a different context) and shared with others (Sfard, 1998; Felstead *et al,* 2005).

The theory of knowledge acquisition is a potent one because of the unlimited possibilities it seems to offer both educators and students. Because the acquisition approach represents the transfer of a self-contained body of knowledge, it is argued that it may even be possible to identify 'standards' - the best and most desirable modes and content of learning, such as concepts and propositions that can be universally applied.

Despite its supporters, in practice, the knowledge acquisition approach can result in the undervaluing of learning that takes place outside educational institutions, such as in healthcare institutions, that is important for work-place performance. For example, learning that does not conform to these standards, with reference to location and concepts, can be regarded as inferior or second-rate (Hager, 2004).

### 2.7.4.2 The participation metaphor

Sfard's (1998) 'participation metaphor' is an alternative learning metaphor that has been applied to situations that take into account social interactions and the ways in which practitioners can improve their capabilities at work.

The participation metaphor depicts the process of learning (or knowledge) as being fluid. Knowledge is produced and continually reconstructed through relationships with and interactions between individuals rather than being an object that is acquired, internalised and owned (Felstead *et al*, 2005). Terms such as *reflection, dialogue, watching* and *listening, learning in the community, competence, legitimate peripheral participation* (Lave and Wenger, 1991) *and apprenticeship in thinking* (Rogoff, 1990) all indicate an emphasis on participation (Sfard, 1998, p.6; Felstead *et al*, 2005). While the concept of acquisition implies that there is a clear end-point to the process of learning (knowledge acquisition), the participation metaphor implies on-going learning activities. The processes of on-going learning are always considered in conjunction with the context within which they take place (i.e. situated learning).

In her explanation of 'participation', Sfard (1998) has described a process in which the learner as a person is engaged in certain kinds of activities rather than accumulating knowledge as *private possessions* (p.6). Learning is conceived of as a process of becoming a member of a certain (professional) community. This membership into a learning or professional community entails above all, the ability to communicate in the language of this community and act according to its particular norms. Here the learners are the newcomers and potential reformers of the practice, whilst the teachers (practitioners/radiographers) are the preservers of its continuity. However through participation, learners develop from a '*lone entrepreneur...into an integral part of a team'* (Sfard, 1998, p.6).

This approach to learning has three essential features. First it emphasises the crucial role of 'action' in learning. At its extreme, it suggests that without action there can be no learning, and once in action, learning is inevitable (Jarvis, 1992). Secondly, action is embedded in a particular context which shapes and transforms individuals and sets the parameters of the learning environment - such as is the case of students learning a radiotherapy technique in the

radiotherapy context. Thirdly, learning is borne out of interaction with the world in which we live in, the people with whom we work, the tools/equipment and concepts we use and the relationship with peers, managers, patients and industry representatives (Felstead *et al*, 2005). This form of learning is most evident in '*Communities of Practice*' literature which was pioneered by Lave and Wenger (1991) and which will be discussed in more detail in the following section.

It is useful to bring attention to the concept of belongingness that was discussed earlier in the chapter, as here it is represented as part of the participation metaphor. Although these distinctions are helpful in understanding different conceptions of learning processes, learning cannot be regarded as purely 'aquisitional' or purely 'participational'. They are not mutually exclusive. Sfard, (1998) herself has argued that the act of acquisition is often a part of the act of becoming a participant and if so it would be difficult to consider them separately.

Felstead *et al* (2005) examine how policy makers for example, perceive these metaphors in the workplace. They achieved this by comparing surveys that were designed to give the 'learning as participation' metaphor a firmer survey basis that it has enjoyed over the years compared to the 'learning as acquisition' metaphor. They presented this as an experimental case study looking at surveys such as employer-level studies – the European Commission's Continuing Vocational Training Survey (CVTS) and more regularly conducted individual level polls – the European Union Labour Force Survey (EULFS). They argue that survey designers need to be more innovative in their questioning on how learning takes place in the work context, which is supported by Eraut (2000). They found that the Learning and Training at Work (LTW) survey remains rooted in a tradition, which measures the additional productive capacity of individuals in terms of whether or not they have attended certain courses or have followed a structured programme of activities under supervision. This is likened to the 'acquisition metaphor'. They found the same for many surveys, which focussed

on a narrow interpretation given to 'training' by respondents. In comparison, Felstead *et al* (2005) report that the National Adult Learning Survey is not restricted to the conventional understanding of education and training (as in the LTW survey) but collects information about the respondent's involvement in both taught and self-directed learning. The survey included questions on self-study, study packages, supervision from experienced colleagues while doing a particular task and keeping up-to-date with occupational developments. This can be compared to the 'participation metaphor'. I found Felstead *et al's* paper both innovative and informative. They derive their conclusions from examination of these surveys and highlight the contribution that everyday experience of work, being shown things and engaging in self-reflection are captured by the participation metaphor in the workplace context (though not exclusively separate from the acquisition metaphor). The results suggest that the organisation of work is crucial in either promoting or improving improvements in job effectiveness. I was sceptical about the generalizability of their conclusions as this was an experimental case study; however the authors acknowledge that their results need to be corroborated by larger and more extensive surveys to maximise their impact and point the way to policy solutions.

The next section discusses the community of practice in greater detail where the concept of the participation metaphor predominates.


## 2.7.5 Communities of practice

It is often assumed that learning has a beginning and an end and that learning is something that individuals do and is a result of teaching (Wenger, 1998). The supposition that learning is a social process and comes from experiences of participating in daily life formed the basis of a significant re-thinking of learning (as in the theories proposed earlier) by Lave and Wenger (1991). Their model of situated learning (a model of learning within a community of

practice), proposed that learning involved a process of engagement in a 'community of practice', as opposed to learning in a classroom situation. Here the student can be seen as an active learner in a community of people (in the clinical context) who support, guide and challenge the students as they increasingly participate and learn more skills in that professional culture (Rogoff, 1990). This 'community of people' can be best explained by the concept of 'communities of practice'

Lave and Wenger (1991) suggest that what they refer to as 'communities of practice' are everywhere and that all individuals (regardless of their role as teacher or student) are generally involved in a number of them – whether that is at work, school, home or leisure interests. Lave and Wenger (1991) reason that communities of practice are formed by people who engage in a process of collective learning in a shared domain of human behaviour. Derived from Goffman's (1968) concept of a 'tribe', people exist not as individuals but as part of a societal collective in which all members are learning to survive and explore new techniques.

More specifically, 'communities of practice' represent groups of people who share a concern for something they do and learn how to do it better as they interact regularly (Smith, 2009). The members of the community of practice are the practitioners (radiographers) who develop a shared practice (Smith, 2009). That is, over time, collective learning results in practices that reflect both the pursuit of our enterprises and attendant social relations. These practices are best represented as the property of a '*community*' created over time by the sustained pursuit of a shared enterprise i.e. 'communities of practice' (Wenger, 1998).

According to Lave and Wenger (1991), a community of practice involves more than just technical knowledge and skills, but importantly it represents for its members their involvement in a set of relationships over time and through sustained interaction. The fact that the members, for example radiographers, organise themselves around an area of activity

and knowledge, gives them a sense of '*identity*' and joint enterprise. The organisation around a joint activity also involves a development of routines, vocabulary and documents specific to a profession – a '*meaning*' that carries the accumulated knowledge of the community i.e. it involves '*practice*'. Wenger (1998) illustrates how these elements are inextricably linked and mutually defining (shown in Fig 2.4) and this can be used to demonstrate how the terms such as 'radiotherapist' is linked to practice, learning and developing an individual and community identity i.e. of becoming a radiographer. Fig 2.4 illustrates how 'practice' is conceived of as being linked to learning as doing; in other words, learning the skills required to manoeuvre and position equipment accurately and set up the patient correctly. *Learning as belonging* is also an important element in Wenger's (1998) components of learning.

The concept of belongingness was alluded to earlier in the chapter by Levett-Jones *et al* (2007; 2008; 2009) and Levett-Jones and Lathlean (2008; 2009). They emphasised that unless students felt that they belonged to the community, this would hinder their learning, development of self-concept and competency.
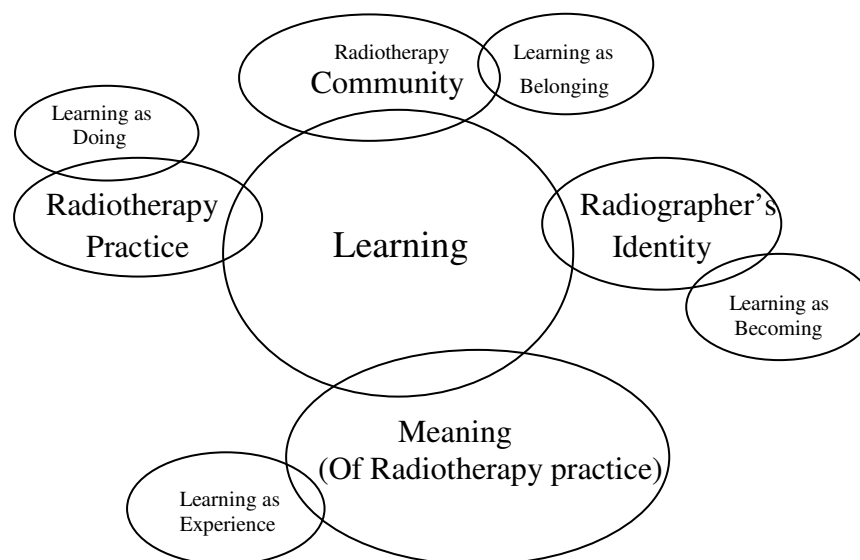


*Fig 2.4 Components of a social theory of learning: an initial inventory (Wenger, 1998. p.5). Adapted for radiotherapy practice*

## 2.8 Summary of literature review

The purpose of the literature review was to harvest ideas and concepts for clarification of my research questions and data analysis, rather than offer an extensive critique. As many ideas and also a few concepts have been generated from this review, this section offers a summary to remind the reader of the main points that have been discussed.

***The history of radiography:*** The history of radiography portrays a profession that has come a long way since the days of Wilhelm Roentgen's discovery of X-rays and doctors taking X-ray pictures themselves. Not only does it highlight a shift in roles to technicians and thence radiographers, but also towards a more structured approach to education and qualifications, culminating in a degree course. The history of radiography illustrates how technology has advanced, with implications of on-going technological changes driving a practitioner's training, continual professional development (CPD) and student education. The current model of training healthcare professionals is based on a cooperative model, which requires universities and healthcare institutions to work collaboratively to ensure education and training happens and to a high standard. However the literature highlights challenges for a healthcare workforce which may impact on training. As discussed in the literature review these challenges include work pressures and technological change that not only drive changes in the radiography profession but also educational imperatives. Universities are now encouraged to deliver programmes that offer a virtual learning environment to ensure that skills learnt in the classroom complement clinical learning, but not intended as a substitute of the 'real' world of clinical work with real patients.

***The medical education perspective:*** The review of the medical education training of gave insights of students at the start of their clinical placement. They desired to do it all and learn

as much as they could because they wanted to become good doctors. However the workload and pressures in the academic and clinical environment such as that documented by Becker *et al* (1961), meant that the students had to adjust and find more economical ways of learning as they could not do it all. This resulted in a shift of perspectives, which Becker *et al* (1961) termed the *initial, intermediate* and final *perspectives*, arguing that students changed their approach to learning over the course of their training. Sinclair (1997) re-fashioned Becker's (1961) conclusions and describes this shift of students' perspectives, which he names as dispositions. He also highlighted problems with hierarchy within the medical profession that is endorsed by Atkinson (1997) and more generally by Freidson (1988). Atkinson's monograph (1997) gives a flavour of what it was like to be a medical student immersed in a clinical environment and illustrates tension in the medical profession regarding hierarchy. While it has been shown in this review that much of the early work on clinical learning was focused on doctors, there is also a later body of research, which has focused on nursing education and its changes over the years.

*Nurse education perspective:* The emphasis in this body of literature has been more on practice than theory and task accomplishment rather than educational outcomes (as is the case with literature focusing on doctors). Notably much of the research has focused on the pressures on clinical staff with the suggestion that they are often too busy to fully appreciate the students' anxieties in the clinical environment. The concept of belongingness (Levett-Jones and Lathlean, 2009) and the length and variety of placements (Levett-Jones *et al*, 2008; Nolan, 2008) were shown to have a significant impact on student learning. Levett-Jones *et al* (2007) found that for many students, clinical experience could be an alienating experience, especially if clinical staff do not have the time or inclination to teach them. The students then become anxious about fitting in and belonging rather than learning. The competence conceptual framework proposed by Levett-Jones and Lathlean (2009), illustrated that if

belonging and acceptance are not experienced first, then this would impede the students' progression towards competence. These issues identified in the nursing education literatures are similar to those encountered in the radiotherapy departments and as such may provide useful parallels for the current study. The sense of belongingness is also strongly linked to professional socialisation.

Nolan's main conclusion in her study (1998) was that the biggest challenges of nursing, was being able to fit n the social environment of the clinical setting and being accepted by staff an patients. The length of time on clinical placement and frequent rotation of students had a great impact on a maximising their learning time. Short placements left less time for reflection and acclimatising to new behaviours of practice.

*Professional socialisation:* This is a process of learning behaviours, norms and skills so that students can be inducted into that particular culture. This section also discussed the lack of preparation for clinical practice, which is inadequate for dealing with change, and uncertainty of clinical practice (dall'Alba, 2009). The research into professional socialisation can give insights into the importance of becoming trained to fit into a new social environment or within a healthcare profession. Research in this area by Merton *et al* (1957), Riska (2005) and Dall'Alba (2009) has drawn attention to how the student comes to adopt new behaviours, skills and knowledge that are the norm for that profession. The concept of professional socialisation can be historically located in Plato's writings on learning, where he outlines how delicate this process of learning involves more than just the pouring of knowledge in an empty vessel. This theme of the delicate nature of the processes of learning, was later picked up by Bourdieu (1977), who also highlights that learning and education is more than just bombarding students with knowledge so that it simply becomes a regurgitation of facts. The students undergo a transformation which Goffman (1968) highlights using the example of the

'*man in the mirror* 'by Hathaway (1943) whereby the man no longer recognises himself as he has changed so much. Claims made by Merton *et al* (1957) state that a lack of professional socialisation could lead to underperformance, which could also affect professional status, low motivation, demoralization and higher attrition rates amongst students (Goldenberg and Iwasiw, 1993).

The importance of teamwork and the factors that inhibit effective teamwork were also highlighted (Mohrman *et al*, 1995; Clarke *et al,* 2007). In order to be a valued and useful member of a team, the novice practitioner needs to understand how a team functions. Moreover, the radiographers should be mindful that effective communication and encouragement of full participation of team members (including the students) are required for successful teamwork activities.

*The regulatory bodies:* The literature has shown the power and control that the regulatory bodies (such as the HPC) can exert over its registered practitioners. Radiographers are required to maintain their CPD and demonstrate that they engage in evidence-based practice (HPC, 2007). The work of Michele Foucault provided ideas about power and control and panopticism, which can be related to clinical practice. Perhaps the reason for Foucault's popularity for many authors is because his ideas of surveillance, control and discipline help us understand the diverse and complex nature of relationships of power and knowledge within the clinical context. He proposes different ways of rationally managing different populations and thus professions. Practitioners are faced with the pressures of achieving targets, high workload schedules and showing evidence of CPD. This means that the student's clinical education could inadvertently become less of a priority for them as they become engulfed in their own pressures.

***The curriculum:*** A robust curriculum that includes clinical placements should be informed by these ideas so that the workplace experiences are both appropriate and educational (discussed in section 2.6). A flexible PBL approach is favoured by many (Tan, 2000; Duch *et al*, 2001; White and Klem, 2005; Turner *et al*, 2006) and offers some advantages over the traditional didactic approach to teaching. The distinction between the formal and hidden curriculum was also discussed, highlighting the benefits of making the latter more explicit to students and clinicians, if and where possible.

***Models and theories of learning:*** This section briefly discussed models and theories of learning. It can be argued that students' learning in the radiotherapy context is through a mixed model of learning which includes apprenticeship, reflection and competency-based approaches, and to which both the acquisition and participation metaphors may be applied. Sfard (1998) has argued that these two distinctions of metaphors should not be considered separately. de Cossart and Fish (2005) argue that the use of portfolios and competency-based programmes can be subjective, 'tick-box' exercises. These issues coupled with carrying out assessments (which are time-consuming), adds pressure for the students and radiographers. It has been shown that in this model, students are overly interested in grades and feel that if they copy the radiographers and do all that is required of them, then they will get a good mark. Critics of these types of competency-based learning and assessment programmes (such as de Cossart and Fish, 2005 and Dearing, 1997) conclude that professionals should engage in what they refer to as intelligent and wise conduct and use their professional judgement rather than trained behaviour in order to cultivate critically thinking and autonomous individuals.

After considering the trends in models of learning in the late 20th and early 21st century, it can be seen that current health education often adopts this mixed model of learning encompassing reflexivity, a competency-based approach and some form of apprenticeship rather than one

model exclusively. This takes into account the different skills and knowledge that are required and can be demonstrated and assessed by various methods. This mixed approach may be deemed more suitable in the current climate of rapid advances in technology, skills required as operators (within radiotherapy) and changing approaches to patient care – i.e. a more holistic approach to treatment.

In addition to theories and models of learning, the context of learning is also important. Workplace learning occurs within a specific community of professionals i.e. the community of practice (or situated learning as proposed by Lave and Wenger, 1991). Wenger's (1998) inventory of components of learning within a community of practice illustrates how elements such as belongingness, social experiences and identity are inextricably linked and are significant to learning in the clinical context. This learning takes place at the micro level of teaching by clinical lecturers and radiographers. The progress of students on placement has to be monitored and their performance assessed so that they are competent to practice and ultimately to be registered with the Health Professions Council.

# Chapter 3

## Methodology

### 3.1 Ontology and Epistemology

The ontological question is about *what* we study, that is, the object of investigation. The question here is how the world of radiotherapy fits together and how we make sense of it. To reiterate the research question for my study (as stated in Chapter 1):

> *In learning to become therapeutic radiographers, what challenges and stresses do students face when introduced to the clinical placement for the first time and, how do they adapt, and what do they learn?*

In the social sciences there are disagreements about the degree to which the world of social phenomena is real and objective, endowed with an autonomous existence outside the human mind and independent of the interpretation given to it by the subject (Corbetta, 2003). Epistemology is about *how* we know things. I positioned myself as an interpretivist in this research, where I accepted the subjective nature of social reality (Della Porta and Keating, 2008). My position as interpretivist aimed at understanding subjective knowledge and my interpretation of the radiotherapy setting through the beliefs and the 'reality' revealed by the participants in the study. What follows is a brief explanation of how I arrived at the decision to adopting an interpretivist stance.

The traditional approach in positivism (in search of the truth) is that social sciences are in many ways similar to physical sciences. The world exists as an objective entity, outside of the mind of the observer, and in principle, it is knowable in its entirety. The task of the researcher is to describe and analyse this reality. Positivist approaches share the assumption that, in

nature as in social sciences, the researcher can be separated from the object of their research and therefore observe it in a neutral way and without affecting the observed object. In neo-positivism and then post-positivism, these assumptions are relaxed. Reality is still considered to be objective (external to human minds), but it is only imperfectly knowable. The positivist trust in causal knowledge is modified by the admission that some phenomena are not governed by causal laws, but at best, by probabilistic ones (Della Porta and Keating, 2008).

Critical realist epistemology holds that there is a real material world but that our knowledge of it is often socially conditioned and subject to challenge and re-interpretation. Similar ideas are present in (social) constructionism (or contructivism). This approach does not argue that the physical world itself is the product of the imagination of the social scientist; rather that it is the latter who puts order into it. Social constructionists tend to maintain that *'classifications are not determined by how the world is but are convenient ways to represent it'* (Hacking, 1992, p.33). Della Porta and Keating (2008) add that *'theories are not descriptions to be evaluated by their literal correspondence to some discoverable reality, but partial ways of understanding the world, which should be compared with each other for their explanatory power'* (p.24). The world is not just there to be discovered by empirical research; rather, knowledge is filtered through the theory the researcher adopts.

My ontological and epistemological stance led to my adopting an interpretivist approach for this research. Interpretive researchers begin with individuals and set out to understand their interpretations of the world around them. The data yielded will be glossed with meanings and purposes of those people who are their source. Further, the theory so generated must make sense to those to whom it applies (Cohen and Manion, 1997). Subjective meaning is at the core of this knowledge. It is therefore impossible to understand historical events or social phenomena without looking at the perceptions individuals have of the world outside, that is, cultural and social influences.

In my research I seek to understand events by discovering meanings that student radiographers and practitioners attribute to their behaviour and the world of radiotherapy. This type of research aims at understanding the motivations that lie behind human behaviour, a matter that cannot be reduced to any predefined element but must be placed within a cultural perspective, where culture denotes a web of shared meanings and values. The context of the research is important '*since the human activity under study must consider the individual's situational self-interpretation*' (Flyvbjerg, 2001, p.47). Predictability is impossible since human beings change in time and space (Della Porta and Keating, 2008).

I studied things in their natural settings, attempted to make sense of or interpret, phenomena in terms of the meanings that the participants brought to me. I sought to make the world of radiotherapy practice visible through representations in field notes, interviews and focus group sessions.

The epistemology of the study must be made clear from the outset when considering the methodology, so that the 'ground rules' or any assumptions that underpin the study can be understood. This also relates to the validity and legitimacy of the findings (Walliman, 2005). The philosophy of the research is an integral factor when considering the appropriate methodology during the design of the research study. The research approach is determined by the philosophical perspective of the researcher and the convention to which they adhere. Therefore it is important to establish the research within the confines of the nature of the knowledge. This study uses a purely qualitative approach and my position is an 'insider' (discussed in section 3.1.1). I collected data from first-year radiotherapy students (the learners) and radiographers (the teachers) in the environment in which they naturally occur. This approach was in keeping with my epistemological position.

### 3.1.1 Ethical considerations of an insider approach

In this section I consider the ethical ease related to an insider approach to collecting data. In this study my position and role locates me as an 'insider'. I was employed as an academic/clinical lecturer in the department of Radiography in the School of Healthcare Studies. I had trained as a therapeutic radiographer and had been an educationalist in the profession for many years; therefore I maintained the 'emic' perspective of the insiders. Having an emic perspective (being an insider) had advantages (Leung, 2002). It arguably facilitated my entry into the radiographers' world as I was already a part of it and readily accepted and I had an understanding of their rules and rituals. However it also presented challenges.

This insider approach has been adopted in many studies (Seabrook 2004; Sinclair 1997; Tang *et al* 2009). Seabrook (2004) used participant observation as an insider in her study of doctors and medical students. She reported that this raised ethical issues about the overtness of the research and methodological issues about her existing social relationship and their impact on the data collection. This resonated with my own experience. I experienced ethical dilemmas on occasions when I felt an overwhelming urge to comment to the staff on how a student was being ignored, or in my opinion, poor explanations given to procedures. These feelings were also notable by the non-verbal communications displayed by the students. But as a non-participant observer, I made no comment. Another consideration noted by Delamont (2002) and Hammersley and Atkinson (1995), is that of personal appearance and dress code. They state that it sometimes may be necessary for the researcher to dress in a similar fashion to the people being studied. In addition, hairstyle and make-up may need to be considered and what personal information this displays. Whilst I was engaged in overt research, I wore my radiographer's uniform (tunic and trousers) which, whilst not being exactly the same as the uniform worn in Hospitals A and B, was sufficiently similar and reduced sharp differences

between myself and the clinical staff. This helped me 'blend in with the crowd' and moreover the patients did not notice anything different when undergoing their treatment sessions. Blending in had the advantage of going unnoticed but also raised implicit ethical concerns about covert observation. However, these concerns were addressed by obtaining explicit consent from students and the radiographers who were the focus of my research.

### 3.1.2 Research method

All methods demand their own ways of thinking, working with the data and writing or representing participants (Mayan, 2009). Choosing an appropriate method for this study involved a choice about how I believed a phenomenon could be best revealed and described. Simply put, how I could best explore my research questions. I was looking at first-year student perceptions about their first clinical placement. This covered a wide range of aspects including how they fitted in (professional socialisation); what their expectations of the placement were; their anxieties and fears; the influence of hierarchy; preparation for clinical practice; and views on the quality of teaching they received from radiographers. I was also interested in examining to a lesser degree, the perceptions of radiographers towards students and teaching and any pressures that may have hindered them from effective teaching. After reading and evaluating ethnographic studies such as those conducted by Becker *et al* (1961), Merton *et al* (1957), Atkinson (1997) and Sinclair (1997) as discussed in Chapter 2, I decided that my research questions would best suit an ethnographic methodological approach (described in further detail in section 3.2). These studies explored student perceptions in clinical practice and discussed similar phenomena and behaviours that my research questions were interested in exploring. I wanted to explore how the students and radiographers fitted into that therapeutic radiography culture and how individuals within that culture describe and construct meaning about cultural norms and behaviours.

It is relevant to note that I did not conduct the study within an overarching theoretical perspective. Some researchers prefer to attach their work to a particular theoretical perspective in an attempt to give meaning to their work. Theory, referring to a theoretical position or perspective, is '*more general and conceptually abstract and is based on notions, principles, or concepts of why and how the world works as it does*' (Mayen, 2009, p.27). Whilst I do not have an overarching theoretical perspective that I attach to may study, I do on occasions draw upon the theories of Bourdieu, Heidegger, Plato and Foucault to give meaning to some aspects of my work.

### 3.1.3 Data collection methods

The broad approach to data collection was qualitative. There is no form of research method that provides findings that are one hundred per cent accurate and reliable. Therefore the choice of data collection methods depends to a large extent on the research philosophy, the purpose of the study, the resources available, access to participants and the skills of the researcher (Kumar, 2005). In my research each of the data collection methods have been carefully selected, determined by the demands of the research questions and not only the personal preference of the researcher. Consideration was given to their practicality and appropriateness, informed by other healthcare studies, which have been shown these methods to be pertinent and legitimate. Moreover, the methods chosen were ones that complement one another and provide rich and reliable sources of data. .

The main data collection methods adopted were:

(i) Non-participant observation of students and clinical staff, in two radiotherapy departments and different clinical settings;

(ii) In-depth semi-structured interviews with radiotherapy students;

(iii) Focus group discussions with radiographers.

The main fieldwork took place in January-March 2008 (see block plan – Appendix B). These methods are described in detail in section 3.5.

### 3.1.3.1 Triangulation

Triangulation between data collection methods '...*involves the use of more than one method in the pursuit of a given objective'* (Cohen *et al*, 2000, p.14). This multimodal approach to data gathering has advantages over a single method approach. Data collected in different ways and from different participants serves to produce a rich picture of the research domain. It enhances the reliability and validity of the study enabling sound interpretation and analysis (Bloor, 1997). The research design for this study employed three methods of data collection namely observation, semi-structured interviews (with students) and focus groups (with radiographers).

## 3.2 Rationale for ethnography

Before deciding to adopt an ethnographic methodological approach, I firstly considered various alternatives.

### 3.2.1 Phenomenology

In its broadest meaning, phenomenology is:

> '...*a theoretical point of view that advocates the study of direct experience taken at face value; and one which sees behaviour as determined by the phenomena of experience rather than by external, objective and physical described reality'*.
> (Cohen and Manion, 1997, p.29)

Phenomenology looks at the lived experiences of the participants. In my study this could entail looking at what it means and feels like to be a student radiographer or experienced radiographer. Phenomenology adopts an interpretivist position and connects to existentialism.

Merleau Ponty's (2002) theoretical perspective might have been appropriate. However, as I was looking at students' and radiographers' perspectives on how they construct meaning of clinical pedagogy in their own social setting rather than focussing on their lived experiences, a phenomenological approach did not seem quite fitting.

### 3.2.2 Feminist approach

Adopting a feminist position or perspective means working from the assumption that the nature of reality is unequal and hierarchical and collecting, analysing and explaining findings through a gendered perspective. The goal will be to reveal, in some way, the social position and gender inequality of women that may be inherent in a culture or social setting under study (Mayan, 2009). This approach is concerned with broad structures of social power and control and how these structures reinforce existing social images. This method did not fit with my research questions. It is also notable that radiography is a predominantly female profession (although of course this does not exclude research that adopts a feminist perspective).

### 3.2.3 Symbolic interactionism

The notion of symbolic interactionism derives from the work of G.H. Mead although subsequently it has been associated with noted researchers such as Blumer, Hughes, Becker and Goffman. The term does not represent a unified perspective in that it does not embrace a common set of assumptions and concepts accepted by all who subscribe to the approach (Cohen and Manion, 1997). Cohen and Manion (1997, p.32-33) offer insights on symbolic interactionism as postulated by Woods (1974). Firstly human beings act towards things on the basis of the meanings they have for them. Humans inhabit two different worlds: the 'natural' world wherein they are organisms with drives and instincts and where the external world

exists independently of them; and the 'social world' where the existence of symbols, like language, enables them to give meaning to objects. This attribution of meanings, this interpreting, is what makes them distinctly human and social. Interactionists therefore focus on the world of subjective meaning and the symbols by which they are produced and represented. This means not making any prior assumptions about what is going on in an institution, and taking seriously, or giving priority to inmates' own accounts. For example, if a student radiographer is bored, preoccupied or anxious, for too much time, the interactionist is keen to explore the properties and dimensions of these feelings. Action is not simply a consequence of psychological attributes such as drives, attitudes, or personalities, or determined by social structures or roles, but results from a continuous process of meaning attribution which is always emerging in a state of flux and subject to change. This process also takes place in a social context. Individuals align their actions to those of others. They do this by 'taking the role of the other'. For example, the student radiographer taking the role of the qualified radiographer, by making indications to 'themselves' about the radiographers' likely responses. They construct how the radiographers wish and might act in circumstances, and how they themselves might act. The students might try to 'manage' the impressions the radiographers have of them, put on a 'performance', try to influence others' definition of the situation. Instead of focussing on the individual then, and his/her personality characteristics, or how the social structure causes individual behaviour, symbolic interactionists direct their attention to the nature of the interaction, the dynamic activities taking place between people. Glaser and Strauss (1967) studied symbolic interactionism. They asserted that scientific inquiry and the building of theories was possible through an inductive approach to collecting and analysing data, namely, grounded theory (Mayan, 2009).

Although I was interested in the social context of the learning the professional socialisation of the students, it was not the intention of my research to so study symbols by which subjective

meanings were produced and represented. I was interested in the students' and radiographers' perceptions of their surroundings and behaviours as they saw it, not specifically on the minutia of the interactions that occurred between them in the radiotherapy setting.

After considering these methodologies, I felt that an ethnographic approach was most suited to my research questions.

### 3.2.4 Ethnography

Silverman (2006, p.67) defines the term ethnography as *'… two different words: 'ethno' means 'folk', while 'graph' derives from 'writing'. Ethnography refers, then, to social scientific writing about particular folks'.* Ethnographic fieldwork tends to combine methods typically, participant observation, interviews, diaries and recorded data (Morse, 1991; Hammersley and Atkinson, 1995). This approach has been used by many researchers in healthcare settings (Seabrook 2004; Sinclair 1997; Atkinson, 1997; Becker *et al*, 1961).

In many respects ethnography has been described as the most basic form of social research. Not only does it have a long history (Baker, 2006), it also bears a close resemblance to the routine ways in which people observe and make sense of the world in everyday life (Hammersley and Atkinson, 1995). Ethnographic research involves the investigation of specific individuals in their social setting, where the investigator seeks to understand the feelings, thoughts and experiences of individuals (Polgar & Thomas, 1991). In support of this view, Berg (2007) argues that:

> *Ethnography places researchers in the midst of whatever it is they study. From this vantage point the researcher is able to examine various phenomena as perceived by participants and represent these findings as accounts.* (p.172)

In the process of collecting data, ethnographers describe what they see and hear while studying a culture, its practices and context. The method of observation involves identifying

the main features of the culture being studied and uncovering relationships between people (Holloway and Wheeler, 1996).

The ethnographer describes, analyses and interprets the culture and the local 'emic' perspective (insiders' perceptions) of its members. They compare these perspectives with theoretical ideas and explore the difference between the two (Holloway and Wheeler, 1996). Ethnographers argue that it is necessary to learn the culture of the group that one is studying and to experience their way of life before one can produce valid explanations for their practices and rituals. Therefore ethnographic studies often employ the method of participant observation and unstructured interviewing. As I was an insider and had worked as a radiographer and lecturer in the field of radiography, I was already familiar with the culture and the profession.

However, this was an ethnographic study of a particular kind. My study was a 'focussed' ethnography. A focussed ethnography is a more targeted form of ethnography and is led by a specific research question, conducted in a particular context (clinical education) or organisation (in a hospital) among a small group of people to inform decision-making regarding a distinct problem (students' dissatisfaction with their clinical education). Compared to traditional ethnography, it is more time-limited and in this case my fieldwork spanned a period of 10 weeks - 5 weeks in each hospital (see timetable of clinical placements in Appendix E), rather than months or years. My research followed a timetable of events (placements during the days and weeks), as is often the case in ethnography. The semi-structured interviews with the students followed the 3-week period of observation for each student (see Appendix E). In ethnography, focus groups can also be conducted along with or instead of interviews (Mayan, 2009). I decided to conduct the focus groups after the observational and interview periods in each hospital. This was done in order to gain a sense

of the clinical staff's response to findings from the observational periods and interview sessions with students.

## 3.3 Sampling

### 3.3.1 The setting and the students' prior learning

The department of radiography was part of a 'red brick' university, with an intake of approximately 40 diagnostic students, 20 therapy students and 12 assistant practitioners per annum. The radiotherapy undergraduate degree course followed a three-year route with approximately 50:50 split between academic and clinical placements. Three hospitals (three radiotherapy departments) were used for the rotation of students, which included a variety of clinical placements. As alluded to earlier in Chapter 1, the students' block plan is shown in Appendix B. The students in this study had completed an academic block of 11 weeks prior to commencing their first clinical placement (see appendix B). The basics are covered during this first academic block such as an introduction to oncology; medical terminology; manual handling and CPR (Cardiopulmonary Resuscitation); basics of X-ray production and simple body systems such as bladder and lung. The students also had a week of 'Academic in Clinical' (A in C – see appendix B), which comprises a week in clinical practice solely observing and completing academic tasks, which should be researched and written up. An example is finding out what certain medical terminologies and procedures mean. There were no formal lectures on preparation for clinical practice apart from a talk which lasted two hours regarding behaviour, dress code and the 'do's and don'ts' of clinical practice, the clinical folder and uniform fitting. The students spend a total of 19 weeks of clinical placement in the first year and 20 weeks in academic placement (see appendix A).

### *3.3.2 Sample size*

Generally, qualitative sampling consists of small sampling units studied in depth (Holloway and Wheeler, 1996) and Patton (1990) insists that no guidelines exist for sample size in qualitative research. For example, Field's sampling frame (1983) contained four informants, while Melia (1987) interviewed forty. Wolcott (1994), maintains that a large sample in qualitative research does not enhance the research, indeed it can do harm as it might lack the depth and richness of a smaller sample.

The size of the research population in this study (first-year cohort of radiotherapy students) was seventeen, 4 males and 13 females. Clinical rotation of these seventeen students was scheduled using three hospitals linked to the same university. Due to time constraints at work and organising cover for my lectures, I was able to negotiate a 10-week period - five weeks in two hospitals, to collect my data. Two of the three hospitals were chosen which were geographically closest. Hammersley and Atkinson (1995) encapsulate this reality of ethnography by stating:

> *Usually ethnographers study only one or a small number of settings, and usually ones that are geographically close to where they are based. Often this is forced by the cost of using more remote sites and the limited resources available.* (p.39)

Indeed Delamont (2002) acknowledges that '*One of the disadvantages of having a full-time job is the lack of time for observational data collection and the pressures to work on documents or do interviews*' (p.130).

Taking a view from the literature on the appropriateness of the size of the sample, the final sample size of seven was decided upon, four students in Hospital A and three students in Hospital B. Only three students could be observed and interviewed in Hospital B because of my commitments to lecturing that could not be re-scheduled during that fieldwork period.

### 3.3.3 Access and Consent

Ethical approval for the study was obtained from the School of Healthcare Studies (SOHCS), Ethics Sub-committee in June 2006. Approval was also given by the research ethics sub-committee, for the inclusion of students from the same institution. Prior to submitting the research proposal to the SOHCS research ethics sub-committee, written approval was sought from the Local Research Ethics Committee (NHS) and the Research and Development (R&D) departments from the two hospitals selected for this study.

Upon approval for the research to proceed, I then had to negotiate access to both hospitals and obtain consent from participants involved in the study. This was carried out one month prior to the scheduled data collection period.

The students were invited to participate in the study, verbally and by letter, together with a participant study information sheet outlining the title, purpose and methodology of the study (Appendix F). In most institutionally sponsored research, consent must be insured in writing. Typically informed consent slips contain a written statement of potential risk/benefit and some phrase to the effect that these risks/benefits have been explained. As a rule these slips are dated and signed by both the potential subject and the researcher or the designated representative (Berg, 2007). Students in this research were assured that they would not be identifiable from the interviews and observation fieldwork by using a code and not a name and that any potentially identifying features such as names and hospitals, including names of clinical staff, would be removed from the transcripts. Students were given a consent form to sign a month before the commencement of the study (Appendix F). They were assured that recordings and transcripts would be filed in a safe, locked place to protect the anonymity of the interviewees. The respondents were also given the opportunity of receiving a copy of the findings.

Access to the research setting was also important. Berg (2007, p.90) is of the opinion that field research can sometimes be divided into two separate phases, namely '*getting in*' and analysis. He describes 'getting in' as a process of securing access to the setting of interest, by using various techniques to acquire knowledge about participants, phenomena and activities. Analysis on the other hand tries to make sense of the information obtained from the getting in phase. Access negotiation of the clinical departments was essential to let the clinical manager and senior practitioners know when to expect me in order to carry out my observations. This was done one month prior to the clinical observational period and a schedule was drawn up as to when I would be expected at each clinical placement.

For the focus group sessions, I verbally approached the clinical radiographers as well as placing an invitation on the notice board one week before the focus group sessions were scheduled to take place. Brief written information was posted on the notice board outlining the purpose of the study, the minimum and maximum numbers of clinical staff desirable for each session, the time and that refreshments would be included. Their attendance at the focus group sessions was accepted as consent to their participation.

### 3.3.4 Sampling method

A non-random sampling method was used, that is, the sample selection was not determined by chance. This type of sampling is sometimes referred to as 'judgmental' or 'purposive' sampling. Purposive sampling is criterion-based and non-probabilistic because criteria are used to choose a specific group of participants (Holloway and Wheeler, 1996). I was interested in making the research group as heterogeneous as possible, therefore I included a diverse group which reflected the wider cohort of students. Purposive sampling has been used in many other studies. Seabrook (2004) used a demographically representative sample to ensure that a range of potentially influential characteristics was included, such as

age/gender/ethnic background. The students were first-year students on their first clinical placement as in this study; therefore the clinical environment was predominantly new to them. Purposive sampling was also employed by Chesser-Smyth (2005) whereby *'the profile consisted of direct school entrants, mature entrants with previous experience and both female and male status'* (p.321). In Chesser-Smyth's (2005) study, her sample profile was comparable to the population of general nursing students in Ireland at that time. Pearcy and Draper (2008) used a purposive sample of 12 student nurses, which was selected through a volunteer selection process. The rationale for choosing students 'new' to the clinical area was to gain a relatively unbiased, naive account of student perceptions of nursing. These studies formed the basis of my own sampling criteria. My sample of seven students from the cohort population of the study included diversity. The age range was from 18 to 34 years. In the sample, four participants were direct school-leavers and two participants had 1–3 years experience in previous higher education after leaving school. Of the five school leavers, one student was male and one female student was from a black and minority ethnic (BME) group.

## 3.4 Development of data collection tools

### 3.4.1 Observation: To see or not to see?

*'In observing behaviour, we can assess what the people observed understand by what they are doing'* (Deacon *et al* 2007, p.255).

Observation is a key part of ethnographic research (Wax, 1971). The value of observation is that it permits researchers to study people in their native environment in order to understand things from their perspective (Baker, 2006) and as Delamont (2002) states *'There is no substitute for being on the scene'* (p. 122). However, *'observation is a very accommodative term as it covers a whole range of direct associations with the object of study that a researcher may find themselves in due to their sight, hearing, touch, memory and feelings'*

(Dziebel, 1997, p.1). The observer may stay at a distance, come close, make themselves visible or invisible to the participants/objects. Field observation '*differs from some other models of observation in that it is not only a data collecting activity, but that it can also be a theory generating activity*' (Babbie, 1992, p.285). Observational methods can be divided along two dimensions - participant verses non-participant. With participant observation, the observer has the advantage of being able to become completely involved in the group. In non-participant observation, the researcher remains separate from the group and observes from a distance. Gold (1969) separates participant and non-participant observation further by marking out four distinctive roles of the observer: *complete participant; participant-as-observer; observer-as-participant and complete observer*. The *complete participant* is a researcher who takes part in group activities genuinely or through pretension. The *participant as observer* always declares their interests as a scholar but still tries to fully participate in the social activities under study. The *observer as participant* does not participate in activities. Their association with the participant's pursuits is in no way relevant to their regular activities. The *complete observer* always stays aloof and monitors the events without attempting to share the experience with the object of their study (Gold, 1969, p.30-39). As I was an insider and therefore was accustomed to the culture and the profession, I decided to adopt the role of *complete observer* so that I could stand back and fully observe the interaction between the students and radiographers and the body language and behaviours displayed by each group. I felt that because of the familiarity problem, if I engaged as a complete participant or participant observer, I might have missed significant points in my data collection as I participated in the treatment of patients. I had to give my full attention to watching and listening and recording as much as I could. Within ethnographic research itself, situations or observations can become so familiar that it becomes very difficult to really 'see' events or single out events that occur, and record these events as actually occurring, possibly

even when things appear to be happening in front of one's very own eyes (Delamont, 2002).

Becker (1971) argues that it may take a:

> *'…tremendous effort of will and imagination to stop seeing things that are conventionally there to be seen or expect to hear things from a person because the researcher has a knowledgeable background of that situation'.*
> (Becker, 1971 p.10)

As one familiar with the setting, I therefore had to keep an open mind and stand at a distance from where the 'action' was taking place.

The main disadvantage of all these observational approaches is that it is not possible to formally record all observations and by being there, the researcher influences the group, the well-known 'Hawthorne effect'. The Hawthorne effect suggests that by being subjects in a research study, the participants will alter their usual (routine) behaviour (Berg, 2007). Fortunately, as Berg (2007) stresses, this effect is typically short-lived. I already had predefined ideas and questions about the clinical education of radiotherapy students, which were driven from the literature and hence I wanted to observe specifically, the interaction between students and radiographers. I could not act as an 'invisible researcher' i.e. to observe what was happening without being observed and influencing the participants in anyway. I was known by many of the clinical staff and students and had worked as a clinical radiographer myself. I positioned myself in close proximity to the students and clinical staff in the treatment and preparatory/investigative rooms. After an initial period, as Berg (2007) suggested, the participants soon forgot or ignored the fact that I was there. In this way I was able to observe the participants in their natural setting.

The advantage of observational studies is that events being researched are actually witnessed there and then, rather than depending on second-hand information collected by questionnaires, recordings or reliance on memory recall (Deacon *et al*, 2007). Observations were noted in situ, during the fieldwork, to get a general idea of all the students' day-to-day activities between 9am and 5pm, and the interaction between students and the clinical staff,

as used by Patton (1990). I made more comprehensive notes immediately following this and included my reflections of my observations. This was done in an available office or in the canteen as done by Atkinson (1997) in his study.

Delamont (2002) stresses that in her ethnographic research in schools, which was conducted with Galton (Galton and Delamont, 1985), they *'never believed that ethnographers enter the field open-minded'* (Delamont, 2002, p.67). They entered the field with a shortlist of what they termed 'foreshadowed problems' which they derived from literature on other school studies. They used theoretical ideas and ideas derived from their knowledge of the field. Adapting their suggestions, I devised a checklist (Appendix G) as a basis of the observations in order to focus on what data I was recording in my field notes.

Field notes were taken for recording observations and are a traditional means of recording data in ethnography (Hammersley and Atkinson, 1995). There are many variations on how to take field notes. Some researchers wait until they have left the field and then immediately write complete records (Bogdan, 1972). Others take abbreviated notes covertly while in the field and later transcribe them into complete notes. I chose to undertake the latter. During my observations I also took note of the position of the radiographers and students around the treatment machine, the grade of radiographer, the specific treatment being undertaken and any communication between clinical staff and students and also the patients. Skog *et al* (2007) believe that this is the least structured way to record observation and is done in a descriptive style – noting observations and the verbal communications thought to be of importance as they occur. A notebook was used to record observations and the date, location and any relevant contextual information. In order to ensure that any recordings of observations were complete, I added to these field notes immediately following the period of observation. This time was used to reflect upon on what had been observed, and although time-consuming, it was deemed necessary. Delamont (2002) found it confusing to keep her

analysis of data together with the field notes. Hammersley and Atkinson (1995) suggest that they could be written in a separate fieldwork journal. Therefore, I followed this advice and after the observation period these were separated and kept in a different file. Keeping the analysis separate from the observations helped to maintain an organised mind, and avoided confusion when looking at the data. Further, keeping analyses separated kept them confidential.

The time for reflection had to be factored into organised schedules for observations, which could change last minute due to unforeseen circumstances such as possible machine break-downs (which were not infrequent) and delays during very busy periods. A period of half to one hour was set aside between observational periods, which proved to be an accumulative stressful effect over a period of six weeks (three weeks of observation in each hospital). Often lunch breaks and tea breaks were used so that I could ensure that my observations had been fully documented before moving on to the next clinical placement. Atkinson (1997) found that he used the hospital canteen during his breaks to record his analyses in a similar fashion. In addition, because of the pace of work and walking in and out of the treatment room several times for each patient, meant that I was often observed writing notes as I was walking. Was I trying to record too much? One danger is the temptation to observe everything and seek to report everything in the field notes with the fear of missing out on something when one withdraws from the field (Silverman 2006; Hammersley and Atkinson, 1995). This presents the researcher with an impossible task when trying to develop a more systematic analysis at a later stage. The challenge of the data collection stage is emphasised by Wolcott (1990, p.35) who states, '*the critical task in qualitative research is not to accumulate all the data you can, but to can [get rid of] most of the data you accumulate*'. In other words he suggests the importance of the decisions made in the analytical stage (discussed later) was linked to the stage of data accumulation as an on-going process. Indeed, during the first days of the

research, Atkinson (1997) found that he was writing detailed, general field notes including notes on the scenes where the observations were taking place. As the research progressed, Atkinson (1997) found that he was able to observe more selectively, and hence take more detailed notes on brief episodes of the interaction. This is certainly what I experienced during my observational periods. Adler and Adler (1994) used the analogy of a funnel to describe the process whereby the stages of observation get progressively narrower and direct the researcher's attention deeper into the elements of the setting that have emerged as theoretically/or empirically essential. Delamont (2002) stresses that what to look for depends on what the research is about. As it is not possible to observe and record everything going on for any length of time in a useful manner, the period of general observation should be short.

Following an initial short period of relatively unfocussed and generalised watching, '…*one should focus on recording a selective set of phenomena'* (Delamont 2002, p.130). Atkinson (1997) overcame this problem of selectivity, which was somewhat resolved through a process of development and emergence of significant themes during the collection and organisation of the field data.

Berg (2007) and Hammersley and Atkinson (1995) argue that spending many hours in the same setting without periods for reflexive recording may reduce the likelihood of producing quality, detailed notes. A saturation point of recording new and relevant data may be reached and the further recording of data may get repetitive therefore reflecting on this, I decided to spend 1-1.5 hours in each observational setting.

The field notes that I wrote were observational, personal and theoretical. Polit and Hungler (1987) describe personal notes as the researcher's own feelings during the research process and theoretical notes as an interpretive attempt to attach meanings to observation. I found that during my period of observation, the initial observations were very general and I attempted to note everything – such as the appearance of the treatment room (size, lighting, sounds and

equipment) as well as trying to make specific notes on actual treatment procedures. This was in addition to observing the transmission and acquisition of knowledge between clinical staff and students. After an exhausting day or two, I found a pattern emerging and was able to record more salient points. My checklist was a very useful tool in helping to keep my observations focussed and I decided that I could rely on my memory to write any additional notes. As suggested by Hammersley and Atkinson (1995), I tried to identify salient periods and junctures, such as changeover of shifts or during coffee and lunch breaks as they could prove to be significant times as far as the organisation of work and cascading information. I paid attention to notable changes in attitudes with reference to students' learning and group dynamics during such periods, and these became areas for further attention.

The limitations of non-participant observation for my study meant that I did not work as a member of the team and could not ask the students if they could understand what was being explained, questions about the treatment technique or how they felt about treating the patient. I was unable to delve deeper into the student's thought processes as this was a role that I was used to taking on as a clinical lecturer. It was often a challenge to remain in my role as observer. I often felt an overwhelming urge to ask questions because I was accustomed to teamwork. However I knew that these could be potential questions that I could ask at interview and made a note to myself when recording my observations.

Deacon *et al* (2007) are of the opinion that, observation is rarely sufficient in itself as a method; it lends itself to be used alongside other qualitative methods and '…*they also become starting points for in-depth interviews*' (Oppenheim, 1992, p.85). The observational data served to illustrate and make more vivid the material collected during the interviews (Galton and Delamont, 1985; Hammersley and Atkinson, 1995). Atkinson (1997) used participant observation (as he was an outsider unlike myself) and interviewing of medical students in the first year of their clinical studies. In support of these recommendations I decided that

combining non-participant observation with semi-structured interviews would produce rich data and obtain the reflections and meanings of the students being observed.

### 3.4.2 Interviews

'*Interviewing may be defined simply as a conversation with purpose*' (Berg, 2007, p.89), the purpose of course being to gather information. Moreover, '*the qualitative interview, is probably the commonest data collection method in qualitative research*' (Delamont, 2002, p. 128).

All structured interviews and most aspects of semi-structured interviews come under the question and answer type, where the interviewer sets the agenda and in principle remains in control of what information is produced. In this mode, the interviewer imposes on the information in three ways by selecting the themes and topics, by ordering the questions and by wording the questions in their own language (Bauer, 1996). Interviews were thought to be an appropriate follow-up to the initial observation period. In face-to-face standardised/structured interviews, the interviewer is involved in their implementation (Deacon *et al*, 2007). To control 'interview bias', strict protocols are developed to control all aspects of the interview process. A formal interview schedule is drawn up, that very much resembles a self-completion questionnaire. The wording of the questions in a standardised interview, are repeated exactly as well as the ordering. Where clarification of responses is required, a list of prompts is included in a neutral and standardised fashion. In a semi-standardised/structured interview process, it is desirable to elicit the interviewees' views rather than reflecting those of the author in order to maximise the validity (Deacon *et al*, 2007). Semi-standardised interviews are more or less structured questions that may be re-ordered during the interviews. Wording of questions is flexible and the level of language may be adjusted and moreover, the interviewer may answer questions and make clarifications. The

interviewer may also add or delete probes on the interview schedule to suit subsequent subjects (Berg, 2007).

Therefore with the semi-structured approach, there is freedom to elaborate, explore and have more of a conversation with the respondent rather than adhering rigidly to the question format as in the standardised interview. This can be seen as a narrative free-flowing approach (Morse, 1991) but with the use of an interview schedule nonetheless. Deacon *et al* (2007) are of the opinion that there is a danger that too much elaboration of the initial agenda could lead to digression from the research aims. In addition to this, respondents may want to discuss issues that are pertinent to other questions on the interview schedule. However, Berg (2007) regards this as an advantage as this can generate more information, bring clarification to the questions being asked and thus enable the interviewees the freedom of being able to talk about issues that mattered to them. Semi-structured interviews were used by Skog *et al* (2000); Park *et al* (2006) and Levett-Jones *et al* (2008).

Based on these methodological approaches, a semi-standardised approach was chosen as the best suited method as it was hoped to elicit free-flowing narrative type of responses using an interview schedule.

### 3.4.2.1 Design of interview schedule

The interview was preceded by a brief and polite introduction, explaining to the respondents the aims and objectives of the research and the topics to be covered. Explanation of the recording process and assurance of confidentiality was also given. The first section of questions (see Appendix H for interview schedule) was demographic, general, and aimed to be easy to answer, so reassuring the respondent and putting them at ease. This enabled me to develop a rapport with the participant. Deacon *et al* (2007) suggest leaving the more complex and challenging questions until later, by which time the respondent is more focused, relaxed

and more able to answer questions more fully and be able to recollect feelings, attitudes and situations more accurately. In their experience, Holloway and Wheeler (1996) found that students become more confident as the interview progresses. Probing questions were also used in the interview schedule. Berg (2007) suggests 'probes' can be used to provide the interviewer with a way to draw out more complete stories from subjects and to elaborate on what they have already answered in response to a given question, in order to elicit more information.

Following examination of the literature and the initial period of observation, I decided that four main areas needed to be investigated namely:-

- **Professional socialisation:** How the student felt at the beginning of placement, their expectations and transition from academic placement to clinical.

- **Workload:** How they felt during clinical placement, how did they cope with academic work as well as clinical training and any differences in workload between academic and clinical placements?

- **Learning and education:** How they preferred to study; what they thought of the assessment programme; quality of instruction from clinical staff; their expectations of the knowledge possessed by clinical staff?

- **Patient contact (to a lesser extent):** How the student felt about starting a conversation and any physical contact with them?

Field and Morse (1985), advise that interviews ideally should not last longer than one hour. However, Holloway and Wheeler (1996) feel that the length of time of the interview really depends on the interviewee. This is highlighted by Berg (2007):

> *'...talking with an interviewer about things that matter to the interviewee and in doing so in a way that provides him or her with appropriate feedback often provides subjects with a kind of intangible yet intrinsic rewards for subjects to*

*comment after a long interview that they did not actually realize so much time had already passed is common'* (p.107).

Berg (2007) adds that, simply because an interview contains many questions or only a few does not necessarily translate into long or short interviews.

Taking this into account, I nonetheless suggested an approximate length of time from the outset of the interview process, so that the participant could plan their day (particularly if they had a procedure that they had to take part in that day), and knew what to expect.

The interviews took place between February and March 2008 following the periods of observation in Hospital A and B respectively. The length of interviews for this study ranged between 2.5 hours (pilot interview) to 1.5 hours. The interviews were conducted in my office at my base hospital and small seminar rooms, which were quiet rooms with comfortable seating, lighting and temperature, located a small distance away from clinical activity. Drinks and biscuits helped to put the students at ease and they certainly seemed to be unaware of how quickly the time passed and appeared very happy to talk about their perceptions. The students knew me personally and felt comfortable, as I believe that they considered me an approachable person. This helped them to open up. Gray (1994) stresses that this prior planning of the environment is an important consideration towards establishing rapport and gaining the respondent's confidence in the first few seconds of an interview.

Papp *et al* (2003) expresses concerns when the interviews are conducted solely by the lecturer of the students as this may have an influence on their answers, that is, they may give what they perceive to be expected answers. I was very mindful of this fact, but felt that my rapport with the students and assurances of confidentiality nevertheless helped them give an honest account of their feelings even if it meant them mentioning people's names.

Berg (2007) believes that it is also important to consider non-verbal communication during the interview process, particularly if the interviewer has trespassed on some delicate or

unpleasant topic or area of the interviewee's life which they seem reluctant to discuss. Failure to recognise this he adds, may lead to the interviewer lying, not responding, change the subject or even withdraw from the interview. However, if this is indeed picked up, and no further probing occurs, the researcher may face losing valuable information. Berg (2007) suggests that if we demonstrate that we realise that the respondent feels uncomfortable and respect their feelings to some extent, the interview is more likely to continue.

At the end of the interview process, respondents were thanked and asked whether they had any further comments they felt may be relevant to the research.

The interviews were recorded using a digital audio recorder, transcribed verbatim in MS Word format and subsequently printed for the process of manual analysis, as prescribed by Chesser-Smyth (2005) and Patton (1990). The departmental office manager was employed to transcribe the recordings as this saved time. For ethical reasons, they were aware that the information should confidential and kept safe. I was mindful to read through the transcripts and listen to the recordings and correct any words that were unclear or did not make sense. Often technical jargon was used that was unfamiliar to the transcriber and a note of these queries was made on the transcripts and corrections were able to be made when I reviewed all the material. A copy of the transcribed interviews was also kept on password locked CD and stored in a locked safe (BSA, 2002).

Reflecting upon the interviews as a whole, it was felt that the students displayed willingness in answering questions and that they were open and candid with their responses. Even after lengthy interview sessions, they did not appear bored or keen to end the interviews. I felt assured that the observations and assumptions I had made previously during the observation period were an accurate reflection, which was legitimised by the responses obtained by the interview process. However on occasions, I felt that the students might have felt that they had a legitimate platform to voice their complaints.

### 3.4.3 Focus Groups

Focus group research *'is an enquiry that uses several group interviews of people who have experiences or conditions that are of interest to researchers'* (Holloway, 2008, p.101). This entails bringing small groups of people together in order to discuss issues identified by researchers (Deacon *et al*, 2007).

Here the intention was to elicit perspectives and thoughts of the radiographers, regarding specific topics or issues that emerged from the observation and interview stages. The approach to focus group interviews in health research is generally qualitative and can be used as a supplement to other data sources such as interviews, observation, or other methods of data collection (Holloway, 2008). The main strength of a focus group is the production of data from the social interaction and dynamics of the group. The dynamic interaction stimulates the thoughts of participants and reminds them of their own feelings about the research topic. The participants can build on the answers of others in the group and may generate new and spontaneous ideas which researchers and participants may have not thought of before or during the interview. In addition the participants may remember forgotten ideas or thoughts and indeed in this study a few of the radiographers reminisced on what it was like to be a student when they trained. Focus groups produce more data in the same space of time which could make them cheaper and quicker than individual interviews (Holloway, 2008). However focus groups do have their limitations and challenges that will be addressed in the following sections.

### 3.4.3.1 Focus groups: Sampling size and number of sessions

The area of research, and the topic that is being explored, generally determines the composition and number of members in a focus group (Holloway, 2008). The people in a focus group do not have to hold similar views about the topic area, nor do they have to come

from the same background or organisation. However there is research that also suggests that gender and age as well as social and psychological characteristics of group members may affect the quality and level of interaction and through this, the data. The number of focus groups depends on the needs of the researcher and the demands of the topic area. For a single research question the suggested optimum is between three and five in a group or groups, but the actual number depends on the complexity of the research topic. Group sessions generally last between one and three hours, depending on the participants' stamina and time. Most writers suggest six or seven members as the optimum number, as a group of this size is large enough to provide a variety of perspectives and small enough not to become disorderly or fragmented (Stewart *et al*, 2007). Experienced researchers generally advise having small groups of only three to four individuals at any one time on the basis that this size of group makes transcription simpler as it can be easier to distinguish voices (Holloway, 2008).

In my research two focus group sessions were conducted, one in the morning and one in the afternoon. As the radiographers were busy with their clinical work (and to overcome any problems with recruitment) focus group sessions were conducted over a tea-break and lunch-break. A total of seven participants were recruited in the tea break in the morning and six over the lunchtime period in hospital A. Due to time constraints for staff in hospital B, I conducted a series of three mini focus groups with two radiographers in each group, with a total of six participants in hospital B. In situations such as this where recruitment is difficult, it may have been easier to obtain the radiographers opinions by using a self-completed questionnaire, but this may not have been as fruitful as the rich data that was obtained from the discussions that ensued during the focus group sessions. This was decided from the outset of the research, as I could not have changed data collection methods between hospitals. Also research ethics approval referred to the methods used and not others.

### 3.4.3.2 Conducting the focus groups

The participants (radiographers) were contacted a week in advance to invite them to participate, following permission from the superintendent radiographer/radiotherapy services manager. This was done by putting a notice up on the notice board and radiographers writing their name if and when they could attend. As Holloway (2008) suggests, over recruitment was carried out, in case some participants were busy with patients and unable to attend – which in fact did occur on the days of the focus group sessions. Notice of being unable to attend was very last minute and the unpredictability of clinical work meant that I had to build in a degree of flexibility in conducting these sessions.

A room was allocated that was comfortable enough to accommodate up to eight people including myself. Refreshments such as drinks, sandwiches and crisps were offered, particularly as the radiographers were prepared to give up their tea and lunch breaks. This also had the effect of encouraging participation. A schedule of questions was used (see Appendix I) which had emerged following reading through my field notes and student interview transcripts. These were questions that required clarification of some points made during the observations and interview sessions and the radiographers' opinions on students' attitudes to teaching and learning, their feelings about the clinical curriculum and the academic institution and any factors which may have impeded them from giving the students high quality education experiences. A digital recorder was placed in an appropriate position in order to record the voices clearly. A sound test was performed with the group present in order to ensure this. Holloway (2008) advises the seating arrangements as a circle or semicircle and that the participants are made aware of the agenda, time management and procedures before the start of the focus group sessions. Refreshments made the radiographers feel at ease and they soon forgot about the digital recorder and happily engaged in conversation.

As per interviews, the same person was employed to transcribe the recordings as this saved time. Again I read through the transcripts and listened to the recordings and corrected any words that were unclear. Quite often, the transcriber could not understand what as being said, particularly when there were 6 or 7 radiographers in the groups and a few were trying to talk at the same time. When this occurred, and following my own checks the transcriber wrote 'inaudible'.

## 3.5 Pilot Study

A pilot study is a '*miniaturised walk-through of the entire study from sampling to reporting*' (Babbie, 1990, p.226). The pilot study differed from the final study only in scale. The intention of the pilot study was to uncover as far as possible, any errors in reasoning, design and methods before committing time and resources to the final research. '*Pilot work can be expensive and time consuming but avoiding or skimping on pilot work is likely to prove more costly still*' (Oppenheim, 1992, p.47). One student was used from my sample of seven students for the pilot study. The observational period during the pilot study revealed that initially I was being too general with my observations as I was trying to record everything. As patterns began to emerge and by referring to my observation list, my observations became more focused and I began recording salient points. As there were no major changes, I was able to include these observations in my final data.

The semi-structured interview with my pilot student lasted two and a half hours. Whilst I was initially concerned that I may be asking too many questions, I soon realised that the student was very keen to talk and certainly required few prompts. The student was very surprised that the interview had lasted that length of time as they appeared to enjoy the experience. I was mindful that as this was a semi-structured interview I had to allow for a degree of further exploration and responses by the student but nonetheless not allowing too much digression

from the initial probes to the questions. Again I was satisfied by the outcome of the interview and made no changes for the final study.

I used my first focus group session in hospital A, as a pilot and felt that overall it was successful in terms of number of radiographers, environment, refreshments and the recording of discussions. I was aware of the pitfalls with focus group sessions, such as trying to limit more than one person talking at the same time; therefore I made this explicit at the beginning of the remaining focus group sessions. I also experimented on the position of the digital recorder in order to ensure clarity of future recordings.

## 3.6 Consistency

Qualitative researchers look at ways to which their research reflects credibility and trustworthiness, terms which parallel the concepts of *validity* and *reliability* for qualitative researchers. Consumers of qualitative research thus have more confidence in research that is *consistent* across various contexts (Piercy *et al*, 2011).

Johnson (1997) defines validity as being research that is plausible, trustworthy, credible and defensible. One threat to validity is researcher bias that may result from selective recording of information, or the subjective interpretation of situations. Adler and Adler (1994) suggest that researchers should conduct their observations '*systematically and repeatedly over varying conditions i.e. varying the time and place in order to 'ensure the widest range of observational consistency'* (p.381). However Aunger (1995) contests this by stating:

> *The outcome of fieldwork is very much dependent on the co-operation of the participants, on many uncontrollable practical factors, and on the personal qualities of the anthropologist, whose own sociocultural framework substantially screens the knowledge that he produces. This all implies that the knowledge produced in the field is necessarily incomplete, distorted, tentative, speculative and thus essentially contestable.* (p.98)

Denzin and Lincoln (2005) accord with Aunger (1995) by stating that '*one of the issues around validity is the conflation between method and interpretation*' (p.205). However Denzin and Lincoln (2005) continue that there are methods that may guard against misinterpretation whereby a researcher should '*...act with energy to ensure that all voices in the inquiry effort had a chance to be represented in any texts and to have their stories treated fairly and with balance*' (p.209). Hertz (1997) maintains that the term 'voice' has many dimensions. Firstly there is the voice of the author and secondly there are the voices of the respondents within that context. According to Hertz, the 'voice' refers to how authors express themselves within an enquiry.

As Adler and Adler (1994) suggest, I repeated the observations of students in different clinical placements, hospitals and with different groups of radiographers in order to ensure consistency. Even though the number of participants in my study was small, the research generated a large amount of rich data through interviews and focus groups. This enabled me to cross-check the data with my own observational field notes, thereby reducing subjective interpretation or bias from my part. I therefore felt that I could potentially generalise my findings, particularly if this could be supported by the literature.

## 3.7 Analysis of data

Coffey and Atkinson (1996) argue that the analytical phase should not be considered as a distinct stage of research, but more of a reflexive activity, which should inform data collection. Therefore, it is not deemed to be the last stage of the research process, but part of the research design and data collection.

### 3.7.1 Thematic Analysis

The data from the observation field notes, student interview transcripts and radiographer focus group transcripts were analysed thematically, whereby I derived themes from the data. Thematic analysis is regarded as an essential method of analysis for researchers to familiarise themselves with and can be regarded as a grounding for other methods of qualitative research. According to Braun and Clarke (2006):

> *Thematic analysis should be seen as a foundational method for qualitative analysis. It is the first qualitative method of analysis that researchers should learn, as it provides core skills that will be useful for conducting many other forms of qualitative analysis.* (p.78)

Thematic analysis is a method for identifying, resolving data into constituent components and analysing the data to reveal characteristic themes and patterns (Coffey and Atkinson, 1996; Boyatzis, 1998). A theme captures something important about the data in relation to the research question, and aims to represent some level of patterned 'meaning' within the data set. Braun and Clarke (2006) ask the important question of what counts as a pattern/theme, or what size does a theme need to be?  Ryan and Bernard (2003) state that- '*themes are abstract (and often fuzzy) constructs that investigators identify before, during and after data collection* (p.85). Ideally, there will be a number of instances of the theme across the data set, but more instances do not necessarily mean the theme itself is more central. As this is qualitative analysis, there is no hard-and-fast answer to the question of what proportion of the data needs to display evidence of the theme for it to be considered a theme.  Researcher judgement is necessary to determine the themes. Furthermore, the 'keyness' of a theme is not necessarily dependent on quantifiable measures – but rather on whether it captures something important in relation to the overall research (Braun and Clarke, 2006).  A rich thematic description of the entire data set (interviews, focus groups and observation record) was conducted in order

to identify the predominant or important themes. The themes were then coded and analysed (described later under phases of thematic analysis).

Braun and Clarke (2006 p.83-84), state that the themes within the data can be identified in two primary ways: inductive and theoretical. With the inductive approach, themes identified are strongly linked to the data themselves, which bears some similarity to grounded theory. The themes may bear little relation to the specific questions that were asked of the participants. They are also not driven by the researcher's theoretical interest in the topic being researched.

Inductive analysis is therefore a process of coding the data without trying to fit it into a pre-existing coding frame, or the researcher's analytic preconceptions. In this sense this form of thematic analysis is data driven.

A theoretical analysis tends to be driven by the researcher's theoretical or analytic interest in the area and is thus more explicitly informed. This form of thematic analysis tends to provide a less rich description of the data overall and a more detailed analysis of some aspect of the data. Ball (2006) states that, '*When studying aspects of the visual, analytical endeavours tend to be organised around a substantive theme and explored from a theoretically informed direction*' (p.5).

Having considered these approaches, I found that my analytical approach matched both inductive (driven by the data) and theoretical (influenced by the author's theoretical interest surrounding the topic.). According to Tuckett (2005), engagement with the literature can enhance the analysis by sensitizing the researcher to more subtle features of the data.

The process of thematic analysis involved the following phases:

*Familiarization with the data sets (field notes, interviews and focus groups)*

*Coding and collating data (shaped by the literature and my interests)*

*Extracting themes from the coded data*

*Reviewing extracted themes*

*Reporting the themes and contrasting the findings*

These phases of thematic analysis have been used by authors such as Strauss and Corben (1990); Braun and Clarke (2006); Grogan *et al* (2009) and Tang *et al* (2009).

### 3.7.1.1 Phase 1: Familiarization with the data set.

This phase involved repeated reading of observational field notes, interview and focus group transcripts and searching for patterns/themes (Delamont, 2002; Tang *et al,* 2009; Strauss and Corben, 1990; Brown *et al*, 2005; Braun and Clarke, 2006). I decided to listen to the interview and focus group recordings before reading through the transcripts as I wanted to remind myself of the experiences, tones of voice used, or any hesitant answers which may not be obvious from reading the transcripts alone (Brown *et al*, 2005). Listening to the recordings and reading through the field notes and transcripts several times was extremely useful as it yielded new interpretations of the data which helped the emergence of themes - the inductive approach to analysis (Nelms, 1996; Tang *et al,* 2009). This was one of the main reasons for using a small sample size as this stage is very time consuming due to the quantity and richness of data collected. During this phase, notes were taken and ideas noted before the more formal coding process took place. No attempt was made to fit data into predetermined categories.

### 3.7.1.2 Phase 2: Generating initial codes

Following familiarization of the data and any initial notes and ideas made, initial codes were made. I identified regular recurring experiences and feelings described by myself, the students and the radiographers, as encouraged by Braun and Clarke (2006). I adopted a manual 'cut-and-paste' approach whereby I cut and pasted together recurring experiences. I

was mindful that I could use computer software such as CAQDAS (Computer Assisted/Aided Qualitative Data AnalysiS), NVivo (as used by Seabrook, 2004) and ATLAS.ti. However I felt more comfortable in manipulating the data manually. This may have been more time-consuming but I felt that it enabled me to get close to my data and better able to remember quotes and themes. Open coding involved reading the field notes and transcripts line by line which was followed by selective colour coding (Pearcy and Draper, 2008). This was done using different coloured highlighter pens, the colour coded in order to relate to a particular topic/theme or phenomenon.  Once pertinent sections of the data had been colour coded into themes I then used the '*spike*' feature on MS Word which enabled me to collect text on the clipboard from multiple locations and then paste it all at once into the relevant document. These recurring experiences were then formed into themes. The data coding was initially driven by ideas from the literature such as hierarchy; how students initially cope with workload; students' perceptions of work culture; students' perceptions of the quality of teaching by staff; learning styles, the assessment program, clinical staff pressures. This was the theoretical approach to analysis. Extracts from the data were matched to a particular code and were collated within each code. Following this, I read through the data sets again, to see if there were any emergent themes driven from the data itself (inductive approach) that had not been coded by the initial theoretical approach.

### 3.7.1.3 Phase 3: Generating themes

This phase followed the initial coding and collation of the entire data set. Ryan and Bernard (2003), state that there are many ways for discovering themes in texts. Such methods include looking at word repetitions; careful reading of larger blocks of texts or analysing the linguistic features of the text. I chose to look at repetition of words and larger blocks of text in my initial coding and thence development of initial themes. Initially as many potential

themes possible were coded together with a little of the surrounding data, so that the context was not lost. The codes and data extracts were sorted into identified themes. A thematic map (a chart rather like a spider diagram which illustrated how a particular theme or sub theme was connected to another theme) was then constructed within each of the data sets to give me a feel for how the codes related to each other and to themes and possibly overarching themes with sub-themes. At the end of this stage, the themes and any sub-themes, together with any extracts were collected for each individual interview transcript, observational field notes and individual focus group session transcripts (Braun and Clarke, 2006; Delamont, 2002; Tang *et al,* 2009; Strauss and Corben, 1990). As new themes emerged from the data, core categories were described. A constant comparative method of analysis, that is, analysing data as it was transcribed, was used to build core categories (Pearcy and Draper, 2008). The sub-themes collected at this stage were as follows:

> *Perceived culture of the departments; workload; hierarchy; competition; teaching; the effect of AfC on teaching; learning styles; the assessment programme; clinical staff pressures such as lack of time and CPD.*

### 3.7.1.4 Phase 4: Refinement of themes

Having collected sub-themes based on each of the student interview transcripts, observational field notes and focus group transcripts, the themes were then reviewed to see if there were any trends i.e. similarities or diversities of themes between the data transcripts. If the themes formed a pattern then progress to the next phase was made. However, if the candidate themes did not fit, I needed to consider whether there was a problem with the theme itself or that the data codes simply did not fit, in which case a new theme needed to be created or the existing one modified.  If none of these worked then they were consequently discarded from the analysis (Braun and Clarke 2006; Tang *et al* 2009). Two main themes were eventually formed after analysing all three data sets – *professional socialisation* (with sub-themes:

*workload; perceived culture of the departments; hierarchy and competition*) and *learning and teaching*, (with sub-themes: *teaching; workload; effect of AfC on teaching; learning styles; the assessment programme and staff pressures*).

### 3.7.1.5 Phase 5: Final report of analysis

In writing the final report, the intention was to give the reader a clear sense of the story told by the data. I tried to do this in a concise and coherent manner, avoiding repetition and seeking to maintain the reader's interest. Quotes were used to demonstrate the prevalence and justification of themes.

The themes that emerged from the transcribed interviews and focus group sessions and observations were pieced together to form a complete picture of the clinical experience. I worked on building an argument for the themes achieved through re-reading the related literature (theoretical approach). Aronson (1994) states that by referring back to the literature, the researcher gains information that allows them to make inferences from the data. Once the themes were collected and the literature was reviewed I developed two main chapters: Chapter 4 – *Professional Socialisation* and Chapter 5 – *Learning and Teaching*. These two chapters formed the two overarching themes from the data, each with subthemes pertinent to that section.

# Chapter 4

# Professional Socialisation: Learning to be a radiographer

## 4.1 Introduction

This chapter focuses on the challenges that first-year students on their first clinical placement may face in learning to be a therapeutic radiographer through experience in the workplace. Professional socialisation was one of the main themes that emerged from the data analysis. The data reveal something of the journey of these fresh-faced students, from different backgrounds and different life experiences, who were embarking on their first real clinical experience. Initially the students appeared very enthusiastic, wishing to learn as many practical skills as they could from their placement whilst continuing with their academic studies. However they soon realise that there are many hurdles to overcome in learning to be a radiographer. They underestimated the challenge of professional socialisation.

The theme explores the adjustments that students had to make when entering the clinical environment for the first time. In addition the analysis highlighted shortfalls that may affect their experience of clinical training.

The subthemes presented in this chapter take the reader through the students' journey and the challenges and opportunities that they faced in the socialisation process. These themes (to be discussed in full) are: wanting to learn it all; the inability to do it all; hierarchy and teamwork; competition. Following the presentation of these themes and the story that unfolds, the discussion at the end of the chapter aims to consider these themes in the context of the

literature discussed in Chapter 2. It was decided to present the chapter in such a manner (i.e. with discussion at the end of the chapter) so as to not interrupt the flow of the narratives.

## 4.2 We want to do it all

During my observation of the first week of clinical placement, the students appeared very excited and very keen to learn this 'new profession', in what was for them an alien environment. They appeared to have set themselves goals of completing all of their academic work, learning new clinical skills and completing as many objectives as they could:

> *RT07:…We are going to get loads done.*
>
> *RT01:…we are trying to get as much signed off in these two placements as we can… I want to do as much as I can.*
>
> *RT05:...by the end of the three years you are signed off as competent so you want to try and get started as soon as possible.*
>
> *RT03: …I did bring all my files with me every day and I was hoping to start doing revision.*

It can be seen from the above quotes that words such as getting '*loads done*'; doing *'as much as I can'*; getting competent *'as soon as possible'*; *'trying to get as much signed off'* and student RT03 bringing all her files to the clinical department '*every day'* in order to revise, all reinforce their initial good intention of working hard and doing as much as possible.

Even during my own observations, student RT02 seemed to want to partake in as much as possible and to try and understand everything in her first week of clinical placement:

> *I observed that s/he is trying to manoeuvre his/her way around the treatment room, trying to understand the techniques being employed and familiarise him/herself with his/her surroundings and people…My impressions are that the student feels they should know everything at this very early stage...S/he appears tense.*
> [Field notes, RT02; Linear accelerator placement: Hospital A – 22/01/08]

In addition to the good intention of wanting to do it all, the students' initial perception of clinical training was one of rejoicing at the possibility of some free time without homework and too much academic learning (in the way they would do when they have university study):

> **RT07:**…*we were like 'yeah we are going to have all the evenings free'.*

Student RT07 rejoices '*yeah*', as they would have plenty of time to socialise in the evenings – '*all the evenings free'*. This gives the impression that although the students may see the clinical placement as 'work', they regard the evenings as free to enjoy themselves and socialise.

The students also expressed how initially the pace of work was easy to cope with:

> **RT02:** …*I have said 'how long are the breaks?' They have gone 'oh take half an hour' so with half an hour break and then an hour's lunchtime and half an hour break in the afternoon that's a breeze as far as I am concerned…I think that we get loads of time to have a cup of tea and switch off.*

Here RT02 refers to the pace of work as a '*breeze*' as s/he clearly tells me of the exact duration of breaks and sees this as '*loads of time'* hence giving the impression that there is plenty of time to relax and take a '*cup of tea'* as s/he adds. This student's initial perception was one of clinical work being easy, not too demanding and having time to '*switch off*' from learning and socialise during the 'long' breaks. However some students found the schedule more tiring:

> **RT04:** *I work as well as being here so I am a fairly busy person. I don't really get tired. For the first two weeks I did find it tiring, I don't know whether it was because I was sitting down for most of the day, I find sitting down much more tiring than being up and doing something.*

RT04 reports that they are sitting down '*for most of the day*', which due to the set of the clinic implies that the student has nothing to do for long periods of time. This could be due to a lack of interaction with the radiographers themselves or that the radiographers may be discussing other things (this is picked up on in the next chapter). As a result, this lack of activity for this student resulted in lethargy. So for these students, the clinical environment was experienced as both manageable and tiring; partly through the construction of what they were and were not able to do (i.e. have breaks for reflection, or not being engaged in an activity).

However some students felt that the busy times gave them the opportunity to record a lot in their clinical folder, and they preferred being busy for this reason:

>   **RT01:**...*I prefer it when it's busy as I can get more signed off.*

This folder is a record of the students' competencies to practice ranging from 'observed' to 'competent' and it also lists objectives that need to be fulfilled and at which level. These competencies and objectives are required to be signed off by the radiographers who are supervising them and failure to do so by the end of their three-year degree course would mean that they would not be able to graduate. I shall return to the clinical competency folder in more detail in Chapter 5. However it is important to see its role as being meaningful to the experience of time.

This feeling of wanting to do it all, as identified at the opening of this section, highlighted that these students mostly placed value on the activity of work (its routines, its breaks, and its distinction from personal time). However, at times, the students appeared to feel frustrated, somewhat useless and demoralised. This sense of frustration and loss of control in the work context was observed in the case of a mature student (RT02) who had held a position of authority in the past:

> *…This is his/her second week on this placement and appears to be doing less than the first week. S/he appears very upset and is driven to tears and says s/he feels like giving up. S/he leaves the treatment room for 10 minutes in order to regain his/her composure. I follow the student and sit down with him/her for a chat. The student tells me that s/he is worried that s/he does not fully understand every aspect of the treatment...S/he makes reference to his/her age on a few occasions and having previously had a 'responsible job'. The student tells me that they feel ignored. My feelings are that this student may find that s/he has no control over what s/he is doing and moreover, what s/he is learning. S/he tells me that there is less structure here and is unsure of what his/her goals are. The Band 7 radiographer appears to be ignoring the student and this is more evident during breaks when there are only two radiographers in the room.*
> [Field notes, RT02; Linear accelerator placement: Hospital A – 22/01/08]

Here student RT02 found it difficult not having control over their learning, particularly as they once had a position of responsibility, inferring that they had had control over their work in the past. This frustration was exacerbated by the lack of direction or interaction from the radiographers that left the student feeling that they knew very little.

So the students' experience in the clinical environment reflected that the socialisation process into the work routines was not as straightforward as they had perceived and they began to realise that they were unable to 'do it all'.

## 4.3  You can't do it all

After a short time on clinical placement and the good intentions of wanting to do it all, the students soon realised that they could not and they began to find the pace and amount of work very tiring:

> **RT05:** *Yes, we were tired.  [RT04] and [RT03] were travelling home every day [and] …we didn't have the Internet to talk to them [fellow students]…*

Lack of Internet access in the hospital accommodation also made it difficult for them to contact their fellow students in the evenings. This student noted that the combination of the workday and travel left the students feeling tired. This isolated them somewhat, not only from

a social perspective, as only some of the students stayed in hospital accommodation, but also from an academic perspective, particularly if they had a group task to accomplish with other students who were in different hospitals.

The students began to draw comparisons with other students in healthcare who were not on clinical placement and felt that their university experience in their chosen profession may be very different to their initial perceptions:

> **RT06:** *I did find when you are working such long days at the end of the day you just didn't want to go out. All my flat mates [different health professions] are not on placement at the minute and they all go out every other night and I sort of get home and go to bed. Have a rest for a bit.*

Here student RT06 makes reference to her flat mates going out frequently - '*go out every other night*' as s/he states, but all s/he does is '*get home and to bed*', obviously too tired to socialise as s/he is '*working such long days*', something that they may not be accustomed to. In contrast, student RT03 lived with their family and travelled everyday to Hospital A:

> **RT03:***...because I am driving as well it depended what time I left [the hospital]. Most days I got home between 5.30 and 6 and then you sit there for half an hour and talk to my mum and dad telling them what I did that day and then I've got my little nieces as well and they want to play and I can't help but play with them and then TV and eating and then you go to sleep.*

For student RT03 who came from a close family BME (British Minority Ethnic) community, family life was very important. S/he tells us of the sequence of events after driving home from clinical placement which gives the impression that there is time to do little else apart from talking and being with the family '*and then TV and eating and then you go to sleep*'. This student also had strong religious beliefs and refused to remove their Sikh bangle when asked by the radiographers. This was for health and safety purposes should the bangle get caught in the equipment and for hygiene purposes. The other students had to stick to the rules and remove their jewellery. The radiographers had to be told that they should respect the student's religious beliefs that they did not entirely agree with. I heard the radiographers commenting

on this matter and the fact that the student pulled their cardigan sleeves over their hands when touching the patients – an observation that I recorded in my field notes. I took the opportunity to explore this further during my interview with RT03 and asked why they did this. The student responded by saying:

**RT03**: *'I don't like touching skin'*

This student found it alien to touch people with their bare hands partly because they were not accustomed to it and perhaps their family background made it difficult for them at first. They had to acclimatise not only to their surroundings and new culture, but also in learning to deal with people on a physical basis.

Some of the radiographers felt that during the first few days of clinical placement the students did not know what they were doing and were out of their depth:

> **Rad1:** *...they go around like headless chickens when they first come here.*
>
> **Rad4:** *Its nerve wracking for the students then because they're so out of their depth. It's quite scary for them. It's really frightening...the first day you're thinking oh even the smell of the place. There's so many different things that they see when they first come here I think and they look to you for the answer to everything.*
>
> **Rad2**:*In their taught block they should be given information…. this is what you're expected to do, you'll be expected to clean, and you'll be expected to fetch the patient....*
> [Focus group Hospital A: 02/03/08, am session]
>
> **Rad15:** *A lot of them feel quite insulted if you're going to teach them how to communicate.*
>
> **Rad18:** *They have got to learn to be Radiographers.*
> [Focus group Hospital B: 07/03/08, am session]

Rad4 described the students' first experience of clinical placement as '*scary*' and '*frightening*' and even commented on the different '*smell*' of the place. Perhaps this

radiographer was thinking back to their own first experiences as students. However Rad15 stated that their attempt at helping the students to be socialised within the clinical environment was met with offence by the student if the radiographers try to teach them communication skills. The students may see this as insulting or undermining their intelligence as the radiographer is trying to teach the student something they may see as so basic and fundamental.

After a matter of weeks the students began to feel overwhelmed when the pace of work accelerates.

> **RT04:** *…It has been quite tiring especially on the shift days where you are sort of having 4 or 5 patients in an hour and it is constant back and forth, back and forth.*

> **RT02:** *…It is more draining when there is one patient after another I have found.*

Student RT04 makes reference to the pace of work as a '*constant back and forth*', which s/he repeats, painting a picture of continually walking in and out of the treatment room in between treatment fields. Student RT02 added to this by stating that it was '*more draining'* when there was '*one patient after another'* again implying a constant flow of patients, and in my view giving the students little time to reflect and assimilate the knowledge developing from their work. The time to sit about with a 'cuppa' mentioned in the opening of this chapter by the same student (RT02) seemed to have gone.

The students reported that concurrent with this adaption to a constant stream of work there was a lack of enthusiasm to update their clinical competency folder and complete any academic work. This reluctance appeared to be exacerbated by their tiredness and they appeared to have undertaken little in the way of studying whilst on clinical placement:

> **RT01…***it was getting more difficult to get lots signed off as the staff thought I was rushing things a bit and it was tiring.*

> **RT07…***at the end of the 5 weeks we had done nothing. Absolutely nothing apart from the bare minimum of tasks and bits of homework by the stuff that we had been set…It's like 'I can't study, I'm too tired'… So, so tiring because I am not used to being on my feet for that long…*

Student RT01 felt that it '*was getting more difficult'* to get their folder signed off. It may be that this student began to feel that s/he may have set unrealistic targets for him/herself. This view may be confirmed by their comment that the radiographers thought s/he was '*rushing things',* perhaps a little too keen at first but now realising that the staff may feel the student is trying to accomplish too much too soon.

As far as the academic work is concerned, RT07 tells us that after five weeks they '*had done absolutely nothing'.* All that was done was the '*bare minimum'* of academic tasks that needed to be accomplished. The student states quite categorically that s/he '*can't study'* because s/he is '*too tired'* and then adds '*so, so tiring'* to stress how exhausted s/he felt. The student openly admits that this is because s/he is not accustomed to working long days, being constantly on the move – '*I am not used to being on my feet for that long'*.

It is also possible to see in these accounts the emergence of students' appreciation of the difference between the clinical and academic institutions. They talk in the interviews about the clinical training more as 'work' and the academic environment distinctly as a place of study:

> **RT05:** *[Clinical]…in the evenings the first thing you want to do is go home and get a bit more food and get changed and all that, relax a bit... [Academic] It was like being at school… …I feel that we are working at the moment we are doing a full-time job, that's the way I see it and we are more or less a member of staff… But this is like you have got a full-time job for 10 weeks, 11 weeks…and you are getting school work on top of working…It is a lot on your first placement…you are trying to adapt to clinical settings and you are given academic work to do on top as well. [sighs] You just can't seem to do it all.*

Student RT05 makes this distinction when s/he uses words such as '*working*' as applied to the clinical setting and '*school work*' applied to the academic institution. S/he sees the clinical training as a '*full-time job*' which is repeated, and the fact that they refer to themselves as working as '*more or less a member of staff*' infers that they carry out many of the tasks and duties of the clinical staff, leaving very little time or energy to do anything else. In addition the students are expected to study as RT05 states that they are '*getting school work on top of working*'. The fact that s/he uses words like '*a lot on your first placement*' and '*trying to adapt to clinical settings*' compounded by the '*academic work*' and finally a deep sigh tells us that '*you just can't seem to do it all*' giving the impression that it was difficult to cope with all the work.

As the students began to realise that they could not do it all, they began to look at more economical ways of studying, taking note of the academic institution's expectations and using this to help them decide what to learn and study. It became increasingly evident from observations and interview sessions that as well as being tired, the students were looking for time off from the machines to study. Whether this time would benefit their study or merely some time to recover from the pace of work, was unclear. For whichever reason, the first-year students could see that the third-year students were asking for time to study. This study time could be used to visit the library to look up some medical facts that they did not understand. Sometimes the clinical staff themselves directed the third-year students to the library. However, the first-year students appeared very reluctant to ask for study time unlike their third-year counterparts, as they were unsure if they were allowed this privilege:

> **RT02:** *We haven't taken any time to go and study. It would be nice to know that if we felt we needed to... be able to ask, because it feels a bit like we are expected to be on the machine and if we are not there, people are going to be thinking we are slacking somewhere…*

Student RT02 feared that asking for study time could be interpreted as being lazy or '*slacking somewhere*' which could give rise to a feeling of guilt, particularly as RT02 feels the expectation is to '*be on the machine*' at all times.

At the start of the clinical placement the students were very wary about what they could and could not ask, fearing overstepping the mark because they are only first-year students:

> **RT02**:*…I think they would find it strange in the first year because their [staff] own perception is the first-year...my understanding is, that you don't have to worry, this is your first year and you have three years whereas I think they would expect a third-year to be much more 'I need to get some stuff done, is it alright?' I think it is a different level. They may only see 1ˢᵗ years as not as important at this stage -why would you need to?... I can imagine it would look a bit suspicious and they would think 'well why does this person need to do all this study?'*

The student's comments try to make sense out of how the first-year students might be perceived by the staff. The comments imply that staff feel that the students do not require the time to study as it is their first clinical placement and they should be observing the experts at work at this stage. The fact that the third-year students are allowed study time suggests that there may be a perceived hierarchy between the cohorts of students particularly as RT02 describes first-year students as being '*not as important*'. This feeling of hierarchy amongst students will be described in more detail later. References made to the request for study time being perceived as '*slacking*', '*strange*' or '*suspicious*' certainly emphasise the feeling of wrong doing if they asked for time. If time for study was not an option, the students were beginning to realise that the only way to achieve their goals was to adhere to what was expected of them and find more economical ways of learning. My own observations served to reinforce what was being said by the students:

> *Student RT02 feels that s/he needs to learn what is expected of him/her in order to be able to progress. S/he admits that s/he has been browsing the Internet in*

*order to find information on skin reactions, but only on things s/he needs to know due to time constraints as s/he also has a part-time job.*
[Field notes: Hospital A - 24/01/08]

Here the student felt that as well as being economical in their way of studying and finding information in their 'own time', what may be an added burden for students is the fact that they may need to work in the evenings to be able to supplement their student income. In addition the students were beginning to realise that the academic and clinical institutions were very different in their structure and function. They draw comparisons between the two, treating the latter more as a structured full-time job with its own rules and regulations that they were expected to adhere to compared to the academic institution in which they were expected to study and have more of a student life. Moreover, what gradually becomes clear to them is that there is a hierarchical system in the clinical setting within which they need to find their place. How hierarchy and teamwork becomes obvious to the students is discussed next.

## 4.4 Hierarchy and teamwork: knowing your place

### 4.4.1    Hierarchy, staff and the politics of teamwork

Following a short period of acclimatising themselves to different working cultures, the students began to notice a hierarchy between the radiographers. Departmental politics played a significant part in shaping the culture and this affected the socialisation process. This hierarchy was noticeable in the way the managers dress and behave:

> **RT02**: *Blue-collar, white-collar type attitudes, yes that's very clear.  I think it is difficult to deal with because if you become a manager, more managerial level, that is naturally going to happen and people are going to start to see you as this person they can't really talk to because you are now the white collar.*

Here the student makes a distinction between the radiographers and clinical managers by referring to them as '*blue-collar*' and '*white-collar*' types, the latter being the managers. S/he follows this collar distinction with '*attitudes*' as s/he has noticed that the managers exhibit different behaviours. Managers were in authority and others begin to see them as '*a person they can't really talk to*'. The radiographers are beneath them. The student accepts that this is inevitable, because they have a position of responsibility and are in charge of the radiographers. Therefore the students may feel that they cannot approach and talk to the manager in the same way as they talk to the radiographers. The students are aware that they are at the bottom of the hierarchical ladder and the managers are at the top must be treated with respect.

Student RT06 noticed that a hierarchy also exits amongst the radiographers themselves:

> **RT06:** *...in [Hospital B] the senior staff didn't really seem to help the patients onto the beds. The younger ones got them ready and just when Kelly [Band8] and Miranda[Band7] came in when it was ready to actually do the bit that they needed to do. It was just left up to like George [male Band 6] and Sian [female Band 6] ...they sort of got the patient on the bed and they did all the manual handling....Kelly - I am very wary around her because she is the senior in charge of it all. I was like 'ooh' you have to be really careful. It's like 'I don't want to do something wrong here'...Kelly and Miranda...didn't speak to me because I was the little student in the corner whereas George would help me out more and show me more stuff.*

Here RT06 refers to '*senior staff*' (the Band 8 radiographers) and observes their responsibilities and the manner in which they work. S/he refers to '*the younger ones*' and associates position with age. These are the more junior staff (Band 6 radiographers in this case) and s/he notices that they do the heavy work and menial tasks compared to the Band 8 radiographer. They ensure that they help the patient into the room, onto the treatment couch and position the patient appropriately. The student refers to the '*manual handling*', inferring that they adopt the correct procedures of lifting the patient onto the treatment couch whilst the Band 8 radiographer waits until s/he can carry out the procedure – '*do the bit that they*

*needed to do'*. The hierarchy between the staff is very evident for RT06, to such an extent that the student is very nervous that s/he does not make a mistake - *'I don't want to do something wrong here'* as s/he states. RT06 realised that s/he had to wait to do what s/he was told in case s/he was reprimanded – *'you have to be very careful'* as s/he states. RT06 reports that the Band 8 radiographer did not communicate with him/her and indicates feelings of insignificance by saying s/he felt like *'the little student in the corner'*. *'In the corner'* suggests s/he is away from the rest of the staff, almost giving the impression of a 'naughty school girl'. This reveals the inherent hierarchy of the situation. In comparison to the *'the[Band 8] and [Band 7]...[who] didn't speak to me'*, RT06 does mention that the Band 6 radiographer makes an effort to try and include them in the procedure and explain things - *'help me out more'*.

A similar situation was noted by student RT01 in hospital B:

> **RT01:** *... I say to Sarah [Band5]'can I go for break now because I came in early?' and s/he says 'oh you better check with Louise' [Band7]. I am like 'you have qualified, you don't need to be asking permission?' I think some things they don't want to take control over...They let Louise. Like the imaging they don't do it, Louise does it.*

Here student RT01 has noted that when s/he asks the radiographers if s/he can take a break, the junior radiographers (Sarah) first have to ask the radiographer in charge (Louise). The student appears to be surprised that they cannot make this decision themselves as they *'have qualified'*. RT01 also notes that only the Band 7 radiographer carries out the imaging procedure, because they are in charge and have the experience to carry out the procedure, which also carries more responsibility. Experience and responsibility, linked to the Banding, is another aspect of the hierarchy between radiographers. During my observations in this department I noted that the radiographers were very aware of this hierarchy and had learned to respect it. However the student seemed to perceive this as the Band 5 radiographers not wanting the responsibility, noting that the juniors appeared to not *'want to take control'*. This

hierarchy between radiographers was also noted during my observations of student RT04 in the X-ray department during barium enema imaging of the intestines:

> *The Band 8 radiographer is in charge of the session. Two Band 6 radiographers assist the patient onto the couch and position the patient. They also organise the equipment necessary for the procedure. The administration of the contrast agent [which makes the bowel visible on the X-ray] is carried out by the Band 8 radiographer who then proceeds to take the images. The Band 8 radiographer gives the two Band 6 radiographers instructions on carrying out the task of re-positioning the patient between X-rays. Student RT04 comments that they see these as menial tasks for the Band 6 radiographers.*
> [Field notes; Barium Enema observation: Hospital A, 21/01/08, 2-4pm]

Student RT06 again noticed a hierarchy, but on this occasion between different professions, whilst on a clinic placement in Hospital A:

> *RT06: In the clinic [Hospital A] when I was with the nurses they were sort of always chatting to me and sitting down and chatting with me and talking about patients...Some of the other doctors would sit like this you know, looking down straight at the page, chatting to you while you are over in the corner and wouldn't give you eye contact... Some of them…[Band 6] who are actually the radiographers - when they were talking they wouldn't actually give you eye contact.  They would talk to you while you were behind their back and stuff...They were nice and some gave you the contact, so you noticed that.*

In this clinic session, the radiographers, nurses and doctors all work as a team to review the patients. RT06 mentions that the '*nurses...always chatting*' to them and discussing the patients. S/he also noticed that some of the doctors displayed a different type of body language towards her – '*looking straight down at the page* [patient's notes]' whilst continuing a conversation with the student and did not '*give you eye contact*'. RT06 interprets this body language as the doctor making a statement that s/he was superior to the other staff and that the student was at the bottom of the hierarchical ladder, as the doctor did not even turn their head to look whilst talking to them. Some of the radiographers, the student noted, behaved in a similar fashion, attending to the doctor's needs whilst turning their back on the student. The nurses were the only ones who really seemed to communicate with the student.

This could be read as the different professions finding way to reveal their positions in the hierarchy. One interpretation could be that the radiographers saw themselves as superior to the nurses, focused on responding to the doctor's instructions and not communicating with the student. Alternatively, the nurses might have seen themselves as superior to the radiographers, focused on supporting the students' learning. There does not seem to be a clear message here either way. Like RT06, my observations noted how the activity between the different professions appeared to focus on the apparently privileged status of the consultant radiologist during an ERCP (Endoscopic Retrograde Cholangio-Pancreatography) procedure in the X-ray room:

> *Before the procedure could begin, the nursing staff prepared the equipment and the trolley before the arrival of the patient and the radiologist – the radiologist would be the last person to enter the room. My observations noted that the atmosphere was a little tense; as though we were expecting the arrival of an important person and that everything had to be perfect. We had no part in the preparations and stood behind the screen with a young radiographer who appeared tense. S/he carried on with his/her own preparations and completely ignored us. Perhaps s/he was not used to this procedure and could not begin to contemplate explaining anything to us. The patient was wheeled in and the nurses hurried about their business and we waited for several minutes, poised for the radiologist's arrival. He was an older radiologist perhaps more from the 'old school' generation of radiologists, which made him appear quite aloof, and made us feel completely ignored. The nurses continued to fuss around the radiologist assisting him when he asked for equipment for the rather gruesome procedure. He also proceeded to give orders to the radiographer behind the screen, when he wanted her to 'screen'.*
> *A changeover of staff appeared to make a significant difference to the atmosphere and teamwork activities. A change of radiologist for patient three was very welcoming. He called us from behind the screen and asked us who we were and proceeded to explain the procedure in detail together with the equipment that was being used, a vast difference to the first radiologist. However a changeover in radiography staff was not so beneficial to both myself and student RT04. The radiographer was much older than the last radiographer and appeared more senior in position (later we discovered that she was not a senior member of staff). She entered the room and peered over her glasses in our general direction but did not introduce herself nor ask why we were there and then proceeded to ignore us. The student turned to me and commented, 'I'm glad you're here!' Student RT04 was a pleasant and confident mature student who was beginning to feel in the way, unwanted and very awkward. We were left alone for 10 minutes, after which the radiographer remarked in a somewhat patronising manner, 'Oh, I didn't ask if you wanted any tea?' A token gesture perhaps? At the end of the session I felt*

> *very disappointed, as had I not been present, the student may not have learnt*
> *anything at all. The hierarchy between the staff was so blatantly obvious; the*
> *radiologist at the top whilst the nurses and radiographers full of their own self*
> *importance, adhering rigidly to their own roles and territory – everyone knew*
> *their place, apart from us!*
> [Field notes; ERCP observation: Hospital A, 22/01/08, 2-5pm]

My observations note that nurses seemed to be paying attention to the radiologist whilst the radiographers continued with the technical aspect of the radiographic procedure. Everyone had their own role, but it was evident from the organisation of these roles and the activities attached to them that the doctor (radiologist) was at the top of the hierarchical ladder.

The atmosphere felt unfriendly and at times intimidating, which may be explained by the power and position that the radiologist had, or was given. This tension and wait for the radiologist made for an intimidating atmosphere. The radiologist would be *'the last person to enter the room'* and the nurses *'appeared tense'*. The first radiologist appeared very *'aloof'* with the nurses and gave very direct orders to the young radiographer. The radiographer appeared tense and quiet, which I would suggest was because she was afraid of making a mistake in front of the radiologist. In contrast, the second radiologist explained the procedures to RT04. The level of engagement with students varied from doctor to doctor. Moreover, RT04 thought that after observing radiotherapists (doctors who specialise in radiotherapy) and radiologists (doctors who specialise in radiology), the *'radiotherapists seem more approachable than radiologists', which* suggests that there may be a perceived difference in hierarchy within the medical profession itself.

After noticing the hierarchy at play, the students began to compare the hierarchy and cultures in different departments and where they see themselves fitting in.

### 4.4.2  Students and the politics of hierarchy: A question of culture

After a matter of weeks, the first-year students began to acclimatise to professional settings in different hospitals and to identify themselves with radiographer role models. The first-year students not only have to acclimatise to a clinical environment following a period in academic placement, but as they move between hospitals and settings, they also come to realise that the clinical environment culture is not homogeneous. The two hospitals the students were placed in were identified by them (in the interviews) as having different rules and ways of working. Before commencing their clinical placement training, the first-year students had been warned by the second and third year students of how 'horrible' the radiographers were in Hospital B. These remarks had also originated from the members of staff in other hospitals. I can only surmise that the second and third-year students seemed to have enjoyed scare-mongering the fresh-faced first-years who were about to embark on their very first clinical placement:

> **RT05:** *I was quite anxious because we had heard bad reports about Hospital B and the staff being nasty. Not student friendly, sort of thing. We knew it wasn't all of them but we thought we were in for a confrontation with someone…They said 'so and so, so and so… they've been saying this, they've been saying that' and that's what really played on my mind , 'am I going to fit in?' But then I had that mentality –'if they don't like me, screw them!'  That's what I thought. I'm not going to change my ways. I will change a little bit but I am not going to change and become a completely different person just to fit in down here.*

RT05 comments that s/he was *'anxious'* and was expecting a *'confrontation with someone'* - because of what s/he had heard from the other students. The student seemed worried about fitting in, but then immediately followed this with a rebellious remark *'if they don't like me, screw them'*. S/he appeared adamant that s/he would not *'change [his/her] ways'* just to fit in. This perception was also shared by student RT07:

> **RT07:**…*I was already kind of dreading it because I had heard so much about how Hospital B was the worst one and they were nowhere near as friendly.  I got*

*the biggest impression that basically they don't like students and they won't be friendly to students.*

RT07's comments also seem to concur with RT05's stating that Hospital B was *'the worst'*, *'nowhere near as friendly'* and that *'they don't like students'*. These words certainly depict a department that was not student friendly. Student RT03 also commented:

> **RT03:** *[heard it from]…other students from other years, second and third-years and Emma [member of staff]… [s/he] was saying they are not that student friendly in Hospital B and the staff in Hospital A also said 'oh you don't want to go there'. So I kind of had pre-conceived notions about what it would be like already.*

That student RT03 had heard negative comments from radiographers in Hospital A, seemed to add weight to the impression that this must be a terrible department to work in.

However this did not deter the students in making an effort when they eventually went to Hospital B for their clinical placement. Unfortunately, for some, their worst fears came true:

> **RT07**: *…so I went around and said 'hello, I'm [RT07]' and everything 'I am a first-year student'. They were like 'alright then'. [Band 7] introduced herself and the two that were closest to her but nobody else even really noticed me or made an effort or anything…'wow I'm here, I'm new and nobody gives a s\*\*t'.*

> **RT06:** *I was sort of like 'oh no I don't want to be here I want to go back to [Hospital A]... I don't think it was as bad as the very first day but I will still be kind of [pause] wary. Minding your Ps and Qs...I think you need to be in a little bond with the staff because then you feel more confident to ask questions and stuff... if you get friendly with the staff you don't have a problem asking them 'can I do this stuff?'... But if they are not nice to you, you are sort of hesitant to get involved.*

Firstly, introducing oneself, with no other support from academic staff on the first day of that particular placement, must have proved a difficult and nerve-wracking experience. The Band 7 was in charge of the machine and *'the two closest to her'* - the Band 6 radiographers - introduced themselves. S/he refers to *'nobody else even really noticed '* or *'made an effort '*,

which contributed to the student feeling left out and ignored. RT07's surprise and bitterness resonates in their final comment *'wow, I'm here and nobody gives a s\*\*t'*.

RT06 commented that s/he felt the need to be *'wary'* and minding their *'Ps and Qs'*-words which give the impression that they needed to be on guard. S/he remarked on the need to form a *'little bond'* with the staff, a kind of special relationship where friendliness is exhibited so that s/he would feel more confident to ask questions or if s/he can do something.

What follows seemed to endorse Hospital A as having the more positive work culture. Part of the reason for this could be attributed to the hierarchy between the staff in Hospital A being less evident than in Hospital B. The staff in Hospital A appeared to function more as a team with no obvious hierarchy between staff banding. This may have had an impact on the relationship between the first and third-year students' working relationship:

> *The first [RT06] and third-year students seem to stick together and the third-year is very willing to explain procedures to the inexperienced first-year. This appears to have a positive influence on the relationship between staff and students and between students alike... The students like to feel included and feel that they are treated as equals and not as lowly students.*
> [Field notes; Hospital A: 29/01/08].

This may be why student RT06 wanted to return to Hospital A as s/he felt that there was a more relaxed and better working relationship with the staff and third-year students.

However, students were not uniform in their reactions; some students thought that the negative comments about Hospital B were unfounded, as their experience proved to be very different. What student RT07 turned out to be more concerned with were the group dynamics and the treatment of patients, rather than the staff being horrible to them:

> *RT07:…the whole 'Hospital B staff are horrible'- that's kind of disproved but what really shocked me and what I really really don't like about this place is how unfriendly they are to the patients and I know I have heard [clinical lecturer] say 'that's because they have to fit six patients in an hour'… They call them 'Mr' and 'Mrs' instead of by their first names. They don't chat to them while they are on*

*the bed… They don't tell them what they are doing… it is just not friendly and I find it really not depressing but annoying because if I was a patient… and in Hospital A we were so friendly with them and nice like they were our friends… They almost enjoyed it because it was so laid back and relaxed but here it is all so- like patient and radiographer don't laugh together.*

By telling the student they *'have to fit six patients in an hour',* the clinical lecturer suggested some justification for the lack of patient contact/conversation. This statement infers that the radiographers do not have much time to talk to the patients as they need to keep to their work schedule and avoid delays. This directive has come from the hospital which set the target of treating a patient every 10 minutes. However the student in their early days of training interprets the radiographers' lack of communication as being unfriendly. Unsatisfied, the student draws comparisons between how Hospitals A and B communicate with patients. RT07 refers to patients being referred to as *'Mr and Mrs'* in Hospital B and not by their first names or chatted to whilst they are on the treatment couch - which seems to be the case in Hospital A. S/he refers to the staff in Hospital A as being *'friendly'* and *'nice'* and talking to patients *'as if they were our friends'* – comments that highlight friendliness. In addition s/he remarks that the environment was *'so laid back'* and relaxed. The student seemed to perceive Hospital B as more formal, which although professional, was an expression of a rather less warm staff-patient relationship.

During my fieldwork, I had the opportunity to observe first and third-year students working together in Hospital B:

*The third-year appeared quite robotic in carrying out her duties – almost devoid of emotion. She was very efficient and accepted by the staff and was very much a part of the team. She ignored the first year, even ignored myself, even though she was one of my students. I was surprised at how much she had changed from her first year days. She appeared always to be on her guard – afraid perhaps that her 'mask' might slip and reveal the real person beneath it? This was not accepted as normal behaviour to the first-year student.*
[Field notes, Hospital B 19/02/08].

From my perspective the third-year student had changed, adopting values, behaviours and attitudes that matched the account provided in later interviews with students about how staff in Hospital B interacted. It could be argued that the student acted in this way in order to be accepted by the 'crowd' (radiographers), but perhaps also because the radiographers report on the students' behaviour and performance and assess them by their own standards. Student RT05's initial refusal to change behaviour (as stated earlier) appeared short-lived and the student soon adopted a different behaviour. These changes in behaviour were part of the professional socialisation process that the students were going through. They began to behave in ways, which for some of them were alien, and against their own nature. They adjusted their behaviour somewhat, to fit in with that particular culture and learned that the different departments had different norms, ways of working and behaving.

The students' learning included learning to 'know their place' in each department. A student gives an example when s/he talks about learning when and where to sit and how fast to walk:

> **RT07:**...*it's alright for the staff because every time they come out of the room they sit down. Every time we come out of the room we have to keep on standing up. I really struggled with that because I have problems with my feet. When I am on my feet for a long time my arches collapse and it is really painful....I tried to kind of sit down whenever I could but like a student can't really nick a qualified's chair just because their feet hurt. You just have to stand up all day, every day and keep walking and walking and walking. They walk so fast...and I wasn't used to that and also because you are constantly learning new information...It was really tiring having to like pay attention all the time and be on the ball.*

This extract reveals how RT07 is beginning to see where s/he fits in within the hierarchy of the team. The student notes that the qualified radiographers always sit down when they are switching the machine on, whilst *'we'* meaning herself and the third-year student *'have to keep standing up'*. RT07 has already learned that the students have to stand up and not take a seat. RT07 had *'problems with [his/her] feet'* and needed to sit down, but comments *'you can't*

*nick a qualified's chair just because their feet hurt'*. Two issues are significant here. Firstly the idea of chair ownership - as qualified radiographers, they have earned the right to sit down, whereas it is unacceptable, rude or impertinent, for first-year students in particular, to take a seat whilst the radiographer stands up; they. are perceived to be at the bottom of the hierarchical ladder. The second issue is that although the student had *'collapsed arches' and* appeared to be in pain, s/he saw this as insufficient reason to sit and does not mention this to the radiographers. This was exacerbated by the radiographers' walking speed. The combination of *'walking and walking and walking'* and having to *'stand up all day'* appeared to have exhausted the student, but they knew their place and felt unable to comment.

During my observations I noted that students appeared to learn that their place was to stand at the periphery of the radiographers' work. This often meant that the students did not observe or were not explained the procedure of switching on:

> *RT07 follows the staff in and out of the room and stands behind them when they are switching on. Sometimes the student watched what the radiographers were doing, but as the procedure for switching on was not explained, the student did not bother to look after a while and would stand further back in silence or making conversation with someone else. There were so many people in the treatment room – nine in total. There were six radiographers, two students and an assistant practitioner. I have the distinct impression that RT07 is finding it a battle to gain control of the treatment machine with so many people around.*
> [Field notes RT07, 19/02/08; Hospital B].

This sense of learning, to be at the periphery, was not experienced by all students in all contexts (I shall return to this in Chapter 5). In reference to the earlier discussion about the contrasting clinical placements, the rather friendly approach of the radiographers in Hospital A resulted in the inclusion of the students in their banter and light-hearted remarks. Was this another form of learning their place whereby the students are included along with the patients in the friendliness? However on occasions, the radiographers' light-hearted remarks strike the

students as unprofessional and shocking – something that was not witnessed in Hospital B: even though Hospital B had some negative press and a reputation for ignoring students, they never appeared to be criticised for being unprofessional:

> *Whilst the machine was being 'switched on' the porter and the radiographers and even the superintendent (manager) talked about some trouble with the previous patient who had been 'exposing' herself and repeated what the patient had been saying and doing. Their conversation was very audible to which the student [RT04] remarked – 'very unprofessional – and the superintendent too! How do they expect us students to behave, when they behave like that!'*
> [Field notes 06/02/08; Hospital A].

The student was notably surprised particularly with the manager's behaviour by stating *'very unprofessional'*, and *'the superintendent too'*. RT04 seemed quite shocked and added how can the staff expect them to behave in a professional manner when the head of the Department appeared to behave unprofessionally.

So the idea of learning one's place in a hierarchy appeared to contrast with the importance of having a place. This was reinforced from RT04's comments:

> **RT04:** *I felt their behaviour was unprofessional... I think it wasn't so much stress. It was more the way they were reacting to it [the situation]and some people were laughing and other people were quite like, 'Oh that was horrible', just the whole mix of emotions that were going on with what was happening and the fact that everyone had to tell everybody else what had happened was quite...*
>
> **RS**: *Is that something that you would have expected?*
>
> **RT04**: *No, especially when there are sort of, higher members of staff here. Literally talking about something that hadn't even happened on the department, it had happened somewhere else in the hospital. That news travelled back here and every member of staff knows about it now. I just think if it was my mother I wouldn't like to know that people were talking about her in that sort of way.*

The student did not appear to understand the situation whereby some of the radiographers were '*laughing*' and '*the whole mix of emotions*' and found the situation quite upsetting. The

staff may not necessarily have been laughing at the patient but that the radiographers had 'learned' how to deal with their emotions and did not allow themselves to be upset by the situation. Again, being part of the team gave the radiographers access to news from other departments but the student interpreted this as gossip. Again, student RT04 makes reference to *'higher members of staff'* and the fact that this incident had occurred *'somewhere else in the hospital'*, added to her disgust. The student personalises the talk by stating *'if it was my mother I wouldn't like to know that people were talking about her in that sort of way'*. From an educational perspective it could be argued that the student had not yet learned to distance herself from situations at work and responded quite personally. Alternatively, s/he could be applying to the clinical situation his/her understanding of respect for the patient learnt in the academic environment. This student had noticed that not all the radiographers acted in the same way and s/he referred to a *'mix of emotions'* which s/he found confusing.

Student RT01 had a similar emotional response to how radiographers treated the patients:

> ***RT01****: ...there are a few things that have annoyed me about the way radiographers treat patients. That's annoyed me slightly, the fact that if it is an elderly patient they need to know what is going on. In therapy you have to stay very still...you can treat them [the patient] and they can still talk but some of the radiographers just talk to themselves instead of telling the patient because if I was there I would be telling them 'right this machine is going to move around you. We need to just move you slightly. Just relax' but they did it without saying anything. It stressed me out slightly that they didn't have the decency to say. They [the patient] are not feeling very dignified are they lying there with their pants down? So I just felt that they should be explaining to them rather than just getting on with it.*

Here RT01 reported experiencing a mix of emotions regarding the patient. The student felt that more explanation should be given to the patient if they are elderly and trying to keep still. They felt that it was unacceptable that the radiographers talked amongst themselves. However, it is normal for radiographers to communicate instructions amongst the team. The student also refers to the indignity of the patient makes particular reference to the patient *'lying there with their pants down'*. The student was not familiar with how a team operates

when treating patients and that they make reference to the patient's indignity may be due to these new students not being used to seeing people undressed and in undignified positions. They feel pity towards the patients and appear very critical of the radiographers' behaviour. RT01's frustration on the treatment of patients extended to other patients' attitude:

>    **RT01:** *...His face it was appalling to be fair and patients walk past and I think 'don't stare at him'.*

Again the student was quite defensive of the patient being stared at and could not comprehend people's curiosity to look at gross deformities. This shows a lack of experience and the student's need to learn to adjust to this new culture. Generally, however, the students do learn to cope and be a part of the team, whether this fits in with their own personality and norms or not. However subgroups can also form between staff:

>    **RT07:** *There was a bit of trouble on my machine with this one [person] who really didn't like me, s/he made it quite difficult for me especially towards the last 3 weeks... S/he had a problem with the Band 7 on this machine and undermined her authority all the time. And then I took the side of Becky [Band 7] because she was absolutely harmless, really nice and Amy [Band 6] disliked her for all the wrong reasons and then Amy just really took it out on me and everything that went wrong. She really didn't like me at all... everyone else on the machine noticed it and they kept sending me off to do other jobs just to get me away from Amy.*

RT07 tells us of the perceived unpleasantness of the situation on her machine by using negative words such as '*trouble*', '*difficult*', '*problem*', '*undermining his/her authority*' '*disliked*' and '*didn't like me at all*'. The student did not seem to understand the apparent negative attitude of the Band 6 radiographer and decided to '*[take] the side of Becky [Band 7]*'. RT07 sensed that the rest of the radiographers are aware of the situation, as s/he stated: '*everyone else on the machine noticed it*'. The radiographers then appeared to be trying to diffuse the unpleasant situation by keeping the radiographer in question and student apart.

The importance of acceptance in the group has been noted by many of the students in their comments listed previously in this chapter, therefore it was not surprising that the students looked for ways to fit in and be accepted into the group of radiographers:

> **RT02***: I wanted to be helpful and I wanted them to like me. That was definitely a big priority. I was scared of that 'oh you are just a little, unhelpful or getting in the way or oh no we are going to have to start explaining all over again to this person who doesn't know anything'.*

RT02 was very keen to be a part of the team and one of the ways in which s/he thought this could be achieved was to be *'helpful'*, to offer his/her services, to carry out errands and be useful. S/he also stressed that s/he *'wanted them to like me '*- and fitting in was of utmost importance. The fear of being an outsider was evident by their reference to feeling *'scared'* or being perceived as *'unhelpful*' and *'getting in the way'* - as if their presence was not wanted or a nuisance because they needed procedures or explanations to be repeated. It appeared that it was challenging to be accepted because students knew less, created more work for the radiographers and possibly the radiographers lacked an understanding about the students' role and expectations:

> **RT02:***…these creatures have arrived and they are not really sure what to do with us, how much they should do… maybe if they knew a bit more about what we need to do in the first week and at least they know they are expected to step back and that's what is expected of that person. Again that is going back to that really strong structure which is not appropriate for the work because you have to work alongside them...*

RT02 refers to his/herself as a *'creature'*, a lower form of life and thus positions his/herself at the bottom of the hierarchical ladder. It was apparent that the student felt that the radiographers were unsure of the objectives for the first year students and how much work the students should do. Student RT02 refers to a *'strong structure'* - that is, the staff culture

that could not be broken or opposed because *'you have to work alongside them'*. The comment suggest that the student recognised the need to adapt rather than the system adapting to them. RT02 had no choice but to go along with how the radiographers worked and accept that culture and structure and seek to be accepted by the team. But s/he did not appear to be entirely happy with how the group functioned as s/he felt it *'is not appropriate for the work'*.

The impact of having to adapt to, or not being able to adapt to different working cultures, left student RT04 feeling upset, frustrated and inclined to give up:

> **RT04**…*I was just a student like - 's/he's only a student s/he doesn't need to do this oh don't worry about it' sort of thing. So it was whether the staff would interact with me, or whether the students would be left out…It got worse was when I went to x-ray [Hospital A]…The whole week in x-ray stressed me out. Possibly because I had had such a horrible morning the first morning being ignored I didn't feel like I wanted to go back there in the afternoon. I didn't feel like I wanted to go back there for the rest of the week.*

If we examine student RT04's words, *'only a student'*, *'doesn't need to do this'*, *'left out'* and *'ignored'*, we get a sense that RT04's feelings of exclusion, functioning only at the periphery of the group of radiographers.

There is opportunity for the radiographers to report on student behaviour, appearance, punctuality, attitude to staff and attitude to patients. A short 'Behavioural Assessment Form', comprising tick box answers in the main, is completed on-line and can also accessed remotely by the academic staff and tutors. However these forms are either completed at the end of the clinical placement or weeks after. This does not give the students time to improve on any behavioural or attitudinal problems which may be causing friction within the team. The assessment should also give the student an idea of how they fitted in the team and if the radiographers saw them as a useful member. The radiographers expressed strong feelings towards the behavioural assessment forms:

*Rad 6: I think those forms should be useful….and not leaving it to the end of their placement saying they didn't do this, they didn't do that. But sometimes you do tell them things and it doesn't always sink in and then I think it has to go on the form.*

*Rad 2: I know now it's gone electronic, easier to manage, but quite often we don't fill them in until after the students have gone and when we get the time to complete it. Sometimes I do it at home. The students used to physically hand the paper form and they had to read it and sign it and discuss it. That doesn't happen anymore.*
[Focus group Hospital A: 02/03/08, am session]

*Rad 15: They should have some kind of feedback, halfway through or at the end or both, some kind or set aside time just to say "how's it going? What do you think?"*
[Focus group Hospital B: 07/03/08, pm session]

*Rad12: People sometimes people feel uncomfortable putting things on paper when you think, "oh I've given them a rough time and they've actually turned out to be fine." But that defeats the object if this halfway through their placement. Do you think clinical lecturer should do more to organise, if it's going to be a halfway house?*
[Focus group Hospital A: 12/03/08, pm session]

It was evident that the radiographers felt uncomfortable writing negative things about the student for fear that they may cause them distress or that the student may think that the radiographer is making an unfair assessment. However, they recognised the value of giving feedback part way through the placement so that the students would have opportunity to improve. Yet, this was not required and time and logistical barriers worked against this happening.

Following a period of acclimatising to new working cultures and learning their place, the first-year students begin to perceive a hierarchy between not only staff and staff and students but also amongst the students themselves.

### 4.4.3 Hierarchy amongst students

The hierarchy amongst students was particularly noticeable during my observation of student

RT07 and a third-year student who were working on the same treatment machine:

> *There appears to be very little communication between the first-year student [RT07] and the third-year student, the latter being somewhat aloof with the new student. The first-year student hoped that they would learn something from the third-year, but in fact does not appear to be learning anything whatsoever. The third-year student appears to be acting like a qualified member of staff in their attitude and looking down at the first-year. As a result, I observed that over a matter of days, RT07 is progressively holding back. S/he seems to know his/her place – particularly when we all have to leave the treatment room to switch the machine on in order to deliver the radiation treatment. All the clinical staff sit around the control panel, with the third-year student standing very closely behind the team, whilst the first-year student stands at a distance behind them propped against the wall or workbenches behind them. At one point, to my amazement and dismay, the student offers me some hand cream. They obviously feel left out and boredom was creeping in.*
> *At this point I feel torn between my duty as clinical lecturer to step in and say something and being an observer.*
> [Field notes, Hospital B 19/02/08].

My observations were further reinforced particularly by this student's statements during

interview sessions:

> **RT07:** *…S/he is just like one of those perfect – like they are always on assessment and never really relaxes; talks to patients like a staff should talk to a patient, not like in a really formal way not like friendly.  In a really concerned, I am a professional - you are a patient, kind of way.  S/he talks to them just like that.  S/he does everything just as s/he should.  S/he is always the first one in the room walking so fast that I can't keep up with [him/her] - really enthusiastic about everything - always doing extra jobs, asking if s/he can help.*

Analysing RT07's remarks, words such as *'perfect'*, *'always on assessment'* and *'never really*

*relaxes'*, may infer that they think that the third-year student is behaving in such a manner

that they cannot put a foot wrong; *'perfect'* implying no mistakes, giving the impression that

they have learnt how to work and behave. However the fact that student RT07 has remarked

that the third-year is behaving as if s/he is '*always on assessment*' and '*never really relaxes*', may indicate that the third-year student is nervous, does not want to make any mistakes and show the radiographers how good s/he is in front of the first-year student. The third-year student has reached the stage whereby being a qualified professional is soon becoming a reality, and they may feel that they have to prove themselves and be accepted as one of the team, distancing themselves from being an inexperienced first-year student. Student RT07 also noted the third year-student's enthusiasm by stating that '*s/he is always the first in the room*' and '*doing extra jobs*' which implies that the third-year is keen to try and please the radiographers. Student RT07's remark that the third-year is '*walking so fast that* [RT07] *can't keep up with him/her',* gives the first-year student the impression that s/he has to catch up with the third-year. As a result, RT07 begins to hold back as nobody appears to be taking any notice of them. The third-year student's acceptance by the radiographers is noted in their behaviour as previously reported in my field notes. In contrast, the radiographers were seemingly oblivious to the first-year student standing alone at a distance from the team. The difference in treatment reflects the hierarchy that appeared to be developing between the first and third-year students.

This behaviour can also be supported by my observations of a different group of first [RT06] and third-year students within the same hospital (namely Hospital B), but working in a different department. Again the third-year student was working very efficiently and confidently, which seemed to impress the staff, but hardly communicated at all with the first-year student:

> *Their [third-year student] body language towards the first-year is cold – i.e. no eye contact and verbal communication - brusque. As a result, RT06 pulls back a little and started to lose confidence in partaking in the procedures. RT06 begins to look at me almost with a cry of help on their face. The radiographers are aloof with the first-year but very communicative with the third-year student.*
> [Field notes with RT06: Hospital B, 26/02/08]

Once again the above observations bear similarities to the operation of a hierarchy, which appeared to impact on the first-year student's confidence and learning. Following my observations, I was compelled to ask the radiographers, during the focus group discussions, if they thought that their attitude towards first and third-year students was different and if so, why? The focus group discussions revealed that the radiographers admitted treated third-year students differently because they were more experienced and a 'spare pair of hands'. They also admitted (reluctantly and ashamedly) that they were probably contributing to the construction of this hierarchy amongst students, thus creating more resentment between the students, forcing some to feel left out, ignored and bored. But as the focus group comments show below, this was not intentional; they suggested radiographers had their reasons for treating the students in level one and three differently:

> *Rad2:If you've got a third-year, we've had one up now - a third-year who's doing an assessment and obviously needs as much experience as they can get and then a first year as well. I think we intended to sort of push the third-year to do team leading and do this, that and the other, and then maybe we are causing the first-year to stand back a bit.*
>
> *Rad1:I don't think people do it consciously but what I was seeing and what the students were saying as well... The students didn't say the staff were causing it, but they were saying, "oh you could see that they [third-year] were almost like one of the team." And of course I think subconsciously we are creating this power struggle and hierarchy between students. Some of them get on like a house on fire.*
>
> [Focus Group Hospital A: 04/03/10 am session]

The statements above confirm the suggestion that the radiographers treated the first and third-year students differently. The radiographers argued that this was because the needs and objectives of the different groups of students are different and that they are at different stages of their training. The third-year students' final assessments are deemed more important and urgent for the radiographers rather than spending time explaining procedures to first-year

students on their first clinical placement, who have plenty of time to fulfil their objectives. However this was not how the first-year students perceived the difference in attitude towards them. The radiographers admitted that '*maybe we are causing the first year to stand back a bit*' and that '*I think subconsciously we are creating this power struggle and hierarchy between students*'. This last comment shows that whilst the radiographers acknowledged that they may be contributing towards this socially constructed hierarchy, it was not the radiographers' intention.

One of the radiographers remarked on what the first-year student had said – '*oh you could see that they [third-year] were almost like one of the team*', but that this apparent hierarchy and power struggle had been constructed by the students themselves by the sheer nature of the competitiveness between them:

> *Rad8: Because of the different hierarchy between students and the power thing - it's who wants to be the best out of them.*
>
> [Focus Group Hospital A: 04/03/10 pm session]

The perceived hierarchy between the students seemed to create an air of competitiveness amongst them, which was not only between different cohorts of students, but also between students of the same cohort i.e. amongst the first-year students themselves.

## 4.5  Competition

My general observations were that after several weeks of clinical placement, the students began to collaborate with one another and learn from each other. The interview sessions gave this impression as the students mentioned that they would discuss patients, workload and studying whilst in the students' room.  This may have been as a direct result of learning to cope with the workload and find more economical ways of learning. However competition

between the students also became evident. The students needed to become competent to perform specific tasks, procedures and treatments during their radiotherapy training and the students' evaluation from clinical staff and having their competencies and objectives signed off in their clinical portfolio (to be discussed in greater detail in Chapter 5), was not designed as competitive exercise.

This air of competitiveness became very evident from my observations and interview sessions with the students. This manifested itself as competing with who could do the most, be the best and who had received the most gifts from patients.

Some students were very open about their competitiveness and how seriously they considered other students as competition. This was particularly evident between students RT01 and RT05:

> **RT01**: *Yes, I am very competitive. We are all competing to get our competencies signed off for this first placement. Me and [RT05] are quite competitive. It annoys me how competitive I can get but I can't sort of let something go. I have to be better.*
>
> **RT05**: *Because I am a very competitive person I like to get as much as I can.*

Both students appeared to be competing against each other to get as many competencies signed off in their first clinical placement but RT01 makes reference to *'all'* the students competing. RT05 wanted to be the best and beat all the other students not only by getting as many objectives signed off but also reaching competency level (competencies range from observed, assisted, performed and competent and will be discussed in Chapter 5):

> **RT05**: *…Give me goals to sign off things and I'll try to fill up as many of the slots [in the clinical competency folder] as I can and get them signed off as competent. Then you look at other people's folder…'I've got to beat them'… you see that some people have got some things signed off and you think 'right I've got to get that signed off'*

Their clinical competency folder is a measure of their progress and competency, a point that I shall return to in Chapter 5. RT05 appeared to focus on this competitiveness by using words such as *'try to fill up as many of the slots'*, *' look at other people's folder'*, *'I've got to beat them'*. Comparisons were made as students appeared to scrutinise each other's clinical competency folders which added to this competitiveness – as RT05 states *'you see that some people have got some things signed off and you think right I've got to get that signed off'*. The competitiveness was not universally accepted. RT02, who was a mature student, disliked the competitiveness that was displayed.

> **RT02:** *…I have felt in the common room that there is a slight competition and I don't like that. That really bugs me and I find it really difficult. It is not a competition! We are not here to see the worst patient or the best patient or have the most experiences. I can't - I don't like that environment.*

RT02 felt that they were not there to see *'the worst patient'*; the *'best patient'* and the *'most experiences'*. This student admitted s/he found it difficult and the fact that it was discussed in the common room in front of other students only served to exacerbate the problem of the competition that was constructed by the students themselves. The student's disapproval of the situation that appeared to be developing was clear in their words: *'That really bugs me'*, *'It is not a competition!'* and *'I don't like that environment'*.

RT02 inferred that maybe this was displayed by the other students:

> **RT02:** *…I would be more worried that it would be more of a competition whereas generally older people would discuss that sort of thing in a much less competitive way…I have stepped back from it a bit…I don't want to play that game of 'I've done something better than you'.*

The student referred to *'older people'* (and as a mature student may include her/himself) discussing their experience in a *'less competitive way'*. RT02 chose to exclude him/herself from this competitiveness as s/he tells us - *'I have stepped back from it a bit' and* sees this

competitiveness as immature behaviour - '*I don't want to play that game of 'I've done something better than you'*.

During the interview sessions, I asked student RT01 if their competitiveness upset other people:

> **RT01**: *Oh no, I don't think so. We all have a banter so it has not annoyed anyone as of yet…I don't really think about it. I am more of a 'me' person. I do sometimes stop and think and sort of say to myself 'what am I doing' but I don't think I am affecting other people.*

It is clear from this statement that RT01 seemed very unaware that the competitiveness may upset some students and it was meant to be light-hearted – '*We all have a banter*' as s/he reports. This did not appear to bother RT01 as s/he referred to him/herself as a '*me person*' which implies that they thought about themselves first before others. However, RT01 was aware of their behaviour – '*I do sometimes stop and think and sort of say to myself 'what am I doing'* but this did not appear to deter him/her from displaying this behaviour as they thought that it is not causing any harm - ' *I don't think I'm affecting other people'*.

The ritual of gift giving further exacerbated the competition between the students. Some students resented the apparent boasting of the number of gifts their peers had received:

> **RT01:** *God [RT05] went on about that so much! It was so annoying.*
> *'Ooh look, I got a pen, I am the best student in the world, I am fantastic me'.*
> *It gets on my wick.*

RT01 appeared quite disturbed by RT05's comments as s/he '*went on about it so much*' which implies that RT05 may be very competitive themselves. RT01 found this '*annoying*' and it got on their '*wick*'. The fact that RT01 felt that RT05 saw themselves as '*the best student in the world*' and '*fantastic*' simply because of the gifts, only served to heighten

RT01's competitiveness. RT01's manner of speech gives the impression that s/he thought that RT05 was boastful about gifts - *'Ooh look, I got a pen'*.

During my observations I noted that RT01 received chocolates from the patients they had assisted in treating and commented on this [Field notes; Hospital A: 25/01/08]. Some students bragged about the presents they received from patients and appeared to use them as a form of currency or a measure of how good they were in practice.

> *I observed student RT05 telling radiographers and other students how many presents s/he had received from patients. For RT05 it was a measure of his/her likeability, popularity amongst the staff and how good s/he was perceived as being by the patients.*
> [Field notes; Hospital A; 24/01/08].

Having outlined the events that ensued on the first placement, the following section turns to the literature in order to shed some light on understanding why such challenges may occur during this period of workplace socialisation.

## 4.6 Discussion

Professional socialisation has been described in Chapter 2 as being a process whereby the students learn both specialised skills and knowledge as well as attitudes, behaviours and norms as they become inducted into the radiotherapy culture. Professional socialisation is therefore dependent on the behaviours that are encountered in the workplace context (Merton *et al*, 1957; Freidson, 1988; Riska, 2005). A lack of professional socialisation into the norms, attitudes and behaviours could lead to disinterest, a failure to learn and higher attrition rates. In this way, professional socialisation is inextricably linked with the clinical education (the specialised skills and knowledge) of students. One cannot be considered without the other and is the principal premise for this chapter.

If we look back on the many issues and barriers that the students indicate that they have faced in their first clinical placement, it can be seen that it was a challenging journey with emotional highs and lows. It began with the students being excited at the prospect of their first clinical placement, with their initial desire to do it all in the hope of one day becoming good radiographers.

The data bears similarities to Becker *et al'*s study (1961), which was set in a Kansas university, as discussed in Chapter 2. Although a somewhat dated piece of research, this has become a classic text and used by sociologists today as there are many elements of the study that can still be related to modern healthcare. Becker *et al* (1961) describe the short (initial), intermediate and long-range perspectives of students. The 'initial perspective' of medical students in Becker *et al*'s study (1961) was to be good doctors who wanted to 'learn it all'. Likewise the data in this study illustrates the radiotherapy students' 'initial perspective 'was to become good radiographers, very keen to learn everything or at least, as much as possible, during their first clinical placement. The students soon began to realise that they could not carry out all of their academic studies whilst trying to engage in clinical practice.

We can see from the students' accounts that they began to grow tired and felt that they did not have the reserves to socialise after working hours like other university students – this can be related to Becker *et al's* (1961)'intermediate perspective'.  I suggest that the students may have been somewhat unrealistic with their initial expectations of wanting to learn and partake in as many procedures as they could. From my observations and personal experience, the students seemed to be unaware of the amount of knowledge that underpins the treatment techniques and competent practice and moreover, they seemed unaware of the gradual nature of the process of learning new skills.

The students' enthusiasm also appeared to have been dampened by some radiographers limiting the amount of 'hands on' experience they were allowed. This may be due to the

radiographers' perceptions of first-year students needing to learn the basics before being perceived competent enough to handle technical equipment and patients. I shall return to the radiographers' perceptions on clinical pedagogy in Chapter 5. The students also seemed to object to being banished to a more peripheral role and being sent off on errands or asked to carry out menial tasks, which they felt, were of no benefit to their learning. At times they felt a nuisance as alluded to by Levett-Jones *et al,* (2009) in Chapter 2. The students failed to see these peripheral roles, attitudes and behaviours as part of their socialisation into the profession.

Consequently the students' perceptions began to change. It dawned on them, that they could not achieve all that they had set out to fulfil and they began to find more economical ways of learning as understood by Becker *et al* (1961). Becker et al (1961) showed that students came together as groups in order to decide on what work needed to be done that satisfied the medical school requirements and the curriculum and did little beyond this. This economical way of learning what the faculty wanted can also be related to Sinclair's (1997) 'disposition of co-operation' (discussed in Chapter 2) whereby the students co-operate as much as possible to make the assignments more convenient to carry out. In this study the students began to realise that the academic and clinical settings were very different from each other; each had its own rules and regulations. They began to focus on what the educational institution required of them to be able to pass their exams and managed their workload more effectively, echoing findings in Becker *et al*'s study (1961). After their initial enthusiasm and first challenges, students began to focus more on the curriculum, the outcomes of the assessment programme and what needed to be accomplished to get a high mark. To be able to fulfil their objectives, they needed clinical experience and this required them to be included in the radiotherapy team. As an aside, they assumed that the curriculum was the same as the assessment programme as stated earlier in Chapter 2 (Nieweg, 2004).

It became very clear early into the clinical placement that one of the most prominent needs was for the students to fit in. One of Nolan's (1998) main conclusions was that one of the biggest challenges for the undergraduate nurses in her study was being able to fit into the social environment of the clinical setting and be accepted by the staff and patients. Student RT02 '*wanted to be helpful'* and '*wanted to staff to like [her]'* and didn't want to get in the way. The student felt that this was a '*definite priority'* for them (p.154). Exclusion seemed to be a common perception amongst students during their first clinical placement experiences. Student RT06 (p.145) describes him/herself as the student in the corner [of the room] during a 'simulator' placement (in Hospital B). The Band 8 radiographer in charge did not communicate with the student and thus RT06 became '*wary*' of the radiographer. This student felt ignored. The same student, in another clinical placement felt ignored by the radiographers and the doctor (although the latter did speak to the student about patients, they made no eye contact (p.147). For student RT05, fitting in was playing on their mind. During a linear accelerator placement in Hospital B, this student felt s/he had to stand up to the radiographers stating categorically that if they didn't like him/her, then '*screw them'* (p.150). The students had heard bad reports of Hospital B from second and third-year students. The majority of the students in this study were initially worried about fitting in and being accepted by the team. Student RT07 (p.151) stated that no one made an effort to include them or even noticed they were there. Indeed my observations of RT07 (linear accelerator placement, Hospital B) concords with his/her statement (p.155). I could see that after a while the student did not bother to look and stood further back from where the action was or made light conversation with someone else on subjects totally unrelated to their work. RT06 thought it was important for students to be in a '*little bond with the staff*' because they felt '*more confident to ask questions'*. In Levett-Jones and Lathlean's study (2008), students felt more confident asking questions and questioning practice if they felt included. This

facilitated their learning (which I discuss in more detail in Chapter 5). For student RT04 some experiences on placement seemed to destroy their confidence. RT04 wondered whether the staff would interact with him/her and when they did not, s/he felt left out and ignored. The X-ray placement (in Hospital A) got progressively worse for them, so much so that the student did not want to return that afternoon (p.160). These are examples of student exclusion. Comments from focus group sessions with radiographers revealed that students like to feel included and feel they are treated as equals and not as lowly students. The radiographers seemed to be aware of the importance of including students but felt that the students' expectations of being treated as equals was unrealistic. Certainly, equality would be at odds with the hierarchy and culture of the profession. For the radiographers, the students will always be just that – the student.

The unfamiliarity of each new setting may hinder the student's abilities to develop knowledge, skills and decision-making. As Levett-Jones *et al* (2008) report, students need time to progress from feeling like an outsider to becoming a recognised member of the nursing team. Nolan (1998) revealed that short placements leave less time for students to acclimatise to new behaviours of practice and hence the students' membership into the team. Walker (2005) found that by building a relationship between students and practitioner over a longer period of time (without frequent clinical rotation) resulted in a more relaxed, nurturing relationship for both parties. If we examine the block plan (Appendix B) and clinical placements, (such as outlined in Appendix E) it can be seen that there were frequent changes in clinical placements with the students rotating between two hospitals. The students in my study would have spent five weeks in Hospital A, on a variety of clinical placements of short duration and likewise in Hospital B. This gives little time for students to settle, get to know the staff and the norms, values and behaviours of the hospital culture. The result is that

students risk always feeling at the periphery of teamwork activities and this ultimately impacts greatly on their learning, especially during that first clinical placement.

After a short while (often within the first two weeks) in the clinical practice setting, the students perceived a hierarchy between the radiographers and other paramedical professions, between the radiographers themselves, as well as between the different cohorts of students. The students began to find their place at the bottom of the ladder, although the gradient of the ladder seemed to vary between clinical placements and within the two hospitals. Hierarchy between the paramedical professions was elucidated by Freidson (1988). He described the stratified system within paramedical professions, where occupations are integrated to varying degrees with the work of the doctor. These paramedical professions are given less prestige than the doctor by society and a hierarchy of prestige and authority exists amongst paramedical workers such as radiographers, nurses and technicians (Freidson, 1988). This was observed in my study during the ERCP scenario with student RT04 (see field notes, p.148), whereby the nurses and radiographers, whilst carrying out their own duties, were guided by the instructions of the radiologist. This perception of hierarchy was also witnessed by student RT04 during clinic sessions with a team comprising consultant, radiographer and nurse. It was noted that the consultant took the lead and that the radiographer and nurse worked around the doctor's needs. According to Freidson (1988), there may be a struggle for power within the paramedical professions themselves who may rank themselves against doctors and consultants. In a similar fashion, Sinclair's work on physicians (1997) and Atkinson's ethnography on the clinical experience of student doctors (1997), as previously detailed in the literature (Chapter 2), differentiates hierarchy between physicians and surgeons and radiotherapists and within their own respective groups. Although the first-year students perceived a hierarchy between radiographers, this was a hierarchy related to

responsibility and banding. This was noted by student RT06 in the CT scanning suite (Hospital B) whereby the Band 6 radiographers carried out the task of positioning and setting up the patient in preparation for the scan. The Band 7 and 8 radiographers remained behind the screen, waiting to carry out the actual scan. Likewise, as discussed earlier, a similar scenario between two Band 6 radiographers and the Band 8 radiographer was noted during my observations of RT04 during the Barium enema sessions in the X-ray department. Student RT07 also showed their surprise during another observation, when the Band 5 radiographers felt unable to make the decision to send the student for tea without asking the Band 7 radiographer first.

Although students perceived hierarchy amongst the radiographers based on banding, when problems arise between a radiographer and a student, the radiographers within the team appear to make allowances for their colleague as witnessed by RT07. In this scenario, RT07 thought that the Band 6 radiographer was unkind towards the student, but the other radiographers having noticed this, kept sending the student on menial tasks in order to keep distance between the radiographer and student. The Band 7 in charge did not reprimand the Band 6 radiographer. This may reveal a lack of knowledge of team management by the radiographer in charge, which exacerbated the problem of exclusion for RT07. As noted earlier in the literature review by West (1999), training in teamwork management may be of benefit for the team itself and the student.

Although subgroups within a team of radiographers are formed, when they come together such as working on the same treatment unit, they behave as a single group and make allowances for the differences within the team of radiographers.

Students' perception of negative behaviour was not only restricted to the radiographers but also included a manager, referred to by RT04 (p.151). This student appeared quite shocked that the manager should partake in gossip that occurred in another part of the hospital

regarding one of the patients. RT04 felt confused and experienced a '*whole mix of emotions*' and thought that this was inappropriate behaviour. The student wondered how the radiographers could expect them to 'behave appropriately' if the managers were setting a bad example to them. Given that as student, they were to be judged strictly, they were quite critical of the radiographers' and particularly the manager's behaviour. Student RT04 found it difficult to understand that the radiographers could take 'gossipy' note of one of the patients and felt that some of the radiographers were mocking the patient. Likewise student RT01 was very critical of the radiographers talking amongst themselves and not to an elderly patient particularly as the patient was undignified with '*their pants down*' (p.157). It must be added the area to be treated must be exposed so that the patient can be positioned and treated accurately. However the student saw this as unacceptable behaviour by the radiographers and took pity on the patient.

RT01 also appeared to be protective of one of the patients as they felt that the other patients in the waiting room were staring at this patient who appeared unsightly to them (see p.158). The students initially felt emotionally attached to the patients and not yet developed professional distance. In the early days, student feel pity; they have not yet learned either how to behave unemotionally or understand workplace norms and teamwork dynamics.

The norms and behaviours as perceived negatively by the students can be related to Goffman's (1968) work on stigma. Whilst this is not strictly related to stigma *per se*, there are elements of Goffman's work on stigma that can be used to illuminate this phenomenon of hierarchy and how the students interpreted the radiographers' behaviour negatively, simply because it did not match their idea of a 'normal', 'nice', person. Even though students did not like some of the behaviours and norms, it was observed that as students progressed through their training, they adopted these same behaviours and norms in order to fit in and be a part of

the teamwork activities and the 'news' that occurs in the department. They did not want to be left out and be an outsider; they learned to play their role in the 'tribe' (Goffman, 1968).

The data suggest that first-year students' perceptions of third-year students are that they behave as if they are more accepted by staff and more one of the team compared to the first-year student. It appears that another aspect of the hierarchy described earlier is evident here, where the first-year is below the third-year in the pecking order of the team. However this is a common and unsurprising phenomenon as the third-year students have earned their *rite de passage*, whilst the first-year students have only just embarked on the journey of becoming a radiographer. The first-year students felt that the radiographers gave the third-year students more time, attention and respect in front of their first-year colleagues. The latter viewed third-year students as having liberties such as study time, or visiting the library, whilst the first-year students thought it too forward or cheeky to ask to do the same. Therefore the first-years waited for the offer, but this rarely came. This had the effect of creating a further hierarchy between the different cohorts of students. The radiographers acknowledged that they may be contributing to this perceived hierarchy by treating them more as equals and a spare pair of hands as noted in my observations, but they emphasised that it was unintentional (p.164). The reasons the radiographers gave for this difference in treatment of students related to third-years being in the final year and almost like one of them (p.164). But they also stated that they were aware that the first-year students thought that the radiographers treated them differently. Student RT06 noted this difference by stating that there was no communication between them and the third-year student and that the radiographers were aloof with the first-year but very communicative with the third-year. My observations of RT07 and RT06 during their placements supports their comments (p.162-3). This tension between the student cohorts had the effect of excluding the first-year students further. This concurs with Maslin-Prothero and Owen's (2001) argument (discussed in Chapter 2) that student nurses were often counted

in staffing numbers and an extra pair of hands. Consequently the first-years perceived this as a hierarchy between the cohorts, one that may have been unintentionally socially constructed by the radiographers themselves. My own observations of these particular cohorts of students, added weight to this perceived hierarchy which appeared to have a detrimental effect on their working relationship. The first-year students viewed their third-year counterparts as being accepted as part of the 'tribe' (Goffman, 1968), that is, the team of qualified radiographers. Acceptance, or a sense of 'belongingness' and being part of a team (Levett-Jones *et al*, 2007; 2008; 2009 and Levett-Jones and Lathlean, 2008; 2009), appeared to be what the students strived for and seems to be a recurring thread throughout this chapter. Levett-Jones and Lathlean (2009) concluded that when students feel valued by the clinical staff and develop this sense of belongingness, they gain more confidence, which then paves the way to learning and competence development. Unless the students firstly develop a sense of belongingness, the path to learning and competence could be seriously hampered. This was evident from student RT07 who after introducing themselves, found that s/he was ignored and nobody really cared that s/he was there. As a result s/he stood back, interacted less with the procedures and appeared notably bored and resentful. This concept of belongingness is illustrated in Levett-Jones and Lathlean's (2009) competence conceptual framework, adapted from Maslow's hierarchy of needs (1987) (described in Chapter 2, p.22). Belongingness proves to students that they have succeeded in being accepted and respected by the radiography team as professionals and potential 'equals' by the qualified radiographers.

The student being part of or 'belonging' to an efficient and effective team is therefore important in considering the socialisation process as outlined in Chapter 2 by Mohrman *et al* (1995). The students need to understand how a team functions in order to play a useful part. According to West (1999), factors that can inhibit teamwork include people management, a lack of clear objectives and roles and the size of the team. Effective communication between

the team and the full participation of individuals within the team, including the student, should be encouraged. Members of the team should constructively confront any conflict between team members that may interfere with the group dynamics, though this did not appear to be the case for RT07 when they were sent off on peripheral tasks as a means of avoiding conflict between the student and radiographer (p.158). Other examples have been described earlier, including when student RT06 was ignored by staff in favour of the third-year student resulting in conflict and bad feeling between the two students and a similar situation between RT07 and a third-year student. As well as not acting on conflict within the team, radiographers' lack of knowledge of the objectives for first-year students exacerbated the situation. The size of the team appeared to affect student inclusion greatly, particularly so for the first-year students. My observation of all of the students supports this, particularly student RT07where there were 9 members of the team in the treatment room (see fieldwork notes on p.155). This number included six radiographers, RT07, a third-year student and an assistant practitioner. On average there were four radiographers in the treatment room and two students from different cohorts. To say that people fought to gain control of the machine is an understatement. This battle for the controls had a great impact on their learning, which I will return to in Chapter 5. Tea breaks and lunch breaks were a good opportunity for the student to attempt to be included as half the team went on their breaks, usually leaving two radiographers. If two students were on a machine, then it was usual to send them on different breaks. However, because there were fewer team members, my observations revealed that this did not always guarantee that the radiographers would include the student. It seemed to depend on the individual radiographer. It can therefore be concluded that thoughtless management particularly during the first clinical placement, can lead to low motivation, demoralisation and decreased patient care as stated in Chapter 2 by Kramer (1974) and Goldenberg and Iwasiw, 1993).

The literature also provides evidence that short placements can have a negative impact on belongingness (Nolan, 1998). Lack of radiographer engagement with students may be part be explained by the short placements, such as the X-ray department and radiotherapy clinic sessions which were of one week's duration. My observations note that frequent changes in clinical placements within the same hospital and even between hospitals were unsettling for the students who has little time to adapt, irrespective of their level of experience. From my observations, most students struggled to adapt to different surroundings as they moved from one hospital.

The students also began to understand that different departments have their own cultures and politics. They tried to find ways of fitting in within the host culture in order to be accepted by the team of radiographers. This can be related to the concept of *communities of practice,* as discussed by Lave and Wenger (1991). They argue that joining the community of practice requires more than the development of skills and knowledge acquisition; it entails becoming involved in a set of relationships within that community over a period of time. It was possible to see from their comments how the students talk about developing a sense of identity, which is inextricably linked with learning, and the 'community' of radiographers. The relationship between community and practice learning was illustrated earlier in Chapter 2 (Fig 2.4, p.87) by Wenger (1998), which shows how the radiotherapy community is linked to practice, learning and developing the identity of becoming a radiographer. However the data in my study show that being a part of that community could be seriously affected by short placements and frequent rotations. Moreover student exclusion was a barrier to the development of 'belongingness' and made it a difficult for the students to be a part of that community, as relationships could not be readily forged.

Similarly, Weidman *et al* (2001), illustrate in Fig 2.9 (Chapter 2, Fig 2.2, p.44), the interplay between the different communities involved in the socialisation process which takes into

account student background – the *personal community*, as well as the *professional* (radiotherapy) *community* which shapes the novice practitioner. This is linked to the academic programme (the curriculum) and culture as well as interaction and integration within the clinical culture. The socialisation process consists of a complex framework of interactions including the life experiences that students bring with them, all of which impact on the learning and development of the novice radiographer. These life experiences were evident in the data if we look at the backgrounds of some of the participants: RT02 was a mature student in their thirties who previously held a position of responsibility and perhaps expected to be treated more as an equal by the radiographers rather than a student like the rest of the group. This student did not like the competition between the group of students and saw it as immature and game playing. Other students, such as RT01 and RT05 who were straight from school, thrived on and enjoyed the competition, whilst RT03, who was also a school leaver, was quiet and reserved. This student came from British Minority Ethnic (BME) group with strong family and religious beliefs. This was evident in my observation of RT03 (see p.138-139) refusing to remove the Sikh bangle and insisting on pulling her cardigan sleeves over her hands when touching the patient. This was noted by the radiographers and the lack of co-operation at first appeared to annoy the radiographers. The student did not seem to understand that this was unprofessional behaviour and increased the risk of cross-infection. This appeared to effect the inclusion of RT03 within the radiography team. The student slowly realised that they had to change and respect rules and regulations in order to fit in. All the students in this study had very different life experiences that they brought to the radiotherapy community. Wenger (1998) and Weidman *et al* (2001) illustrate that this can impact on the student's learning. Based on Huntingdon's study (1957), if students are treated as 'students', or ignored or even treated as a 'lower class' of citizen, they are less likely to feel like confident radiographers 'to be'. Referring to students as 'the student' (which was

noted on many occasions during my fieldwork in Hospital B) exacerbated their lack of belongingness.

It is the task of the clinical radiographers to shape the student into an effective radiographer, to support the development of knowledge and skills and to help socialise them professionally, as alluded to by Merton *et al* (1957) in Chapter 2. The students were continuously changing and adapting to new environments. The apparent transformation of the student from having no identity as a radiographer, through to them adopting norms, values and behaviours of the profession, can be related to Hathaway's account of *'The man in the mirror'* (1943). This account describes a man (sic) who no longer recognises himself in the mirror; he has be transformed. Such a transformation can be interpreted as a kind of disguise which is put on voluntarily in order to confuse people of their true identity (see p.29). Relating this account to the radiotherapy students, I observed that the transformation of two third-year students in Hospital B was so complete that I hardly recognised them as previously fresh-faced students. Perhaps they had taken on a disguise in order to fit in with the host culture (Hathaway, 1943). Students RT07 and RT06 commented on this professional (behaving like a radiographer), aloof behaviour, which resulted in them feeling left out and ignored by the third-year students as well as the radiographers themselves on many occasions. This was indeed observed during my fieldwork with students RT06 and RT07. This change in the students' behaviour and perceptions bears a marked similarity to Huntingdon's Study (1957) as discussed in Chapter 2. Huntingdon (1957) found that students typically thought of themselves as students in their first and second year of training, but they thought of themselves increasingly as doctors as they progressed through training; an effect seen with radiotherapy students. As they progressed to their third and final year of training, they saw themselves more as radiographers. Being accepted as a team member of radiographers enhanced the students' feelings of equality. However this transformation takes time. This transformation can be

understood by reference to Plato's work on the allegory of the cave (as described in Chapter 2). The first-year students are at first in the dark as they are thrown into an alien environment and their eyes have to gradually accustom themselves to new surroundings. Their souls, their very beings have to wait patiently to understand what they are being exposed to and it is not simply a case of the student being an *empty vessel* into which *knowledge is poured* (Plato cited in Thompson, 2001). As alluded to earlier (Chapter 2) by Bourdieu (1984), the students can be viewed as '*unfinished bodies'* implying that they are incomplete until they have learned not only the knowledge and skills for competent performance but also the behaviours and norms of becoming a radiographer; they are in the '*on-going process of becoming*' – that is, a continuous process of becoming a radiographer. Becker *et al* (1961) noted that students developed a professional identity by their interaction with the establishment (academic and clinical), and students' perspectives changed over time (Edens, 1987). In addition, Merton *et al's* study (1957), showed students developing their professional identity by their interaction with role relationships – radiographers and patients in this case (Edens, 1987).

As they settled into their clinical placement and gained a little more experience and confidence, the first-year students began to get competitive, highlighted by the ritual of gift-giving from the patients and completion of objectives. Gift-giving following healthcare is commonplace, as the patient sees this as a simple thank you for their treatment and hence an expression of their gratitude (Weir and Kippen, 2007). Caplow (1984) refers to gift-giving as a '*...language that employs objects instead of words as its lexical elements'*, that is, gifts that say 'thank you' (p.1320). The students see gifts as a 'reward' from the patient for their good work and the patient's appreciation of this. These rewards were accumulated and students compared the type and quantity of gifts they had amassed and saw it as a measure of their popularity and good performance. This emerged as very important to the students' sense of professional identity and belongingness. Indeed this was witnessed on several occasions

during my fieldwork: students RT01 [fieldwork, Hospital A; 28/01/08] and RT05 [fieldwork, Hospital A; 30/01/08] noted how they were singled out and given gifts such as chocolates, biscuits, pens and ties (for the male students).

That this competition between students is happening is interesting for a number of reasons. The explicit intention of the programme is to develop students' competence and there is no indication in the formal, written curriculum that this is a competition in which students are pitted against one another; nor is credit given to early completion of competencies. So why this competition? Durkheim (1956) uses the observations made by Darwin, stating that there is a struggle between organisms because of their similarity. Relating this statement to competing radiotherapy students, their competitiveness to achieve the same goals to become the same professionals, serves only to escalate the competitiveness. The more the students battle to achieve the same objectives, possibly being on the same placement at the same time, the greater the risk of conflict between them. However it should be noted that competition can also result on positive consequences as student compete to be accepted by the radiographers and patients, which might have the effect of enhancing their sense of belongingness.

Goffman (1968) offers further insights. Each time a student receives gifts from patients or reaches competency that another student does not possess, *'...a local community may take gossipy note of this...they who share the noted person's stigma* [students who are in the same cohort as another student who possesses the same stigma]. Goffman (1968) continues, that this situation allows them into a world *'...being underlined by immediate associates, both normal and otherwise, who bring news about how one of their kind has fared'* (p.40). My observation of the students supports Goffman's insights, as they began to discuss their achievements and how many gifts they had received. The circulation of this news between students was relatively quick and they began to praise one another for their achievements.

Likewise any unfavourable news would reach their ears. The students would take '*gossipy note'* as Goffman (1968) articulates, and their competitiveness became evident.

What is not obvious to the students is the *hidden curriculum*, which seems to be promoting this competition. As discussed in Chapter 2, Jackson (1968) argues that the hidden curriculum should be understood as a socialisation process where students pick up messages through the experience of being in the clinical environment, not just what they are explicitly taught in the academic institution such as in the formal curriculum. He observed the values, dispositions and social behavioural expectations that brought rewards for students and that this learning was a feature of the hidden curriculum. In my study, the students seemed unaware of the hidden curriculum. Students were not taught about what to expect from the workplace milieu and were left to fumble their way through their first clinical placement. What appear to be in the hidden curriculum for radiotherapy students are hierarchy, competition and low-level learning (such as the basics of patient positioning). The preceding academic block should factor in a few sessions that look at the socialisation process so that students understand what confronts them and how they may deal with issues that may arise. Jackson (1968) emphasised that the students should learn specific skills such as how to wait quietly, co-operate, be neat and punctual, conduct themselves courteously and keep busy. The social behaviours and expectations that students were unaware of included knowing where to stand and not sit (as discussed by student RT07 earlier). These expectations should be made explicit to the students so that they can more readily fit into the culture and the team of radiographers.

A behavioural assessment form is usually completed by the radiographer on-line (which is why I have not included this in my appendices), at the end of each placement. The form comprises a few tick box questions such as punctuality, appearance, attitude to instruction and attitude to staff and patients. The final question asks if the student was a useful team member with a Yes/No response. There are many problems with this form and as a consequence, it

does not really have much meaning or impact on the learner. Firstly, there is the issue of compliance. As it is completed on-line, this means that the radiographer has to log in to another remote computer to complete it and very often it is overlooked (as the staff are often too busy or do not have the inclination to do so). The clinical lecturer is forced to remind the staff to do so (as I have done many times myself). Often many weeks have passed until a radiographer completes the form, by which time it is difficult to give an accurate account of the student and the students themselves have moved onto another placement not having had feedback from the prior placement. The feedback is given at the end of the placement when students do not have time to respond to the comments or improve their work/attitude. There could be an interim report during the clinical placement as some radiographers have suggested, so that the student has the opportunity to rectify any problems or to show improvement before the end of placement. The form should be completed with the student present, yet they almost always are not (see p.161) and this is another issue. The form does not carry any marks or grades and serves only to minimally record student behaviour and attitude. Questions could be included on behaviour, anxieties, how the students fit in, teamwork and their understanding of efficient teamwork. The formal presence of professionalism in the curriculum would mean that it would no longer be left to occur through a process of osmosis as suggested by Goldie *et al* (2001) (see Chapter 2). This would result in aspects of the hidden curriculum being made more explicit to the radiographers as well as the students. However the issue of timely feedback would remain.

Mentors and clinical lecturers are important for the support of student well-being, as well as their learning. They can make this journey more tolerable. The students in this study have clinical lecturer support, but are not assigned clinical radiographer mentor. The students therefore seek help and guidance from whoever is receptive of their needs. The clinical lecturer is not always present to guide and support the student; therefore the task falls upon

the radiographers who work with the student during the placement. A lack of mentorship seems to be an issue here and should be discussed between the academic and clinical institutions. However the radiographers are under continual pressure to treat patients and a lack of time and extraneous pressures appear to be at odds with the time spent with students, be it during the socialisation process or direct teaching.

It can be seen that many challenges faced the first-year students during this first clinical placement. The significant and predominant thread that appears to recur and bind together the subthemes discussed in this chapter (hierarchy, workplace culture, teamwork and competition) is the sense of 'belongingness' (as described by Levett-Jones and Lathlean, 2008). If students were excluded or ignored, this affected their confidence and self-esteem, which in turn affected their interaction with the radiographers within the team. Ultimately this hampered their learning. So far I have concentrated on the professional socialisation of the students. However, 'learning' is inextricably linked with socialisation. How did they learn? What learning styles were adopted? How effective did they initially find the teaching from clinical staff and what were their expectations in this first clinical block? I explore such questions in the next chapter. In addition, I consider the radiographers' views on teaching and learning.

# Chapter 5

## Teaching and Learning

### 5.1 Introduction

This chapter explores the students' perceptions of what is learnt about becoming a professional radiographer in the context of the clinical environment and the perceptions of the radiographers in terms of their preparedness, pressures and quality of teaching. In short, the pedagogy between the students and the radiographers.

Clinical radiographers are better referred to as 'practice educators' in this context, rather than teachers to avoid confusion with university-based clinical lecturers. The Society of Radiographers (SoR) has recognised that it needs to work with Higher Education Institutions to be able to train students in the clinical setting and has thus produced guidelines to ensure this:

> *This guidance considers the perspectives of the three main stakeholders (education providers, placement providers and learners) and seeks to identify good practice and articulate possible strategies and tools. The document aims to assist stakeholders to prevent problems occurring and ensure that sound relationships are developed of benefit to the learner and maintained throughout the learning period.* (SoR, 2006, p.8)

The SoR (2006) are keen to develop radiographers' teaching skills in order to become good practice educators, by offering workshops and suggesting courses on clinical assessment, supervision, giving feedback and teaching skills. Radiographers should be able to use a combination of training and teaching skills to enable the students to learn, for example, training students on how to operate the treatment equipment and how to set up the different techniques; teaching why certain parameters of the treatment may need to be altered or how

to overcome problems with the treatment, and the dangers of excess radiation to radio-sensitive structures/organs; and in addition, educating students about professionalism. The radiographer also acts as supervisor as the student is only able to deliver any treatment or radiation exposure with their approval (HPC, 2004). The radiographer is responsible for the patient's treatment and care, whilst at the same time acting as practice educator. This may pose problems for the radiographers during busy periods, as their first responsibility is to treating the patient (HPC, 2007).

## 5.2  Teaching

### 5.2.1  The good and the bad

Good teaching requires good interactional skills, good quality supervision, time to explain procedures, knowledge, instructional skills and the enthusiasm to teach students (Doughty and Hodgson, 2009). Including the students in teamwork activities and making them feel that they 'belong' is also of paramount importance and impacts greatly on learning (discussed earlier in Chapter 4). From the students' perspective through interview sessions, the quality of clinical teaching varies from excellent to poor from radiographer to radiographer and between clinical departments. When students first experience their clinical placement, as well as overcoming the challenges they have to face in acclimatising themselves to a new environment and being socialised into that culture, they are eager to learn and begin to judge the radiographer's teaching skills very early in their clinical training. Firstly I set out evidence of the student's accounts of what constitutes good teaching:

> **RT04:**   *…Maybe it is because Tracy is good with students and she teaches you and she knows how much you have done and I think maybe she understands that we have only had one block.*

> **RT01:** *Yes, Tracy is the obvious one and you can tell she has teaching experience because she knows how to explain stuff in a way that you will understand.*

In student RT04's judgement, the radiographer is deemed as being '*good*' as s/he '*teaches*' them and is aware of '*how much you have done'*. This suggests that students place value on the radiographer being aware of the needs of the first-year student and apparent knowledge of the academic work the student may have done prior to their clinical placement. RT04 emphasises that the radiographer '*understands*' that this student has '*only had one block'* (academic), demonstrating awareness of the stage of training of the first-year student. RT01 confirms this account of the 'good teacher' as one who explains things *'in a way that you will understand'*. Student RT03 also shared this perception:

> **RT03:** *I didn't know Paula was a teacher at first but she is one of the better ones. She would take it slowly with me and explain how it is done...She was the one who I think stood out to me and actually let me do things... She was giving me more of a chance than anyone else really... She is more patient. She just stood back and told me 'you can do it'.*

Again, the student did not realise the radiographer had previously been a schoolteacher, but '*stood out*' by the manner in which s/he explained procedures slowly and involved the student in the procedures – which RT03 indicates by saying s/he '*actually let me do things*'. This radiographer takes time to explain the treatment, as RT03 states the radiographer *is 'more patient*' and tells the student '*you can do it*'.

It appeared from focus group comments that some radiographers seem to be able to identify the good teachers and frequently pair them with students:

> **Rad4:** *...if you find there's someone on your team that's really good with students then you would definitely say well you know[radiographer] is really good with teaching this particular aspect. You can work together.*
> [Focus group Hospital A: 04/03/08, am session]

This may then 'free' the other radiographers to enable them to continue with their work schedule – as the radiographer says '*you can work together*' within the team. This appears to be a case of taking into account students' needs and matching them with staff skills. However it can also be interpreted as passing on the student onto someone else.

Student interpretations of poor teaching encompasses: ignoring the student, humiliation in front of the student's peers, reluctance to explain things, patronising remarks, creating a hierarchy between cohorts, all of which may be interpreted as a form of bullying by the student. This was the same kind of behaviour exhibited by consultants towards medical students in Atkinson's study (1997). However, this behaviour displayed by radiographers may be a consequence of a lack of awareness of teaching skills and knowledge or the inability to communicate effectively if they are behind schedule. During busy periods this creates a negative climate for effective teaching to take place but may also be related to the transmission of hierarchy as discussed in Chapter 4:

> *RT03*: *…When I went on the other machine they didn't really explain what they were doing and what setup they were following and stuff… I suppose it is like being a spare part.*
>
> *RT02*: *...s/he has turned his/her back on me and done both the machine and the bed at the same time.  It was kind of 'I don't need you here.*

Student RT03 felt ignored to begin with and a lack of communication appeared to take place. With no direction or explanation, they just followed the radiographers around, feeling like a '*spare part*'.  Student RT02 states that the radiographer '*turned [his/her] back*' on them, making them feel excluded. The student described the radiographer as operating '*both the machine and the bed at the same time'* which suggests that the radiographer had taken full control of the linear accelerator handset (most of the machine) and the '*bed*', meaning operating separate controls on the treatment couch. The implication of this is that the student

is not allowed any hands-on experience, which may affect their learning. This coupled with the fact that the radiographer had turned their back on the student with no communication, was interpreted by the student as a clear message that s/he was not required. Some students expected more attention during quieter times:

> **RT04:** *If it is quiet and some people are there they will just tell me to go and find something from my folder or try and do some paperwork for them or file things away as opposed to actually teaching me.*

This suggests that the student looked through the clinical education folder to find something to write up or '*file things away'* – an administration task given by the radiographers. This gave the student the impression that they were not wanted, or perhaps given menial tasks to undertake, instead of getting on with the job of teaching them – as RT04 states *'as opposed to actually teaching me'*. There appeared to be some resentment building up as the students continued to be ignored or given tasks to do which took them away from supporting the treatment of the patient. The radiographers themselves seemed to be aware that this was happening, an admission made during focus group sessions:

> **Rad1:** *Yeah I think we're probably not doing enough for first-year students especially when they start off. Just sometimes it would be better if they move the bed and get the patients in and out of the room and learn the controls and what the radiographer does, rather than actually teaching and integrating and things.*
> [Focus group Hospital A: 04/03/08, am session]

Here the radiographer stated that they were '*probably not doing enough*' for the students, which sounded almost like an admission of guilt, particularly in the first clinical placement – '*when they start off*' as this radiographer says. S/he continued, *'it would be better'*, better for the radiographers perhaps, if the student carried out simple tasks like learning '*the controls*' as opposed to *'actually teaching'*. This suggests that the radiographers asked the students to carry

out the simpler tasks or observing *'what the radiographer does'*, without explaining procedures - which could seriously hamper the students' understanding and hence learning. In the following statement, the radiographer appeared to sound quite annoyed and frustrated with my suggestion of perhaps explaining procedures if they had a spare hour:

> **Rad2:** *You're not going to have a spare hour. This spare hour you're talking about doesn't exist. If you haven't got a patient you've got paperwork or … just to find ….whatever.*
> [Focus group Hospital A: 04/03/08, am session]

Rad2 stressed quite firmly that there is no *'spare hour'* (time) and it *'doesn't exist'*. The tension in the hospitals under Agenda 21 (United Nations, 1993) has been that there is an expectation that senior clinical staff also teach. Agenda 21 is a non-binding voluntarily implemented action plan with regards to sustainable development (United Nations, 1993). This radiographer is implying that students or academic staff do not appear to understand or appreciate the pressures of work as the students' focus is on wanting to learn and be taught. The radiographer suggests that even when there is a spare moment there is *'paperwork'* or *'whatever'* –there is always something to do which competes with the demands of spending time teaching students.

> **Rad3:** *We don't get much time with these 10-minute slots, not even for the patients.*
> [Focus group Hospital B: 05/03/08]

This radiographer stressed that there was not enough time to spend teaching the students because of '*these 10 minute slots'*, inferring that the treatment slots were of insufficient duration, giving the impression that the radiographers are constantly battling against time. This is similar to the 10-minute slots for doctors, which is allocated for each consultation (MacBride-Stewart, 2012). MacBride-Stewart (2012) defines this as time which '*...reflects a process of assigning an abstract value to the task'* (p.5) and found that for some doctors this

time was insufficient. For the radiographers in this study, this 10-minute slot leaves little time to be able to slow down and explain procedures fully to the student, let alone time to treat the patients.

On occasions, it was the student's choice to exclude themselves as too many members of staff were present in the treatment room which forced the student to stand back:

> **RT01:***…Completely intimidated by everyone. I feel like a mouse. You have got the third-years so they are watching over you, you have got the assistant practitioners. It's just that if you have 5 radiographers qualified ...everyone is looking at you and you are thinking 'if I make a mistake here they are going to think I am stupid'…it's just horrible. It really is. Most of the time if there are that many I just stand back then.*

Here RT01 uses words such as '*completely intimidated*', '*feel like a mouse*' and '*they are going to think I am stupid*' all which suggest that the student was overwhelmed by being observed by more senior students, qualified staff and the number of people in the treatment room. She feels small – '*like a mouse*' as she puts it, insignificant compared to the rest and has no confidence in coming forward, as the radiographers do not appear to be drawing her into where the 'action' is – that is, where the radiographers are busy carrying out the procedures and radiotherapy techniques. Further, that there is a third-year student and an assistant practitioner, adds to the fear of making a mistake. The assistant practitioners are the lowest in the pecking order, as they are training to become assistant radiographers, and so to make a mistake in front of the latter would be deemed to be embarrassing for RT01 - '*they are going to think I am stupid*', so s/he prefers to step back and avoid the possible humiliation that may ensue.

However, the radiographers may not perceive this in the same manner. They saw the students as possibly lacking in interest or being bored:

> ***Rad8:***...*some of our students, like last week there was one just sitting there and I had to kind of say "do you want to go into the room now?" I didn't want to have to say it...*
> [Focus group Hospital A: 04/03/08, pm session]

Here the radiographer was annoyed that the student was *'just sitting there'* – not taking any interest in what was going on around them and rather than tell the student what they should do, turned the situation around by *asking* the student if they would like to go into the treatment room. They were annoyed that they may upset the student, as the radiographer states she *'didn't want to have to say it'* outright. This behaviour from students was also noted by another radiographer who stated *'they won't do anything'* unless the radiographer intervenes and tells them what to do, inferring that the students just sit around waiting for some sort of instruction all the time, again an observation which frustrated the radiographer:

> ***Rad16***:...*they won't do anything unless they are sort of asked or told to do anything...*
> [Focus group Hospital B: 05/03/08]

This clearly demonstrated a lack of understanding of each other's position and behaviour within the teaching environment. Here there appears to be a lack of understanding between the two cultures, that is, between the students and radiographers who may have different goals. The students are adapting to this new culture, as discussed in Chapter 4 and stand back as they are unsure of their position within that culture.

It appeared that some students were quite reluctant or did not possess enough confidence to enter the treatment room without instruction possibly for fear of making a mistake or looking stupid, as previously articulated by student RT01.

Moreover, the fact that there may be more than one student on the treatment unit appeared to add a significant amount of pressure with regards to teaching them, particularly if they are from different cohorts:

> **Rad2:** *No I think the worst thing that affects me necessarily as a teacher is having two students at the same time… I find it very difficult to give them what they require for their level of training...If it's a first-year and third -year; the third-year needs something completely different because they need a little bit more… And they need to feel that they're doing things themselves. The first-year needs guidance for everything and I find that very hard. We have time restrictions... I'd prefer to have one in the morning and one in the afternoon, but that's not allowed is it?*
> [Focus group Hospital A: 04/03/08, am session]

Having two students of different capabilities or learning levels is the *'worst thing'* for this radiographer, words which reflect a degree of dissatisfaction. S/he admits that s/he finds it *'difficult'* teaching first-year and third-year students at the same time, as the needs and objectives are different – *'for their level of training'*. This is a radiographer who is very aware of the training needs of different cohorts of students and appears to care about the teaching skills and how s/he may be perceived. The statement that the first-year student *'needs guidance for everything'* implies that they need more time to teach the students, particularly when the radiographer is busy treating patients. Rad2 would rather devote their time to one particular student and suggests having one student *'in the morning and one in the afternoon'*, but thinks that this is *'not allowed'* – and to do so would go against the academic institution. A certain degree of frustration appears to be evident here in that this radiographer feels that the regulations may be restrictive and even possibly unrealistic. Given the next comment, this radiographer gives the impression that they may be teaching on their own which may tell us something about the team dynamics possibly not working:

> **Rad4:***...You can have two members of staff, each watching a student and they can work together and the third-year can help the first-year.*
> [Focus group Hospital A: 04/03/08, am session]

This radiographer suggests that this situation with two students can work if two radiographers are involved in the teaching, each assigned to one individual student. S/he also suggests that

*'the third-year can help the first-year'* which may imply that the third-year student could also take on the 'burden' of teaching first-year students.

Student RT05 shared RT01's opinion of having many members of staff and students in the treatment room, but added that *'everyone wants to do stuff...its not like fighting...but'* implying that it was difficult for the student to get hold of the handset or treatment couch buttons and be in some control of the treatment process. As a result, some students begin to rebel and resent being ignored and assert that they may decide to fight their way for control and to be involved in the treatment process:

> **RT02:** *...There are occasions when I have just been ignored but I think that is because they have been busy. I can be quite stubborn and I think next time I will race them in and grab the control.*

Here RT02 emphasised the pressure to get to the controls first, stating that s/he feels s/he has to '*race*' the radiographers and the third-year student into the treatment room and be the first one in and s/he described herself as '*stubborn*' inferring that s/he was determined not to be left out. That the student described wanting to '*grab the control'* depicts a scenario whereby the student is seen running into the treatment room and snatching the controls, knowing that once in possession of the handset, the radiographers must let them manoeuvre the machine, thus gaining some hands-on experience.

So far it seems that the important aspect of the educational process of being an apprentice/student in a clinical context is simply gaining access to controls, having access to the clinical educators' time and being paired with a willing and skilled educator. These are all educational and organisational issues.

As the students developed confidence they began to ask questions (i.e. exhibiting desirable characteristics of an independent learner), but the outcome was not always favourable:

> **RT01:**...*I asked the staff something and... 'I don't know' [was the reply] - you know what I mean - I thought 'how can you say that?' If I ask them something they will just sort of brush it off and carry on with what they were doing or go and do something else.*
>
> **RT06:** ...*in [Hospital B] you had to push them. You had to ask the questions.*

Student RT01 appeared amazed by the radiographers telling her *'I don't know'* as reflected in his/her comment *'how can they say that?'* – implying how dare they, or aren't they ashamed to admit such thing? hat s/he states that the radiographer will *'brush off'* any questions and continue with their work, only serves to exacerbate the feeling of disappointment and dissatisfaction. Moreover, student RT06 noted that in Hospital B they had to '*push them [radiographers]*' for an answer to their questions.

It appears that this (lack of) response had an impact on the relationship between the radiographer and student; the latter become apparently apathetic and gradually gave up asking anything at all:

> **RT07:**...*I couldn't really be bothered to ask [questions]. I mean I know I should have done but I just couldn't really be bothered because I knew that I was just going to get quite a brief answer and none of them would take the chance to actually explain it to me so that I understood...nobody really wanted to explain. Not really.*

RT07 appeared defeated, s/he *'couldn't really be bothered'*, even though s/he knew s/he was expected to ask questions. The student did not see the point of asking any further questions because the answers would be *'brief'*, implying a superficial answer which lacked depth. S/he also added that *'nobody really wanted to explain'*, almost as if they resented being asked questions as this forced the radiographers to give an explanation.

However, focus group comments revealed a very different picture. The radiographers felt that they did not always know the answers to questions:

*Rad11:I often don't know the answers…. I don't know everything.*

*Rad13:I wouldn't say "you go and find it out."  I'd say "I'll find it out and let you know."*
[Focus group Hospital A: 04/03/08, pm session]

*Rad16: ...There are questions that they can ask us that we perhaps wouldn't necessarily know, obscure disease sites or why we would we know unless we refresh our memories.  You might have known at one time...*

*Rad19:I think students expect us to know, most students expect us to know most of everything.*
[Focus group Hospital B: 05/03/08]

In the above comments, the radiographers refer to '*obscure'* diseases, ones which they may have '*known [it] at one time'* when they themselves were training – and they admit the need to '*refresh [their] memories'* – implying that they have forgotten the knowledge that they once. Some radiographers felt that as a matter of principle, it was their duty to '*find it out and let you [student] know'*. But they also felt an expectation from students that radiographers should '*know most of everything'*. It is relevant to not here that there were differences between the sites such that in one hospital the expectation was that the student finds out and in the other that the radiographer finds out.

This section has touched on lack of time for teaching. I now explore how this impacts on learning relationships.

### 5.2.2 Shift work and busy times: trying to make time for students

Shift work patterns take place when one of the linear accelerators is being serviced, which is usually a once weekly superficial service to check the essential components and that parameters remain within safe and acceptable limits. The consequence of a machine service is the transfer of patients from that machine to another. The patients transferred onto the other

machine have to be accommodated within a tight appointment schedule, which includes the regular patients on that machine. As a result, the working day is extended from early morning to evening, with radiographers working shifts. This creates a busy work schedule and many more patients. The implications for teaching the students can be significantly problematic in terms of time. The students begin to get a taste of experiencing shift work and their perceptions in terms of teaching time, are not altogether complimentary as the following quote suggests:

> **RT01**:*...I think because it is shifts, they are just stressed out and in a rush. I think that was probably what it was but they don't really have much excuse because they only had one patient waiting. If it was a big queue like there is now then I wouldn't do anything...That's why I just stood back there, but when there is no one there you would think they would let me do something*!

Student RT01 realises that the clinical staff were very busy during shift work and under pressure to keep up with their appointments –they are '*stressed*' and '*in a rush*'. However, s/he begins to scrutinise their workload and examine whether they are justified in not engaging with the student by looking at how many patients are in the queue. RT01 appears fairly unforgiving stating that '*they don't really have much excuse*' as they '*only had one patient waiting*'. The student appears to translate one patient waiting as the radiographers not being too busy to teach them – but understands that if there was a long queue s/he '*wouldn't do anything*'. With the words '*you would think that they would let me do something!*' RT01 expresses dissatisfaction and hints at the radiographers not fulfilling their teaching duty. Student RT04 also noticed that during busy times '*they teach me less*' s/he states, as the radiographers '*have to get the patients in and out'*, words which reflect that there is no time in between patients and the emphasis is on a rapid throughput of patients. The race against time for the radiographers was exacerbated by the fact that patients' treatment slots have

diminished in time. An explanation of this was given by one of the radiographers who was discussing time slots with patients:

> *The radiographers are discussing 10-minute slots with the patients. The patients are being told that the head and neck patient slots have been reduced from 20 minutes to 10 minutes. It sounds as though the radiographers are trying to justify to the patients their reasons for being rushed. This is an obvious directive from 'above' and relates to waiting lists and referral times.*
> [Field notes, Hospital B, 19/02/08]

It is useful to note that the time slots for head and neck patients in Hospital A were 20 minutes. This may have affected the students' judgements of radiographers' teaching between the two hospitals. However, despite neglecting the students' needs, enabling the radiographers to continue with their work at such a fast pace, some students accepted that little active teaching would take place during these busy times:

> **RT05**: *Yes and obviously like yesterday like they said it 'we are going to have to do most of the stuff' and we had to stand back and then because I had been told why they were not going to let me do as much I felt okay...Obviously I could see they had a queue but if they had just taken the handset off me and got on with it themselves I would have felt... [shakes head and sighs]*

RT05's words *'[they] have to do most of the stuff'*, imply that s/he should stand back and let the radiographers get on with their duties.

However, focus group comments revealed the pressure that the radiographers felt under and how they felt torn in many directions:

> **Rad2:**...*It's very difficult to be in charge of a unit and working with patients. You work in the room the same as everybody else plus your time, you're meant to be taking control of the unit and it's quite a tough balance and with…. meeting the requirements of your duties and your responsibilities.*
> [Focus group Hospital A: 04/03/08, am session]

This is a Band 7 radiographer who ultimately has the responsibility of the team of radiographers and the safe operation of the treatment unit. S/he stresses being in charge *and* treating patients which s/he finds a *'tough balance'* of duties and responsibilities. In addition, many centres have agency staff which may have trained in another country and it is the senior radiographer's responsibility to ensure that they familiarise themselves not only with the Department and working culture, but also with the treatment techniques they are to administer. This needs to be achieved in order to ensure that the agency staff work to safe standards with minimal direction. This means that the radiographers are referring to managing a team of many different levels of competence and few independent learners or workers, so their argument about time may not be such; the radiographer is actually trying to ensure the work is done and that standards are maintained over the level of responsibility others are expected to and be able to take:

> **Rad1:** *You can add to that the rapid turnover of staff ... if you work with agency staff who are changing on a week by week basis and it puts priorities to get those people up to speed so that you can leave them to carry on and treat patients. You've got a staff rota that's … moving members of staff around and for no apparent reason on the treatment units on a week-by-week basis.  And a lot of people working part-time and things are changing all the time...*
> [Focus group Hospital A: 04/03/08, am session]

In addition to the pressures of responsibilities and their lack of time, the radiographer notes the insecurity of the staffing. The radiographer comments on the *'rapid turnover of staff'* – the agency staff being one group involved. They stress that it *'puts priorities'* to get *'those people'* - meaning the agency staff, *'up to speed'* – i.e. up to a standard where they are safe to operate and are cognisant of the rules and regulations of the department. The radiographer complains of the *'staff rota'*, which is a criticism of how the department is organised and staffed in this way. They do not understand why the agency staff have to be rotated on a weekly basis *'moving staff around for no apparent reason'* as s/he puts it, which appears to have a big

impact on the team dynamics and the time commitment on the agency staff's induction period. S/he then adds '*part-time'* staff into the mix, which adds to the sense of disruption, stress and a longing for static periods, not '*things… changing all the time'.* The students are not permanent themselves but are required to learn procedures and achieve objectives whilst they are on that machine for a prescribed period of time. This creates tension for the radiographers as they try to juggle their other responsibilities. It is nevertheless an environment that students need to understand as they themselves will one day be immersed in such a stressful working culture. The radiographers also compare the workload on different machines in the department and try to justify why they are so busy and have no time for students:

> **Rad7:** *I don't know what the students have said to you but I bet if you spoke to the students who have been through the simulator, a slower pace of work and a stable team of people all the time, they'll have a better experience than somebody [on a treatment machine]…. and you've got to treat 40 patients a day and do something different every day.*
> [Focus group Hospital A: 04/03/08, am session]

Here the radiographer appeared a little tense and wondered what the students have said about them – '*I don't know what the students have said'*, words which may imply that they were concerned that they have been criticised. Rad7 compared the linear accelerator which they were working on and the simulator machine which had a '*slower pace of work*' and '*stable team*', inferring that in this place there is not the stress and disruption of work as they experience elsewhere. The radiographer also tells us that the students will '*have a better experience*' which implies some unevenness in the work environment. Having less rotation of staff is less disruptive and the schedule of work involves fewer patients, as the radiographers were imaging the patients in preparation for their treatment. This procedure may take longer than the treatment times on the linear accelerator and therefore the treatment slots are longer. For the student this means that the team of radiographers is more constant, and in the context

of clinical teaching more time being taught and more continuity of radiographers. The following interview quote gives a sense that the radiographers wonder what the students think of them:

> **RT02:***...There is also an awareness that I am up here having an interview. John's [Band 7's] comment was 'well be nice to us' and I was like 'ahh' as if they are going to get this big stick because they haven't been good enough teachers and I just thought 'that's not what it is about' but that is natural...They are worried that they are going to be slated for not being good teachers.*

The radiographer asked him/her not to judge them too harshly - '*be nice to us'*. This appears to have empowered the student, as s/he states - '*as if they are going to get this big stick'*, '*they*' referring to the academic institution that will 'punish' the radiographers if '*they haven't been good enough teachers'*. The interview session gave the staff a feeling of uncertainty - '*they are worried that they are going to be slated for not being good teachers'*. The concern here is that the students might either personalise the issue or not understand the wider structures that produce the limitations in the teaching environment, which generates pressures for teaching staff.

To add to the pressures of lack of time and a busy work schedule the radiographers expressed concerns at finding time for their own professional development. They were keen to tell me that not only the students had to study, but they had to show evidence of their own personal development for:

> **Rad13:***...they [students] have their own goals don't they as opposed to our goals which are CPD*[Continuous Professional Development].

> **Rad9:** *The only slant I could give you on Agenda for Change - because you are having to do lots of studying, and I think the more you do the more likely you are to pass that on to students, but on the other hand we are busier. You know it can work both ways. There are positives in that we are getting encouraged to train and we are more knowledgeable when we teach the students. Then on the flip side is it's harder and you're just trying to do a little bit more really.*
> [Focus group Hospital A: 04/03/08, pm session]

> **Rad14:**...*there's more pressure on you to get your own goals achieved. Some people really don't want the extra pressure of teaching students.*

> **Rad15:** *Because they've shifted the goal posts, you can get a consultancy level, but they expect you to do like - MSc, PhD and above and of course for band 7 at least MSc. All these are expectations that you've got to fulfil to get a higher banding so whether that's causing any stress that would impact on teachers...?*
> [Focus group Hospital B: 02/03/08]

If we examine these comments, words such as '*goals*', '*CPD*', '*pressure*' and '*stress*' gives us a sense of the radiographers' own targets and pressures in order to demonstrate their professional development. The radiographers appear to have focussed on courses and postgraduate education such as MScs and PhDs as a means of advancing their careers. The reference to '*they*' – '*they've shifted* the goal posts' and '*they expect you to*' refers to AfC and the faceless people who have produced the framework. Perhaps the radiographers felt that these expectations were unrealistic or that more was expected of them compared to the old grading system. Some radiographers saw this personal development and furthering their studies as positive as it helped them to teach the students, whereas some defended their lack of engagement with students as a result of trying to further their own careers and – '*don't want the extra pressure of teaching students*'.

I also perceived that the multiplicity of demands on the radiographers put pressure on the learning relationship. These demands related to student expectations for learning, their own learning; patient waiting lists; and administration. These demands could differ by radiographer seniority. The students detected differences between the qualities of teaching related to the different banding of the radiographers.

### 5.2.3 The difference between bands: experienced vs. recently qualified

The work of a therapeutic radiographer relies very much on team-work. The team is made up of radiographers of different banding as developed by AfC, which was discussed earlier in

Chapter 2. Students begin to distinguish between the bands of radiographers and how they perceive the latter in terms of their clinical training and their position within the team:

> **RT03: ...***The first-line radiographers let me do more so that was quite nice and they actually explained it nicely…I think after a while they did let me start doing more things the other radiographers... I think with the older staff I think they just needed more time to see if I could do it. They didn't really explain it that much.*

Student RT03 makes reference to '*first-line*' radiographers; these being the lower banded i.e. Band 5, radiographers or those who have recently qualified. They felt that compared to the more senior members of staff, they had more patience and understanding in teaching, as perhaps they found themselves in a similar position not too long ago. The student also tells us that the '*older staff*', implying the higher banded radiographers, '*needed more time*' before allowing them to carry out procedures or use the machine controls, but did note that '*they didn't really explain it that much*'. It appeared that the senior radiographers have stood back and have allowed the Band 5 radiographers to carry out the teaching. This is also evident from another student's interview quote:

> **RT01***…Some of the younger ones like Becky, she was sort of, if she saw me doing something wrong she would tell me and correct me and she would say then that I knew what I was doing, so I was getting at a higher and higher level but with some of the older radiographers, I would have thought that they were thinking 'well s/he did that wrong. S/he is not good enough for that level' but they haven't explained to me why. I think the younger staff are willing to help me more to know what I have done wrong.*

Here RT01 revealed that if s/he was carrying out a procedure incorrectly, it was the Band 5 radiographers that would intervene and '*correct*' them. The student was surprised that the '*older*' radiographers did not step in and correct them, which is reflected in their words '*I would have thought that they were thinking "well s/he did that wrong"*', as it would be part of their duties and responsibilities of being a Band 6 and above, to teach the students. S/he

added that the Band 5 radiographers were *'willing to help [him/her] more'*- but it is not the responsibility of a Band 5 to teach the students which was made explicit within the banding criteria as set by AfC. Student RT07 has also noticed this willingness of Band 5 radiographers to explain procedures and teach them:

> **RT07:***...The younger ones are more enthusiastic to explain. The older ones do it better. The younger ones often don't understand exactly the reasoning behind the techniques. I have asked them a couple of times and they are like 'oh I'm not exactly sure, I don't particularly understand' which to me seems crazy. They are qualified, they are doing that job. How can they not understand...The older ones I think because they have explained it a lot before, they understand how to convey the message. They understand how to get it across. How to put it in simple terms.*

Student RT07 comments that the *'younger ones are more enthusiastic to explain'*, but that the *'older ones do it better'*. The reasoning that s/he gave was that the recently qualified, or Band 5 radiographers did not seem to understand the procedures themselves – which s/he found hard to believe (*'crazy'*) as *'they are qualified'*. S/he thought that the older/higher banded radiographers were better at explaining things because they have had many more years of experience and have *'explained it a lot before'*. RT07 also adds that they explain things in *'simple terms'*. If we continue to examine RT07's comments, s/he gives further insights as to why she should think so:

> **RT07:** *…To be honest I think the diploma ones explain better.  They explain just what you need to know to do the job...they don't give any unnecessary theory crap behind it.  They just explain what it is and how it works and why we do it.  The younger ones, I think they know more and they understand more but that's why they get confused.*

RT07 referred to the higher banded and perhaps older radiographers, as *'the diploma ones'*. S/he demonstrated that s/he understood that there are two types of qualifications that radiographers held i.e. diploma and degree.  Years previously, and when I trained in 1981, the

diploma was the standard qualification that a radiographer possessed in order to be able to practice. The degree qualifications began from 1993 onwards as previously discussed in Chapter 2, when the national diploma came to an end. This marked a time when many health professions were beginning to award degree qualifications in order to be registered and competent to practice. RT07 observed that the younger members of staff were all degree qualified, and that although the degree qualified radiographers had more knowledge, they were unable to put this knowledge across in simple terms as s/he stated: *'I think they know more and they understand more, but that's why they get confused'*. In contrast s/he implied that although the older radiographers may not possess as much theoretical knowledge, they were able to keep the explanations simple, basic and to the point - *'they don't give that unnecessary theory crap behind it'*. S/he possibly saw this as a practical job that did not require the theory that the younger ones were keen to explain. However some students have observed that the older, more senior radiographers appeared to make the younger ones teach the students whilst they continued with their other responsibilities which were primarily the treatment of the patients and the running of the machine:

> **RT06:** *The older ones just seem to want to pass it onto the younger ones to do it - like the lower bands. It is sort of like 'we have stuff to do. We are the higher bands. We have all this responsibility so we are just going to pass you onto the younger ones and they will teach you'.*

> **RT04:** *The higher ones were trying to tell the lower ones to get more involved with me. That was the way it worked and you could definitely tell that was happening*

It was evident from RT06's comments that the higher banded radiographers were in charge of the machine and *'have stuff to do'* and hence did not have time to teach the students, so they asked the *'younger ones'* (and we can assume these to be Band 5 radiographers). RT04 also observed that the *'higher ones were trying to get the lower ones to get more involved with*

*[the student]'*. It is interesting to note that the higher banded radiographers, by virtue of their banding and responsibilities as set out by AfC, should be teaching the students and not the lower 'Band 5' as this is not deemed to be part of their *responsibilities* (see national profiles for diagnostic and therapeutic radiographers- Appendix D). Although there is tension here, it may be that the higher banded radiographers are mentoring the Band 5 radiographers for a future role. The Band 6 and 7 radiographers may be simply trying to manage their responsibilities but it appears that teaching students seems to be devalued in the eyes of the students. However, the students felt that the instruction that they received from the younger radiographers was more current and that they understood what objectives the students had to fulfil – more than the older ones:

> **RT05:** *...the stuff you are taught by the younger members of staff is more relevant. Not more relevant but it is a lot more centred to what your course entails because they have recently gone through it. Whereas the older staff do give you the useful information but its better coming from the younger staff because they know the whole thing.*

RT05's comments show that the teaching by the younger members of staff is, *'more centred to what [the] course entails'* because they have recently qualified. The student felt that the younger members of staff were knew the whole picture or that *'they know the whole thing'* as s/he put it, meaning that they were cognisant of what is important because they have just gone through the whole system of training in the academic and clinical institutions . This suggests that the students like to learn what is required of them and what is relevant to the objectives of the course. However we also get a sense that there are different opportunities to learn from different staff members, including ones with more experience:

> **RT04** *...people of a higher banding are giving the good knowledge and explaining a lot of things but then people on lower bandings have done exactly the same... It depends on the individual because there are some people on higher*

*bandings who have not taught me as much as some of the ones on the lower bandings. It all depends on the individual person I think.*

From RT04's statement, there is no simple message. S/he explained that some Band 7 radiographers were just as good as the Band 5s, but then there were some higher banded radiographers who '*have not taught [him/her] as much as some of the ones on a lower band*'. In his/her view, this really depends on the individual. However the reflection on what occurs suggests that whether the individual is a good teacher may also depend on several aspects of the institution.

The trend for Band 5 radiographers to undertake most of the explanation of techniques and demonstration of skills was a frequent observation throughout my fieldwork. On one occasion when the Band 5 radiographer was working with the student, they made a rather pointed remark – as noted in my observations of RT01:

*The Band 5 radiographer is looking back to see if a senior is on her way (into the treatment room). The student positions the patient using the lasers and the Band 7, who has just come in, checks her. The Band 5 quietly mentions to the student (which I overhear) 'It's very political in this department'.*
[Field notes, Hospital B, 03/03/08]

From my observation above, the comment made by the radiographer to the student '*it's very political in this department*' refers to authority and responsibility. Even though the Band 5 has had the most interaction with the student in setting up the patient, the Band 7 radiographer has the final say whether everything is okay. The Band 5 knows this and waits for the Band 7's approval.

This section has looked at the students' perceptions of good and bad teaching, based on their inclusion or exclusion from treatments and explanations. The radiographers tried to defend themselves, blaming numbers of students on the machines and the students' expectations that they should know the answers to almost everything. Shift-work and busy times meant that

students had to take a back seat whilst the radiographers got on with the job of treating patients. The radiographers found it a tough balance between their responsibilities, including time for their professional development and time to teach students. A changeable staff rota and agency staff exacerbated the problem. Students noticed that Band 5 radiographers were spending more time teaching them. As a result, tensions were noticeable which made teaching the students difficult.

What has not been addressed in this section is *how* the students learn their clinical skills and their perception of *how* the radiographers taught them to which I now turn.

## 5.3 Learning styles and the apprenticeship model

This section considers the students as apprentices in thinking, who make active efforts to learn from observations and participation with other students and skilled members of their society - namely the radiographers. They attempt to develop critical thinking skills which enable them to handle problems by using their tools to construct new solutions within the context of their work (Rogoff, 1990). This section also highlights the challenges that the students face when the learning environment is not exactly conducive to learning.

### 5.3.1  Learning styles

Students reflected on their learning style by relating this to the results of a learning test that they completed whilst on academic placement. The apprenticeship model relates to a style of learning by doing. It appeared that some students' learning styles seemed to concur with the apprenticeship model of learning:

> **RT07**: *I did a learning test at college and apparently I am a 'visual holistic', which means I like to see things and I like to see something the whole picture...I learn well seeing pictures or mostly by doing things is how I learn the best; which is why I chose this course, because it has so much clinical, because as a rule I learn well when I am being taught stuff physically.  I have to do it for myself to*

*remember it. If I watch someone doing it, I won't remember it. If I do it then I will learn it and I will remember it. That's how I learn and it works quite well...*

Here student RT07 explained quite precisely which was his/her preferred learning style as derived from a '*test*' that s/he did at University. This test the student refers to is the VAK (Visual Auditory and Kinaesthetic) test for self-assessment of learning style and measurement of personal learning style. S/he saw him/herself as a *'visual holistic'* learner, which s/he described quite clearly. The most important thing to note here is that the student particularly chose radiotherapy as a university course as it entailed *'so much clinical'* as s/he put it. From this s/he deduced that the course would complement his/her learning style preferences as s/he needs to observe or *'see things'* and s/he learns well *'by being taught stuff physically'*. It seemed that many students preferred a hands-on style of learning but need to observe, carry out tasks for themselves and repeat the procedure in order to learn. Student RT06 alludes to this process:

> **RT06:** *...I watch them do it a couple of times then have a go myself with someone helping me out...and being able to do it again and again and again, but then getting more independent with it. It sticks in your head because you have done it so many times and you know what is right by then....I would forget it if I was just observing it...I think it is also like my dancing, I did dancing so we practice and practice and practice and my dancing teacher said 'if you do something a thousand times it becomes automatic in your brain' so you just keep doing it and doing it and it becomes automatic. It doesn't go in your head by just observing it.*

It appeared that in addition to observing the task and having to carry it out themselves, the students seemed to like the repetition as this helped them to remember. The student explained *'it sticks in your head because you have done it so many times'*. S/he also compared this type of learning to his/her dance classes – whereby having plenty of practice helped him/her to remember. RT06 clearly remembers their dance teacher telling them, *'if you do something 1000 times it becomes automatic in your brain'*. The concern here is that carrying out

procedures automatically does not necessarily guarantee that the students truly understand the knowledge that underpins these procedures and there is then the risk that we are not producing 'critical thinking' radiographers and who are able to adapt their skills should they be faced with problems or novel situations. Moreover this repetition requires time and opportunities to be able to carry out these procedures, time that the clinical radiographer may not give the students if they are themselves busy:

> ***RT02****: ...It must be frustrating for the staff because I am slow and to get quicker you need to do it again and again and I am not getting to do it again and again. I will do it once and then maybe not again for the rest of the day. The next day I might do it twice and then not again for the rest of the day...They don't verbally say...they are not putting it across in a clear way to me and they were the crucial bits that I was missing in the whole process.*

Student RT02 is very conscious that s/he could not carry out the procedures as quickly as the radiographers. The student felt guilty that s/he was '*slow*' and may have delayed the busy pressured staff commenting - '*it must be frustrating for the staff*'. The student may have picked up on non-verbal communication, that the radiographers looked stressed, and that they were quickly trying to set up the patient.

An important point to note here is that RT02 stated that '*they don't verbally say*' – the radiographers do not explicitly explain the procedure in words. S/he also added that the radiographers *'are not putting it across in a clear way'* inferring that the radiographers were not giving the step-by-step instructions that s/he so needed to be able to understand. This student experienced this as s/he commented that s/he felt there were *'crucial bits that I was missing in the whole process'*. For RT02 the explanations were just as important as observing the procedures and the latter were not sufficient to enable them to fully understand. The tacit knowledge that was mentioned above refers to a type of knowledge that is not put into words.

However the student expected detailed and verbal step-by-step instructions on how to manoeuvre the equipment or position the patient.

This tacit knowledge was also noted in RT07's comments:

> *RT07: …Sometimes I will look at what we are treating but it doesn't have that much relevance to me anyway because they don't talk about what they are treating...*

RT07 reports that s/he could not understand the relevance of what the radiographers were doing because, *'they don't talk about what they are treating'*. Again the student appears to want more detailed explanations of what the radiographers are actually doing to be able to understand the treatment technique. This is encapsulated in RT02's comments:

> *RT02: ...I like the step-by-step-by-step, because I am a bit structured like that but I am not someone who will just copy without understanding it because I won't remember those steps. I have to understand why that step is happening or why I am doing it in order for me to remember it next time...*

Here the student clearly referred to the *'step-by-step'* instruction adding that *'I have to understand why that step is happening… for me to remember it next time'*. It is clear that observation was not enough for many of these students. To understand, they also need to know 'why'. Sometimes interaction with the student, instruction or explanation and checking to see if the student understands, was missing. Indeed my observation of RT06 adds weight to this:

> *The student is being completely ignored. I ask him/her how s/he is learning, 'just by watching' was the reply, but s/he says that s/he '[does] not understand what is happening or why [s/he] is doing things if [s/he] is given instructions'.*
> [Field notes, Hospital B, Imaging Suite, 20/02/08]

This also appeared to be the case in my observations of student RT07:

> *The staff are more concerned with treating the patient. There appears to be hardly any 'hands-on' experience from the student. The student does not appear to*

*understand the treatment instructions, but the radiographers do not take the time to explain. The Band 7 radiographer is calling out instructions – just a list of measurements, but the student does not appear to understand what these mean. There is no treatment sheet inside the room and the student comments to me that s/he does not know what s/he is doing. The student comments that the instruction sheet looks confusing.*
[Field notes, Hospital B, machine γ, 19/02/08]

It was evident that there were different kinds of learners as some students felt that they needed to ask questions to be able to understand the task and consequently learn new skills:

> **RT04:**...*for me to understand something I will always want to ask questions...I would rather try and at least understand half of what they want me to do before I can try and do it.*

RT04 felt that they needed to understand at least '*half of what they wanted [him/her] to do*' before s/he could comfortably attempt to carry out the procedure for themselves. Some students felt that they needed to ask the radiographers to explain the procedures to them if they were not forthcoming with their instruction:

> **RT01:** ...*I said 'tell me what to do now and I will do it'. I was sort of remembering what I saw or I would be making sure they told me what to do at the same time... I do take a step back and watch what is going on first...*

RT01 was quite direct with her need for instruction – '*tell me what to do now and I will do it*' and the words that the student uses - '*making sure they told me what to do*' give the impression that if the radiographers did not explain, then the student would demand it. This fits with independent learning. The students' apparent passivity appear to be caused by their needing guidance and lacking the knowledge, skills and confidence to carry out the procedures. If the students did not get a chance to physically carry out the procedure, it had a detrimental effect on their learning:

> **RT01:**...*[In Hospital B] I am watching more. I watched about 5 pelvic bricks and I haven't done one of them. I haven't assisted in one of them...I was doing it with [radiographer] and s/he said 'if you move it...' and I said 'I don't know what I am doing. You are going to have to tell me because I have only seen it and not done it'. I had seen patients six times and I hadn't done anything so do you know what I mean, they haven't let me do anything. I don't think I like it here as much.*

Student RT01 reports her lack of physical engagement with the procedures '*I haven't assisted in one of them*'. S/he tried to explain that one of the radiographers had asked them to carry out the procedure and gave them minimal instruction, but the student did not appear to know where to begin as they had only observed. S/he emphasised his/her lack of engagement with the procedures by saying '*I hadn't done anything...they haven't let me do anything*'. The student is flummoxed when asked to partake in the procedure. As the student has only observed the procedures, they seem unable to carry out the correct steps in executing the treatment technique. They have not had the step-by-step instruction and guidance whilst physically operating the equipment or positioning the patient. The radiographers may assume that students understand what they have been observing but where this is not the case, this can cloud the student's perception of clinical teaching. Radiographers felt that first-year students were learning (whether by observation or by physically carrying out the procedures,) by copying the radiographers although they may not necessarily understand the principles that underpinned what they were doing:

> **Rad6:** *The first year's just learning by rote and following instructions.*
> [Focus group Hospital A: 02/03/20, am session]

Here comments from the radiographer such as, '*just learning by rote*' and '*following instructions*' give the impression that this is probably what is expected from a first-year student. However this kind of instruction had had a detrimental effect on the radiographer's own training:

> **Rad5:***...I remember I did my third-year assessment looking at the screen, switching it on and I didn't have a bloody clue what I was doing. And then actually being qualified thinking "oh my god I've got to switch on, what am I to do?" People going through it with you, it does make a major difference.*
> [Focus group Hospital A: 04/03/20, am session]

The radiographer explains how as a student s/he carried out an assessment without truly understanding what s/he was doing. Once qualified, she reports feelings of panic when faced with the same procedure – '*oh my God I've got to switch on*'. Rad5 emphases this feeling of insecurity by their words '*what am I to do*?' This clearly suggests that it is not enough for the students to copy procedures and skills without understanding what they are doing. The radiographer admits in hindsight that it is better for '*people going through it with you*' and that this does indeed '*make a major difference*' to their understanding.

One further matter to note that may cause a problem for the student, albeit on a smaller scale, was the radiographer speaking Welsh to the patients. This was noted during my observations of RT04:

> *The Band 6 radiographer is talking in Welsh to the dietician. I have also observed this radiographer talking in Welsh to the patients, giving them instructions whilst setting up the patient. RT04 feels the need to tell me that she is put out by this and found it quite 'rude'! The patient did not instigate this and appears quite happy talking in English.*
> [Field notes, Hospital A, machine β, 29/01/08]

Here the student appeared to be having trouble trying to understand the procedure and any advice that the radiographer may be giving the patient or any discussions with the dietician that may be significant to the student's learning. It may be that the radiographer's or the patient's first language is Welsh and s/he may be unaware that other radiographers and students (including myself) do not understand the conversation. The student found it '*rude*' suggesting that the radiographer was actively excluding them. Whilst sounding like a seemingly controversial statement, this could be viewed in the context of the multiple roles of

a radiographer, possibly putting the patient at ease by using their first language. However the student does not perceive this in a positive manner, rather, s/he feels excluded.

The data have shown that many students felt a little short-changed by the amount of explanation and direction that they received from the radiographers. They made comments such as: '*they are not putting it across in a clear way*'; '*they don't talk about what they are treating*' and '*they don't verbally say*'. However, observation without explanation leaves students feeling confused, frustrated and annoyed. Nevertheless the students continue to observe and copy the radiographers at work as an apprentice would do and as the organisational structures seem to demand. They were learning by a form of apprenticeship, (reproducing task performance in routinised ways as described by Gamble, (2001) in Chapter 2) but they need step-by step instructions in order to understand what they are doing. There is a need for the radiographer to make explicit their thinking processes (tacit knowledge) which is not revealed by observation alone (de Cossart and Fish 2005; Eraut 2002).

In contrast, however, the radiographers saw the students learning by observation, which they felt was appropriate for first-year students.

The students were learning from their workplace experience. However, given that the staff and (at times) the students noted that some students in some contexts appeared disengaged whereas others asked for clear guidance in accordance with their perceived needs, we need to take a closer look at what actually drives the students to learn. Does motivation come from the students themselves, from the radiographers or does the clinical folder and assessment scheme play an important part in the motivation to learn? These points are explored in the following section.

## *5.4 The assessment scheme, competencies and checklists: do these drive learning?*

As discussed in Chapter 2, clinical assessments are performed in order to keep a record of the students' standard of clinical work and their competencies. There are two main forms of assessment in this programme; the clinical competency folder (formative) and clinical assessments (summative). The clinical folder comprises two main sections, one which monitors achievement of objectives. This folder is a tick-box record in which the radiographer records the student's competency to practice different techniques and procedures. The latter is rated from observed to competent based on the radiographer's judgement of the student. Arguably the clinical folder is formative in nature, although the level of achievement may be interpreted as a grade and hence summative in nature.

The clinical assessments on the other hand are summative assessments as the student is awarded a mark and grade for their performance when treating the patients without instruction. These assessments (carried out by the radiographers with the clinical lecturer) are performed in the first, second and third-year of clinical practice. The assessments vary in complexity and are geared towards the level of clinical experience. These range from two simple radiotherapy techniques assessed in the first year progressing to three, one-hour sessions in the third year where the student uses a variety of techniques and acts as team leader for a minimum of four patients in an hour. This puts a significant burden on the radiographers who need to organise the timing of these one-hour sessions, with the clinical lecturer who will be marking these assessments with one or two of the radiographers. In addition the students are assessed in the imaging suite and on their computer treatment planning skills.

The aim of this section is not to discuss the mode or structure of the assessment scheme *per se*, but to examine the extent to which the students' motivation for learning is influenced by

the clinical competency folder and clinical assessments, as this was a significant issue in the analysis.

## 5.4.1 The clinical folder

After acclimatising themselves to the new clinical environment, students are keen to learn but soon realise that they cannot learn everything and need a structured approach to their clinical learning, as discussed earlier in Chapter 4. The students tended to focus on specific tasks that require the radiographer's signature, in the clinical competency folder. The students relied on their clinical folder to guide them:

> **RT02:** *…I kept looking at it to see what I needed to do.*

Here student RT02 uses words such as '*kept looking*', which gives the impression that they kept their folder with them at all times and appeared to interpret on meeting the objectives set by the institution as constituting learning. In this, the student appears to use their folder as a tool to structure their learning. Student RT06 commented that:

> **RT06:** *… It sort of makes you learn, if you didn't have that you were just sort of having to learn by yourself; if you didn't have these objectives set down I don't think you would notice things as much and you would be looking out for them.  It helps you look out for them.*

Without this structured approach, the student felt that they would not '*notice things as much*'. The clinical folder appeared to guide the students to learn specific tasks, rather than looking for things to learn in an *ad hoc* fashion. In response to asking what drives learning, student RT01 stated:

> **RT01**: *Mainly the folder I would say [drives learning]. What is in the folder I feel I have to find out so I try and find out more about it.*

It also appeared that the clinical folder was not only a guide for the students, but also for the radiographers themselves:

> **Rad1:** *I think it is a bit like that [folder drives learning]. Students are more likely to do stuff. Got to tick them off, they like to see what they've done. But I do think it's a good guideline for us as well and what we're going to do.*
> [Focus group Hospital A: 04/03/08, am session]

The radiographer felt that '*it [folder] is a good guideline*' for them and by following the objectives and achieving the stated competencies, the '*students are more likely to do stuff*'. The radiographers also appeared to like this structured approach, and both student and radiographer were aware of what was expected and could work together. Rad1 also recognised that the students liked to see their objectives and competencies being signed off, and thought the students saw this as progress and achievement: '*they like to see what they've done*'. However, some students saw their clinical folder as an additional pressure and a '*pain*' as RT05 tells us below:

> **RT05**: *It's a bit of a pain in the arse really when you are trying to be in there to see as many techniques as possible. You have got to by the end of the three years - you are signed off as competent so you want to try and get started as soon as possible…getting competent in as many things as I can.*

Student RT05 felt under pressure to observe and take part in '*as many techniques as possible*' whilst they were working on that particular treatment unit. S/he was aware that they had three years to do this, but was keen to get '*competent in as many things*' and '*as soon as possible*'. Moreover, there may be the danger that the clinical folder was seen by the student as a 'tick box' exercise leading them to concentrate solely on what the institution wanted rather than as

a guide to learning to become critical thinking radiographers, equipped to deal with situations using the knowledge and skills that they have learned. This is evident from the following quote by a radiographer during focus group sessions:

> **Rad10:** *Ah...the clinical folder, like the old logbook – the numbers game*
> [Focus group Hospital A: 04/03/20, pm session]

Here the radiographer compared the clinical folder to the '*old logbook*', which was used by students following the diploma route before the advent of the degree qualification and one, which I myself used as a student. When the logbook of old was used as a record of clinical training, the student had to achieve observing or assisting in for example, several hundred 'megavoltage' techniques in one section of the book. Specific techniques were not prescribed and there was no record or differentiation of the level of competency. As a result, as students, we had to reach the target of the numbers that were stipulated in the logbook, which was then signed by the radiographers. It was a '*numbers game*'. This radiographer felt that the clinical folder, although more structured and attesting to the level of competency achieved, was not dissimilar to the '*old logbook*'.

The students were also aware that unless they achieved these numbers and competencies they would be unable to graduate:

> **RT04:***...you always want to fill it up as much as you can because it says in a big box at the front that you won't be signed off [as competent]. Unless you are signed off you won't be allowed to graduate.*

This reveals something of the pressure that the student is under at a very early stage of their training and the thought of not being able to graduate appeared threatening when it was written '*in a big box at the front*' of the folder. This served as a constant reminder to the students, which the radiographers themselves were aware of:

> **Rad4:**...*Being told you're not going to graduate unless you've got like 20 prostrates and, so you just think I've got to get them signed off*
> [Focus group Hospital A: 04/03/08, am session]

Although busy, radiographers may be very much aware of the pressure that the students were under to achieve these competencies, but were unable to spend more time with them, as discussed earlier in this chapter.

Student RT07 also finds the clinical folder annoying, but appeared to use it to his/her advantage, by using it as a passport to participation in procedures and carrying out tasks:

> **RT07:** *Although they [clinical folders] are annoying, I still really think they are a really good idea because a lot of the time the people on my machine have not let me do something and I will say to them 'can I do this because I have to get it signed off in my folder at some point' and it is just an excuse to say 'I have to do this, please let me'. Then they will let you do it...but if you just say 'can I do this because I want to'...they just wouldn't let you do it.*

The student explained that in his/her view, although they found it '*annoying*', to have so many objectives and competencies to sign off, the clinical folder could be used to seek participation in procedures. Here the student mentioned that most of the time, they were not allowed to do anything apart from perhaps observe, but they used the clinical folder as an '*excuse*' to ask to carry out specific tasks. The word '*excuse*' conjures up impressions of the student being manipulative, devious or dishonest in their actions. The student felt that if they did not have these specific objectives and competencies to fulfil, then the radiographers '*wouldn't let you do it*'. The students were aware that it was the radiographers' role to teach them and sign off their competencies and the radiographers felt obliged to allow the student to participate in these procedures should they ask. It can be seen that as well as the folder providing a structured approach to clinical learning, the students used it as leverage. They were learning how to 'play the system', as in Becker *et al*'s (1961) study of medical students described earlier.

To add to this, the students noticed that the level to which they are signed off appeared to be subjective and varied from radiographer to radiographer and between clinical departments:

> **RT07:** *...I was acting like a team member for breasts and did pretty much everything so I was doing quite well in [Hospital A] and s/he signed me off quite highly for all of them. I got competent for parallel-opposed pairs, which was really good and I was happy with that. I did quite well for all of them. I was quite happy with it. But then this one I was pretty much doing the same stuff here [Hospital B] but just with a bit less permission and like s/he signed me off really low for all of them and I was like 'great, thanks!' S/he said you have picked this up really well, you've done really well and then signed me off as 'assisted' and I was like 'yeah, cheers'.*

RT07 comments on how s/he '*did pretty much everything'* in Hospital A and was signed off '*quite highly'* 'which indicates that they were included in the team of radiographers and allowed to participate in many procedures thereby improving on their skills and level of competency. However in Hospital B, the student felt that they were able to carry out the tasks but '*with a bit less permission'*. This suggests that the student was not allowed to carry out some of the tasks. This may have prevented the student showing the radiographers what they were capable of and thus they were marked to a lower level of competency i.e. '*assisted'*. The student saw this as a retrograde step in their level of progress and appeared to blame the radiographers for not allowing them to carry out enough tasks. But, they were told they were good anyway– '*you've done really well and then signed me off as 'assisted' and I was like 'yeah, cheers'*. The sarcastic comment of '*yeah cheers'* at the end indicates that the student felt unfairly assessed.

This variation in level of competency that the radiographers sign off was also reflected in RT06's statement:

> **RT06**: *...The way they sign it [folder] off...some mark you higher than others.*

There was variation not only between radiotherapy centres, but also between radiographers in the same department, which clearly shows that subjectivity may be a real issue or that standards may be different. Students began to feel nervous about how the radiographers would judge them, as well as asking the latter to sign their folder during busy times:

> **RT06**: *...You push yourself to make sure they make sure it is done because if I haven't done enough then they just won't sign it off for me so I feel kind of nervous asking for it and piling more work onto them. 'Do you mind signing this off?' and you are just standing there and they are sort of like 'what do we tick off for her?' You are standing over them going 'do you mind signing that off please?*

RT06 felt that s/he had to '*push*' herself to achieve these objectives and competencies, as they knew that the folder would not be signed. This could also be seen as a driver for learning. That RT06 felt '*nervous*' asking the radiographers to sign the clinical folder and the student's awareness that they may be '*piling more work onto them*', indicates how busy the radiographers were with their own clinical work . Taking the time to allow students to perform tasks and signing their clinical folder, may have had the effect of slowing down the radiographers' work schedule. The above comments suggest that the student was beginning to realise that they were not at the forefront of the radiographers minds and that they had to push themselves forward to get what they wanted. There is also a sense of awkwardness as the radiographers decided how good the student was whilst the student was standing there -'*what do we tick off for her?*' as RT06 states. The latter statement indicates how the radiographers decided as a team on the level of student achievement. This could enhance the fairness of the assessment, but RT06 felt that they were '*standing over them*' which appeared to make the student nervous. The need to ask things of the radiographers influenced the dynamics between clinical radiographers and students. Students could be afraid that they may be told 'no' or told off that it was not a convenient time. They may be afraid of upsetting the radiographers, which could impact on their assessment. This of course is just speculation, but my observations of

the students have certainly added weight to this fear of asking whilst the radiographers were busy and almost hovering around them waiting for the right time 'to take the plunge'. To add to this, there has been a shift to signing competencies electronically (which began one year before commencement of this study), in the event that the student's paper copy of the clinical folder is lost or damaged, whilst also serving to discourage students from faking radiographers' signatures. However, the radiographers seemed to struggle with this:

> ***Rad18****: Doing it electronically...you're just doing it remotely for the student at the end of the day. They're surprised at them when it comes through. I just think maybe we should just have a little chat when they've finished their placement or have some kind of halfway chat or at the end or both...Set aside time just to say "how's it going? What do you think?"*
> [Focus group Hospital B: 05/03/08]

Here the radiographer states that the electronic signing of competencies and behavioural assessment is '*done remotely*' inferring in another room or from home and not in the presence of the student. That the students are '*surprised...when it comes through*' implies that the student does not know when the competencies may be signed off. However, the radiographer here saw the problems with this method and noted that the move to electronic portfolios led to a potentially lost opportunity to sit down and discuss with the student what was being signed off and why; and an opportunity to rectify problems or at least to ask them how they were getting on.

The students themselves were required to provide a reflection of their clinical placement, which was done electronically:

> *RT07: I'm not good at writing reflections. I'm not sure what I should write… I don't always do it, especially as it's done electronically.*

> *RT02: I usually write the good and bad things about placement, usually the quality of teaching and how the radiographers have treated me.*

> *RT03: I find it hard to know what to write, but it's expected that we do it. I sometimes forget.*

> *RT05: I hate reflection. I sometimes can't be bothered. I don't see the point really.*

These comments reveal how difficult students found it was to reflect on their personal and professional experiences of clinical practice. The students will have had lectures on reflection in the preceding academic block (see block plan appendix B). They will have studied Gibbs' and Kolb's' models of reflection, but they seem to have forgotten this and fail to make the connection between academic and clinical education. It was not compulsory to write these reflections and to do so electronically appeared to be an additional burden. My personal experience of being a clinical lecturer was that I frequently reminded the students to do so, but not think it necessary to instruct them in writing a reflection as I assumed this would have been done in the academic block.

To the pressure of achieving competencies on each treatment machine, we can add a further challenge for the students into the mix. This is the issue of 'site-specific machines'. Many clinical departments have treatment machines that treat mostly a specific area for example, a 'breast' machine or a 'head and neck' machine or one that treats mostly prostate cancer. This means that mainly the same technique is employed in treating these patients; therefore there is repetition of the procedure that enables the students to learn that particular technique well. This however causes some concern amongst the students, particularly for those working on a general machine, i.e. one which treats a variety of cancers and employing different techniques:

> **RT01**:…*Maybe if I was doing a prostate like [RT05] I would put myself down as competent because it was the same sort of thing over and over again but with head and neck it is a bit different. Different techniques and a bit more complicated procedures but I would definitely put myself down as consistent for most of those.*

Apparently being driven by these competency measures and targets, student RT01 constructed their working on a site specific machine as unfair as they observed other students doing '*the same sort of thing over and over again*' which provided an opportunity to reach a '*competent*' level with apparent ease. However this student also recognised that some techniques were more complex such as head and neck treatments. Nonetheless the student assessed themselves as at least '*consistent*' even for the more complex treatments on the site-specific machines. The radiographers themselves were aware of the issues with working on site-specific machines:

> *Rad14: Some students feel they're hard done by because they're on a machine that's got loads of things on there, they'd be expected to do four different things [for assessment], and then the students on the other machine going to treat four prostrates in the next hour.*
> [Focus group Hospital B: 05/03/08]

This reference to four treatments relates to the clinical assessments the students have to undertake in their final year, whereby they should treat a minimum of four patients in an hour. The other issue here is that the student may only be placed on that site-specific machine on one occasion early on in their training thereby increasing the pressure to be signed as competent at that particular time as the following radiographer alludes to:

> *Rad4: ...I think people realise that that might be the only time that student's on the breast machine in their 3 years and you have to get them up to competent. I think we kind of realise that now...*
> [Focus group Hospital A: 04/03/08, am session]

The radiographers realised the need for the students' eagerness to get things signed off in their clinical folder, as they may not have the opportunity to return to that site-specific machine. Therefore what the folder does is work to align the expectations of the university with the

clinical environment. One radiographer recounts her experiences as a student on a site-specific machine and how this impacted on their performance at assessment:

> **Rad5**: *I think I had my assessment on [α treatment machine]…I had a breast, I hadn't done a breast since I was in the first year, and was sort of "okay how the hell do I do a breast?" Then I had a head and neck and I didn't have a clue. The only time I learned to do head and neck was...here... I just thought "oh well so and so's on [β treatment machine], s/he's doing 12 breasts, they're all breasts today and I, well, had done one in the first year. S/he's obviously going to get 90%...*
> [Focus group Hospital A: 04/03/08, am session]

The radiographer was working on a general machine and had to firstly treat a breast during their final third-year assessments but they '*hadn't done a breast since [he/she] was in the first year*'. They were next presented with a '*head and neck*' category of treatment for their assessment and '*didn't have a clue*' where to begin. They recalled the unfairness that they felt when another student worked on a site-specific machine – '*s/he's doing 12 breasts… S/he's obviously going to get 90%*'. This resonates with Eraut (2002) and Rogoff (1990) who stress that repetition enables the learner to carry out procedures more efficiently. It can be seen that the pressures and complexities of aligning the work context to the academic expectations falls short of the idea of a universal experience for the student.

In addition to the completion of specific objectives and competencies, the students realised that mastery of skills was not only necessary for their record of competency, but also in preparation for their clinical assessments.

### 5.4.2 The clinical assessment

As mentioned at the beginning of this section, the students have to undertake a series of clinical assessments during their three years of training. For first-year students, the requirement is to treat two patients, which are categorised as simple techniques. The following

extract shows how the students perceive their clinical assessments and how it influences their drive for learning.

> **RT07:** *…It [assessment] also gave me something to aim for like it just kind of gave a point to the whole clinical…The 4 days after I had done my assessment I was just like what is the point, I don't have an assessment anymore. I can't be bothered to do well. I can't be bothered to make an effort because I am not being marked on it.*

Student RT07 sees the clinical assessment as '*something to aim for'* thereby encouraging them to learn and to achieve good marks. They also state that it '*gave a point to the whole clinical'* providing a reason for their clinical learning, which culminates in a clinical assessment at the end of that particular clinical block. This student adds that they could not see the point in making an effort to learn after the assessment had taken place as they '*are not being marked on it'*. This reveals the importance of the marks since once they have passed that particular assessment, the pressure is off them to work hard. Student RT04 shares similar views:

> **RT04:** *…the assessment I suppose is the end of the constant learning you have done since you started on that machine in that placement so you know that you need to get so far to be able to pass it so it is like a target you work towards.*

RT04 describes the assessment as '*the end of the constant learning'* which emphasizes the pressure and the continuous momentum to do as much as possible for the final performance of an assessment which they clearly saw as the '*end'*. As with RT07, the assessment was seen as an aim , a '*target you work towards'*. Knowing that there was the prospect of a clinical assessment, the students not only strived to learn as many skills as possible, but also relevant tasks that were expected to be fulfilled during an assessment in order to achieve good marks:

> **RT03:** *…I knew I had the assessments so every time there was a supervisor they let me do it and I just did it the way they showed me. It wasn't as if I had to learn*

> *it but because I had assessments...I started gelling my hands a bit more because I knew I had to do that and I knew it was one of those things I had to do and get a mark.*

RT03 explained that they followed all the steps that the radiographers carried out and '*did it the way they showed [him/her]'*. The student mentions that they followed certain procedures not because they had to learn them, but because they would be marked on them. S/he gives '*gelling*' of hands as an example of something they would be marked down on if they failed to carry out the procedure. Radiographers should clean their hands with alcohol gel to avoid cross-contamination of bacteria when they touched the patient and then touched the equipment or controls. Perhaps the radiographers were not so scrupulous in carrying out this procedure to the maximum; therefore the student has developed a heightened awareness of tasks that will gain marks during their clinical assessment. Some radiographers appeared to think that some tasks were unnecessarily marked down if they were not done:

> **Rad8**:*...it dents their confidence when they've treated that patient perfectly to get marked down because you haven't turned the lasers off before you got in the room or something. Does it matter? ...should that be part of the assessment? Is it relevant? Does it make them a less competent radiographer if the lasers are left on...?*
>
> **Rad12**:*You can get somebody marked down for wearing a watch on their wrist as well!*
> [Focus group Hospital A: 04/03/08, pm session]

This radiographer gives leaving the lasers switched on during the treatment of the patient as an example of losing marks during an assessment. They state '*does it matter?'* and '*does it make them a less competent radiographer?'* This gives the impression that they thought that the assessment created a false situation at work. It also infers that the radiographers are working in the real world and that the assessments are removed from reality on occasions. They may also have felt their performance and standard of work was being indirectly

criticised by the academic institution. The radiographer's comment on the student being *'marked down for wearing a watch'* appeared to emphasise how ridiculous they felt assessments could be.

This preparation for assessment is also followed by other students:

> **RT02**: *... I had to observe and ask a lot of questions when the assessments were coming up. When I had my mock...before the assessments, I could see a lot of holes and stuff that I didn't understand, why things were done and how they were done. Maybe that was good. Maybe that was how I needed to do it for my own learning....I think the box in my head says the tick boxes are the same, percentage and grades are what they are looking for .*

RT02 comments on how they asked *'a lot of questions'* leading up to the assessment period in order to prepare themselves for the big event. They also comment that a mock assessment revealed *'a lot of holes'* or gaps in knowledge, and *'why things were done and how they were done'* – the student wanted to ensure that tasks were carried out correctly and skills were employed appropriately in order to achieve good marks. The student makes reference to these marks when they state that *'tick boxes are the same'* which refers to the objectives and competencies being signed off which are the same for all students. RT02 was very much aware that the only way to distinguish between good and bad students is by looking at what marks they had achieved - *'percentage and grades are what they are looking for'*. Again we can return to Becker *et al's* study (1961) in which the students found more economical ways of learning and appeared to adhere to the notion of doing what the institution expects in order to pass and to do well. This also gave rise to an air of competition between students, also described earlier in the previous chapter (chapter 4). As RT05 states - s/he has '*got to get excellent'*:

> **RT05**: *...I heard that other people had had 'very good', 'good' so I think I have got to get 'excellent'*

So we can see that competition and intuitional expectations also drive learning; and that this learning is conceived of an on going marking of competencies and skills achieved (rather than 'learnt').

As noted previously, providing learning opportunities for students was argued to be difficult due to other pressures that were present in the work environment. As it was the role of the clinical supervisor and radiographers to assess, accommodating the assessment period into their busy work schedule appeared to put them under considerable strain:

> **Rad19:** *You're trying to rush and then...You're going to be late basically.*
> [Focus group Hospital B: 05/03/08]
>
> **Rad2:**....*by giving some patients double-slots…like we just try to find time and…not fall behind.*
>
> **Rad1:**...*The boss coming around so often, wondering why we're behind.*
> [Focus group Hospital A: 04/03/08, am session]

The radiographers give the impression that having to perform these assessments put them under pressure to speed up the assessment process or - '*trying to rush'* as the students will obviously be slower in performing the treatments, but Rad19 states that they had to resign themselves to the fact that '*You're going to be late basically'.* Rad2 agreed that they were under pressure and referred to finding '*double-slots'* for patients who would be assessed by the student. This means that instead of for instance, allocating 10 minutes for the patient to be treated, they '*try to find time'* and allocate 20 minutes to allow the student to be assessed and marked so that the radiographers did not '*fall behind'* schedule. In addition, the radiographers felt the institutional pressure of the manager who continually monitored how the treatment machines were performing. Rad1 states - '*the boss coming around so often'* checking that patients' waiting was kept to a minimum and '*wondering'* why the radiographers were '*behind'* schedule. Staff time and availability of machines reflects broader organisational

issues, which involve managers/management, schedules of patients, workers' shifts, waiting times and waiting lists.

The following section gives a closer examination of the data referring to studies, theories and concepts to help shed light on why these phenomena may occur.

## 5.5 Discussion

The discussion presents the educationally orientated findings and describes theoretical perspectives used to elucidate some aspects of clinical pedagogy. It is split into two sections in order to give a clear distinction between the students' and radiographers' perspectives. Key common issues/challenges discussed are time, the difference between the banding of radiographers in terms of quality of teaching (a student's perspective) and responsibilities (a radiographer's perspective); assessment, competency-based and the apprenticeship models of learning; the clinical folder, and the curriculum. I consider separately the quality of teaching and learning styles purely from the students' perspective and CPD as viewed by the radiographers.

### 5.5.1 The students' perspective

#### 5.5.1.1 Quality of teaching

The students seem to judge the quality of teaching very soon into their clinical placement. They focused particularly on the time spent with the radiographers and the depth and quality of instruction. One radiographer singled out as being a good teacher was Tracy. Student RT04 stated that Tracy was good with students as '*she knows how much [they] have done*' and understand that they have only had one preceding academic block. (p.191) Tracy appears to know at which level to pitch her teaching. RT01 singled out Tracy as the obvious one, as she has had teaching experience and '*knows how to explain stuff*' (p.191). Another radiographer,

Paula, had previously been a schoolteacher before becoming a radiographer, and student RT03 noted that she is '*one of the better ones*'. Paula was deemed to be a good teacher as she would explain things slowly, was patient and held back to allow the student to participate in the procedure (p.191). This student appeared to have the radiographer's full attention, received full explanations of the procedure and at a slow enough pace for them to understand. Participation and a sense belonging are what the students strived for in order to be able to learn. However on many occasions this was not the case and the radiographers who were perceived as being good teachers were few. The students focussed on what they perceived as being bad teaching. Students' interpretation of bad teaching included - being ignored, being placed at the periphery of teamwork activities, being sent on menial tasks or the radiographers not answering their questions or giving brief and superficial explanations. Students RT03 and RT02 (p.142) commented on how the radiographers did not explain things and that one (Band 7) radiographer turned her back on student RT02. This was a clear message to the student that they were excluded from the team. Being sent on peripheral tasks was another aspect of bad teaching as perceived by RT04 (p.143). When the explanations were not forthcoming from the radiographers the students started to ask questions. They were frequently surprised with the response that they had. RT01 was surprised that a radiographer replied '*I don't know*' to one of their questions. The expectation was that the radiographers should have the knowledge to answer any questions. RT07 eventually gave up asking questions because the answers were so brief or there was reluctance to give any explanation at all (p.150). The students found this reluctance to answer questions, combined with being excluded, ignored or sent on peripheral tasks was frustrating and hampered their learning. Again we can draw on the concept of 'belongingness' (Levett-Jones and Lathlean, 2008; 2009) as discussed in chapter 4. Excluding students from the treatment of patients not only affected their professional socialisation and self-esteem but also their ability to learn and ultimately their competency to practice. I

therefore concord with Levett-Jones and Lathlean's (2008; 2009) conclusions that student exclusion severely hampers learning. The students needed to belong to a 'community of practice' as outlined by Lave and Wenger (1991) in order to be able to learn to become radiographers. The participation metaphor as described by Sfard (1998) and endorsed by Felstead *et al* (2005) recognises that knowledge is contextual and is produced and continually reconstructed through relationships (i.e. between the students and the radiographers). The students needed to participate as part of a team in order to learn but they battled for the radiographers' time and attention and to be included in the team of radiographers.

### *5.5.1.2 Time for learning*

The students observed that the radiographers were busy, particularly during shift work stating that the radiographers were stressed and in a rush and continuously looking at how many patients were in the queue. This had the effect of radiographers not engaging in clinical instruction with the students and as a result the students felt left out and ignored. As pointed out by RT04, '*on the busier days they teach me less'* (p.201). Some students, such as RT05, were told by the radiographers to stand back in order to allow them to continue with their work, as they were too busy. This lack of time was exacerbated by shift workdays as RT01 noted that the radiographers appear '*stressed and in a rush'* (p.200). One of the students, who then began to examine the list of patients for themselves, was very quick to criticise the radiographers as teachers if there were few patients waiting. The general feeling was, that if there were few patients waiting, then there was no excuse for the radiographers excluding the student. It can be seen that there was a constant battle for time for the radiographer and equally a constant battle for the student to get the radiographer's attention. There was an expectation of the students to have this constant attention from the radiographers and when this failed to occur, they saw this as a negative experience and portrayed the radiographers as

bad teachers. Learning in the clinical environment was not as straightforward as they had imagined.

The students also began to notice a difference in the quality and amount of teaching from the different bands of radiographers.

### *5.5.1.3 Difference in teaching between the bands of radiographers*

The students perceived differences in individual performance of radiographers in that not all were 'good' teachers, but there was no single message about who was the best - particularly with reference to banding. The data revealed that the students noticed a difference in the quantity and quality of clinical teaching between the different grades of staff. However an important aspect of this is that the students appear to have distinguished between the grades in terms of hierarchy related to the individual roles and responsibilities of the individual staff grades as set out by AfC. The students noted that they received more instruction from Band 5 radiographers compared to Band 6 and moreover, Band 7. The Band 7 radiographers were immersed in responsibilities and duties towards the treatment of patients. The students saw the unfairness of the situation, particularly when they had to approach the Band 6 or Band 7 radiographers to assess their clinical competence. Interestingly, the Band 5 radiographers may have had a better judgement of the student's performance, simply because they have spent more time with them and were '*a lot more centred on what the course entails because they have recently gone through it'* (RT05, p.209). Band 5 radiographers were more up-to-date with their teaching as they had recently gone through the training process. For the students, their knowledge was current and they were approachable. Student RT03 made reference to the 'first-line' (Band 5) radiographers allowing the student to do more and explaining things nicely (p.206) whilst the older staff (implying the higher banded radiographers) did not offer much explanation of the procedures. RT01's view was that the younger staff were more

prepared to step in and correct the student if mistakes were made, whereas the 'older' radiographers could see that the students were making mistakes, but explanations were not given, and they would just intervene and continue with the patient's treatment. Therefore the student did not gain any new understanding from this approach. It is important to note that Band 5 radiographers were not allowed to sign the students' clinical folder as this was not part of their remit (see Appendix J).

The relationship between quality of teaching and seniority was not straightforward, however. There was no clear message of who was the better teacher in terms of banding, only that the band 5 radiographers appeared to spend more time instructing the students. Student RT07 thought that the depth of explanation given by Band 7 radiographers (when it was given) was better than that from the band 5 and the higher banded radiographers explained things in a simpler manner – '*what you know to do the job*' (RT07, p.208). The students felt somewhat cheated because Band 7 radiographers were reluctant to involve themselves in teaching. However RT06 noted that the older ones seemed to want to pass it onto the lower bands to teach because they were too busy with their other duties. This view was supported by RT04 who noticed that the Band 7 radiographers were telling the band 5 radiographers to get more involved with the teaching (p.209).

This was not the intention of Agenda for Change. What the students failed to understand is that this hierarchical structure (as discussed in Chapter 4) was inherent in the banding structure and linked to the responsibility of training junior staff, management of the patients, staff and running of the treatment unit. The Band 7 radiographers may be encouraging the Band 5 radiographers to teach so that they can gain experience, or perhaps they do not have time to teach. I suggest that it was more a case of the latter, based on my observations, student comments and the admission by radiographers that they always battled with time. The students did not appear to perceive nor did they understand these pressures. What they saw was a

hierarchical structure and who was good at teaching. The next section considers the strategies adopted by the students in order to be able to learn new skills and knowledge.

### *5.5.1.4 Learning strategies*

If we examine the main themes of the data, it can be seen that in many instances, teaching in the clinical environment appeared to be conducted in a rather *ad hoc* fashion affected by institutional as well as personal factors, where time permits and dependent on the individual radiographer. Radiography has experienced radical changes over the past 10 years, just as in pre-registration nurse education. The major shift has been with student nurses moving away from the traditional apprenticeship-type training to a Higher Education based preparation (Brown *et al*, 2005). This again is a similar pathway that many allied health professions have followed. The Quality Assurance Agency (QAA, 2001), recognise the importance of maintaining a high standard of quality of clinical practice placements. Some parallels can be drawn from the clinical experience of student nurses and radiotherapy students. The QAA (2001) state that good clinical experience should take place in a 'supportive' environment – in that the clinical staff should teach, mentor and evaluate the students' progress and give them a good clinical experience. However, as we have seen, the data in this study suggest that there are numerous organisational factors, which lead to students being inadequately supported in clinical practice.

The impact of these pressures is that generally the students' perceptions of the lack of teaching and integration of theory into practice are certainly evident. Knowledge is developed through '*way in*' and '*practice*' (Lave, 1997). '*Way in*' is a period of observation, where the student watches the radiographer treating the patient. '*Practice*', as Lave (1997) states, is refining and perfecting the use of acquired knowledge and skills. The 'master' or expert radiographer is more skilled than the students with a broader knowledge base. The students

are themselves learning to think, behave and act like the radiographers through a process akin to the Vai and Golai tailors described by Lave and Wenger (1991) which was discussed in Chapter 2. What was evident from the data was that although the role of observation in learning was important, there was also a need to make the tacit more explicit to the students (Lave and Wenger, 1991). Radiographers may fail to note the tacit component of their clinical reasoning and the organisational aspects that might impact on this and fail to make this explicit to students because they focus on treating the patient rather than analysing their own thought processes. As student RT07 stated earlier- '*they don't talk about what they are treating*' (p.214). de Cossart and Fish (2005) also note that aspects of tacit knowledge may be overlooked in the future, because so much emphasis is being placed on learning outcomes, objectives and competencies which are made explicit in the curriculum and given importance in determining what it means to be competent to practice. Some of the students noted that they learned by observation and repetition of tasks as RT06 highlighted '*it sticks in your head because you have done it so many times*' (p.212). This is what Eraut (2000, p.123) alludes to when he states '*they no longer have to think what they are doing because they have done it so many times before*' (see Chapter 2, p.69). According to Eraut (2000), through repetition the radiographer will have become so familiarised with the procedure that they no longer need to think about the individual steps involved. As a result they may not communicate the steps to the student. Student RT06 recalled her dance teacher telling her '*if you do something a thousand times it becomes automatic in your brain*' (p.212) which de Cossart and Fish (2005) refer to as being on '*autopilot*' (p.195). There was a tension here in expectations of radiographers and students as some of the students preferred the step-by-step instruction on the basis that observation was not enough to enable them to understand what they were doing. Student RT02 saw the lack of explanations as '*the crucial bits that [they] were missing in the whole process*'. This is procedural knowledge that could have been made explicit with

explanation but was remaining hidden. The students were learning by watching but they had limited opportunity to understand the reasoning behind the actions. This is the lack of communication of tacit knowledge (knowledge not specifically put into words) that Eraut (2000) and de Cossart and Fish (2005) speak of. My observations of students RT06 and RT07 (p.215) reinforce these statements made by the students as I noted that they were being ignored or had no opportunity for hands-on experience. RT01 describe their learning strategy as first taking a '*step back and watch'* but then they expected to receive explanations whilst they try to carry out the procedure for themselves. This appeared to be the same for student RT04, who needed explanations and asked questions before attempting to carry out the treatment. Gamble (2001) has argued that the apprenticeship style of learning is no longer a suitable way of learning in a clinical environment. Bleakley (2006) and Eraut (1994) concord with Gamble and state that experiential learning is insufficient to meet the needs of health professionals. There is concern that the apprenticeship style of learning falls short in achieving flexible learning and practitioners developing critical thinking skills (Gamble, 2001). The data highlights that the students learn by some form of apprenticeship, however I share the concerns of Bleakley (2006), Gamble (2001) and Eraut (1994), as learning by copying the radiographers and repetition does not guarantee that the students develop critical thinking skills. The main contender to the apprenticeship model (as discussed in Chapter 2) was the competency–based model of learning.

In addition to the apprenticeship model of learning, the students in this study also used the competency approach as prescribed by the clinical folder (which can be loosely termed the clinical curriculum). The clinical folder is discussed in more detail in the following section. Basically the students learn what is prescribed in the clinical folder. The competencies do not appear to reflect the hidden curriculum (things which are learned but not openly intended, such as norms, behaviours and values conveyed in the social environment) and what the

students need in order to become radiographers, taking into account hierarchy, culture and surface learning. In addition the competency-based schemes do not truly reflect the students' critical-thinking skills, autonomy and best practice. Dearing (2007) and de Cossart and Fish (2005) are of the opinion that we are not producing these critical-thinking practitioners. With advances in technology, the treatment of patients has become more automated. The radiographer is still required to be able to use the equipment, but so many processes are done at the touch of a button that students do not see what is being changed inside the machine (which changes the treatment parameters). The older machines required us to physically insert accessory equipment into the machine, which modified the radiation beam, and the radiographer did more of the operation of equipment manually. This enabled us to see clearly what was happening and helped us to understand the fundamental knowledge that underpinned the treatment technique. I feel that this can also be regarded as a form of tacit knowledge, which is taken for granted that the students understand. Understanding 'why' is important in developing critical thinking skills.

The competency-based scheme still remains a subjective approach to assessing competency, which resembles the tick-box approach to learning skills. The students' learning appeared to be guided by what was prescribed in the clinical folder and the Dearing Report (see Chapter 2), states that students need to manage their own learning and development in life as the work in radiotherapy is in continual change. This change is due to advances in technology and new cures for cancer and there is a requirement that we need to produce confident, independent and autonomous radiographers not only to keep pace with these challenges, but also in unusual or unexpected situations that demand the practitioner to 'think on their feet'.

My experience and observations noted a shift towards signing competencies electronically, which only served to exacerbate the problem of time and logging-on to another computer that may be remote from the treatment area. This has meant that quite often, the signing of

competencies and completion of behavioural assessment forms are left until the end of the student's placement and frequently after the student has moved onto another placement. If left too long, the radiographers found it difficult to remember the student's performance with accuracy and moreover any problems encountered with students could not be rectified. This meant that students could not learn from past mistakes or rectify problems with learning skills and then proceeded to take these problems onto another placement. In addition, as mentioned earlier, students were required to write a short reflective piece at the end their clinical placements. This was done so that the students may also learn from reflection, however they found this a difficult and tedious task. Schön (1983) has stressed that reflective practice is a form of critical thinking. His model of reflective practice (discussed in Chapter 2) was developed in response to concerns about the growing gaps between practical knowledge and actual competencies required of practitioners and the research–based knowledge taught in academic institutions. Critical reflection was argued to be a key and necessary component of any contemporary training programme (Higgs, 2009). According to Schön (1983), if practitioners and thus students, think more critically about what they are dong, they will learn more profoundly. This principle however, was not so straightforward to achieve in practice. Students RT03 and RT07 found it hard to know what to write and seemed to have forgotten how to write a reflective piece – guided by Gibbs' and Kolb's models of reflection (which they had studied in the preceding academic block). Perhaps it needed to be emphasised more by the lecturers during the academic placement that students needed to be able to reflect as it is a way for them to learn and that reflective practice should be part of their work when they qualify. This apathy to reflect can be seen in RT05's comments – '*I don't see the point really*' and the students admitted that they sometimes forgot or were reluctant to write them, particularly as they were done electronically. For the students who did reflect, such as RT02, the focus was usually on the '*good and bad things about placement*', which was the '*quality*

*of teaching'* rather than what they had learned and what they would do differently on the following occasion. The students were therefore not using this as a part of the learning process, which was the real intention of writing a reflective piece, but merely a platform to voice their opinions.

It can be seen therefore, that learning in the clinical environment did not rely on one model or strategy of learning. A mixed models approach, which combined aspects of apprenticeship, competency-based learning and reflection, was being used in radiotherapy clinical education. As discussed earlier in Chapter 2, Trede and Higgs (2003) believe that a mixed model approach to learning may guard against the pitfalls of the tick-box approach and learning by rote, which do not allow for reflection and limit the development of understanding. However, I feel that this should be regarded with caution, as it depends entirely on how these models are adopted and put into practice. The current radiotherapy curriculum for example may include reflection, but to be of value, it needs to be conducted properly. Similarly the apprenticeship model of learning requires more than just observation, but also participation in teamwork activities whilst receiving explanations of the critical steps involved in the treatment of patients.

### 5.5.1.5 The clinical curriculum and assessment

In this study, the clinical curriculum was presented to the students in the form of a clinical folder. Here, the folder outlined objectives that needed to be completed in years one, two and three of the degree programme. In addition, there was a competency section in which students were required to document which treatment techniques they had taken part in and to which level (ranging from observed; assisted; performed; consistent and competent – see appendix D). The radiographer was then expected to sign the student off at the level that they deemed

the student to have performed. It was also compulsory for the students to complete the clinical folder and achieve competency in specific techniques and failure to do so would mean that the students would fail to graduate. As RT04 stressed '*it says in the big box at the front [of the clinical folder]…unless you are signed off you won't be able to graduate*' (p.223). As a result, the students' main focus was completing the required sections of the clinical folder and learning what was listed, but doing very little beyond this (see student RT02, p.220; RT06 p220). The clinical folder was the main driver of what the students needed to learn. Therefore they placed much importance on getting as many things signed off as they could.

Goldie *et al* (2007, p.612) argue that the formal presence of a professional or clinical curriculum would make learning to be a professional more explicit and no longer left to a process of '*osmosis*'. However, this is precisely how the students learned in radiotherapy clinical practice. The 'hidden' curriculum should be made more explicit to students and radiographers. As discussed in Chapter 2 (p.62), Jackson (1968) saw the hidden curriculum as a socialisation process (as discussed in Chapter 4) whereby the students learned by experience of being in the clinical environment. Students learned to be neat and punctual, courteous to clinical staff, wait patiently, keep busy and complete work (Jackson, 1968). They are socialised into the workplace and professional culture and these experiences are important in shaping the novice practitioner. Yet, these values are not made explicit in the formal clinical curriculum where students, radiographers and academic staff appeared to place the most importance.

Participation in the clinical environment contrasts to a focus on knowledge acquisition in the academic institution (see Sfard, 1998). To assume that students draw on their academic knowledge to enable them to understand would be presumptuous. The link between academic knowledge and practice appears to be moving further apart, despite attempts to bring them closer together. Tacit knowledge may become more 'hidden' as equipment becomes more

automated and less obvious what parameters are being changed inside the machine. The students observe and copy the radiographers manipulating the machines, but failure of the radiographers communicating what is happening inside the machine may further exacerbate the lack of knowledge and skills that underpin the radiotherapy technique. The current curriculum does not accommodate for any problem solving scenarios that might encourage the students to think critically and evaluate their current practice. As stated earlier, the process of reflection was not carried out in the manner that was intended in order to be able to reflect and learn. This leads to the conclusion that the current clinical curriculum reveals some weaknesses with reference to teaching the students to think critically and perhaps would benefit from adopting a problem-solving approach to teaching and learning. That said, the curriculum need not adopt a complete PBL approach, but some elements of the curriculum could include some problem solving. A PBL approach would mean that the students would change from passive learners to active problem-solvers as stated by Tan (2000) in Chapter 2. An integrated PBL approach such as that used by Turner *et al* (2006) could also respond to the changing needs of clinical practice, as is the case in radiotherapy. Duch *et al* (2001) and Tan (2000) believe that the students would become proficient in problem-solving, self-directed learning and team participation and develop excellent critical thinking and communication skills. The students in this study still rely heavily on knowledge acquisition (Sfard, 1998) and struggle to participate fully in teamwork activities. The clinical folder directs the students towards a tick-box approach to learning, which is achieved through some sort of apprenticeship. They see the repetition of skills as a way of achieving competency and approval from the radiographers who are teaching them. This leaves very little opportunity for the students to think critically as they seem unchallenged by any form of problem solving.

The competency approach to clinical learning and the repetition of procedures to be able to learn skills as used in the apprenticeship model are inextricably linked to the clinical assessment programme as well as the formative-based clinical folder. The data highlighted the positive and negative impact of the clinical folder and assessment on student learning. As discussed in Chapter 2, assessments, both formative and summative, are necessary in order to report on the student's progress and achievement. The Higher Education Institutions (HEIs) have developed and adopted assessments that test pre-specified learning outcomes, such as the competencies and objectives in the clinical folder and demonstrate program outcomes in the ever increasing climate of cost-effectiveness and viability of courses (Brindley, 1998). The QAA has put pressure on HEIs to provide a clinical education that meets the required standards as set by the HPC. As discussed in Chapter 4, the students tend to focus on whatever is required of them and little else beyond this.

The students soon familiarised themselves with what was required of them during clinical assessments to be able to get a higher mark – as described earlier by Entwistle and Entwistle (1991, p.6) in Chapter 2 (p.63) that these assessments '...*may give students the strong impression that it is detailed knowledge, and the correct use of procedures, which will bring the greatest rewards'*. The students soon realised that they could not learn it all and became more economical with their learning by doing what the university required of them in order to be able to pass their assessments. This can be likened to the medical students in Becker *et al's* study (1961) who did what the institution wanted – the *'provisional perspective'* (Chapter 2, p. 25). This was also the *'economic disposition'* that was termed by Sinclair (1997) who explained how students limited their bookwork, only learning what needed to be done in order to pass their exams (Chapter 2, p.28). Practice and repetition of procedures is what the students strived for. They were very aware of the importance of the grades (RT02, p.232) and adapted their activity in order to gain better marks (RT03, p.231). Students RT04 and RT07

saw clinical assessments as their target. However, when the stressful assessment period was over some students, such as RT07, could not be bothered to make an effort because they were not being marked. These comments reflect the importance students attach to marks and grades because this is what sets them apart from the other students. As RT05 comments, they had heard that the other students had been awarded 'very good', so this made them want to achieve 'excellent' (p.233). However, the clinical assessments only demonstrated that the students could replicate what they had learned by copying the radiographers in practice, but did not prove that they really understood what they were doing and why. Again their critical thinking skills were not being tested.

To add to this, the assessment of clinical competencies is still an issue as the students become aware very early into their training that there are differences in teaching practices between different hospitals and the way in which they are assessed. As noted earlier, the students commented on how the radiographer's judgement in grading their competencies varied between centres and individuals, which they thought was unfair. Foucault's concept of governmentality can be applied here, with the academic institution exerting its powers to demand that standards and benchmarks be maintained, but this can be somewhat at odds with the governance and function of the clinical department and the radiographers who work in it.

The length of clinical placements and frequent rotation also appeared to have an impact on student learning and sense of belongingness. Nolan (1998) concluded that by exposing students to fewer different clinical placements, this would maximise their learning time (see Chapter 2, p.39). Nolan adds that if the clinical environment is not supportive of student learning, not only would the students' desire to learn be diminished, but there would also be a diminution in skills learnt (Franke, et al, 1995). The current clinical placement rota (see Appendix E) illustrates that on the first clinical placements there were many occasions where the clinical placements were of short duration, which included frequent rotation giving the

students little time to adapt and learn. Walker (2005) saw the relationship between practitioner (the teacher) and the student (the learner) as being hierarchical, whereby the radiographer could exercise control over the students' learning. However, Walker adds that if the clinical placement were longer in duration, with less frequent clinical rotation, this would help nurture the practitioner/student relationship and become more relaxed. The current rapport observed between the radiographers and students and the comments from both groups, illustrated a relationship that was fraught with tension and stress. This situation may have been exacerbated by the frequent rotation and short duration of clinical placements. However, the rationale for frequent rotation and short placements in the current radiotherapy clinical curriculum was to give the students equal opportunities for experience in varied placements over the three-year period of training. I believe the main issue here was the increasing number of students requiring experience of clinical practice, as well as two cohorts being on a clinical placement at the same time. As demonstrated by student RT01's comments that they felt '*completely intimidated*' by the number of people in the treatment room, which included a third-year student and a student assistant practitioner (p. 194). This may be due to clinical departments being unable to expand and accommodate the increasing number of students at the same pace as the universities who enrol them. This has a significant impact on the students' sense of belongingness, teamwork activities and opportunities for hands-on-experience in order to be able to learn new skills.

The students' first impressions of clinical pedagogy appear to be negative in the main, clouded by the pressures of the clinical environment and the radiographers who work in it. But how do we understand and explain the radiographers' view of clinical education?

## 5.5.2 The radiographers' perspective

It can be seen from the data that the clinical environment is a central place of learning which was not always conducive to learning, due to factors such as - time pressures, competing pressures, rotas, staff shortages, agency staff and outside influences. The focus group sessions enabled the radiographers to reflect on their teaching and some seemed to have used this as a platform to voice their often, strong opinions. The radiographers seemed to feel that the quality of their teaching was being judged. Why were the radiographers so defensive?  Was it because they felt they were not doing a good teaching job?

### 5.5.2.1 Time pressures

The radiographers could recognise a good teacher amongst the team, but some struggled to teach either because of a lack of confidence in their own teaching or because time did not permit it.

As the data reveal, the radiographers quite often felt guilty that they did not spend sufficient time with the students and that they should do more for them. The radiographers were very keen to defend themselves. They were aware that they were not devoting enough time to the students but also began to compare other treatment/imaging machines in the department and their workload. A Band 7 radiographer quite defensively stated that because another machine had less patients and the pace of work was slower, that the two students would have a better experience than a student on their own machine where they were treating forty patients a day. It was notable that many of the Band 7 radiographers found it difficult to spend time with one student let alone two. Having two students at the same time appeared to add a significant amount of pressure on the radiographers – particularly if the students were from different cohorts as they had different training needs. One radiographer suggested splitting the two students so that they could focus on one at a time, but then stated '*but that's not allowed is*

*it?*' (p.196). Foucault's (1977) concept of governmentality can be applied here; the academic institution dictates how the radiographers manage their time with the students; and it was not within the radiographers' power to make changes to the organisation of the student's clinical education. As discussed in Chapter 2 (p.51), Foucault's concept of governmentality can be used to demonstrate the power and control that the university, HPC and SoR have over the practitioners. By demanding that the radiographers carry out their policies and adhere to their regulations, they are exercising control over the radiographers. Governmentality, according to Foucault (1977), was not only thought of as a hierarchical top-down power of the state (as viewed by Karl Marx), but also power related to the social control of hospital workers. As a result the radiographers exercise self-control as they are guided and managed by these organisations. As a result of other institutional demands and expectations the radiographers appeared to prioritise their time in favour of the patient and spend less time with each individual student. Some radiographers thought that first-year students would benefit from working with the third-years, however it appeared that some third-year students proceeded to ignore the first-years and behaved like a qualified member of staff as alluded to earlier in Chapter 4. Rad1 admitted that they were probably not doing enough for first year students, but thought that it was probably best for the students if they just carried out simple tasks like *'moving the bed and get patients in an out of the room'* (p.192) rather than taking the time to teach them. This radiographer may have felt that this is all that was expected from a first-year student on their first clinical placement and may be unfamiliar with the objectives and competencies that needed to be fulfilled at this stage.

In one of the key themes, time, staff shortages and an unsatisfactory staff rota all impacted on the radiographers' capacity to provide quality clinical teaching. These pressures led radiographers to exclude or ignore students or send off on peripheral tasks. Some

radiographers told the students to stand back whilst they continued with their work if they were behind schedule, as noted earlier by student RT05.

Not all staff enjoyed nor valued the opportunity to work with students even though their role/banding may have required them to. Although the students' learning was organised by the clinical lecturer, it fell upon the radiographers to teach the students in the clinical setting. Useful parallels (such as staff shortages, anxiety in students and workplace pressures) can be made between the nursing profession and radiotherapy as they both have a strong clinical influence on the clinical training of students, whilst at the same time requiring a high level of academic input.

The radiographers were under pressure to adhere to the policies and targets as set by the health organisation such as patient treatment appointment times and Referral to Treatment Times (RTT). The RTT is the maximum number of weeks that patient can expect to wait between the hospital's receipt of a referral by a GP to hospital treatment in the NHS (Welsh Government, 2012). For the radiographers and physicists in the radiotherapy departments, this means planning the radiotherapy treatments by using CT scans and computer-planning equipment takes time to calculate before the treatment is ready. Here waiting times are important. When the patient then commences radiotherapy treatment, it is essential that no unnecessary delays to completion of treatment occur. This is why patients were transferred to other treatment machines on service days as mentioned earlier. The consequence of these service days meant shift work and extended working days for the radiographers and may be related to the concept of governmentality. The radiographers had no choice but to work in this manner as it was dictated by service managers who were in turn accountable to chief executives who themselves needed to adhere to government targets with reference to cancer treatment and patient outcomes policies. For the student this may pose a further challenge to learning because the focus was on the radiographers getting the work done and on time. As

one of the radiographers was keen to state in a defensive manner, '*You're not going to have a spare hour…this hour you're talking about doesn't exist*' (Rad2, p.193), giving the impression that the radiographers were stressed and annoyed that the academic institution may be out of touch with the realities of clinical placement. MacBride-Stewart (2012) found in her study on doctor's time that there was little time to slow down and explain procedures fully to the patients as the 10-minute slots assigned to each patient was insufficient. Similarly, the radiographers needed to treat the patients without falling behind with their work schedule. However falling behind schedule was a common occurrence, which had a big impact on spending time with the students. Rad3 remarked that the radiographers did not get much time (to teach) with the 10-minute slots allocated to treating the patients. This radiographer was keen to add – '*not even for the patients*' (p.193). The radiographers were trying to defend their 'criticism' for not spending enough time for the students, by emphasising that if they barely had time to treat the patients, how could they possibly find time to teach the students? With the manager '*coming around so often*' as one radiographer commented (p.233), the clinical staff feel that the boss is checking up on them so that they don't fall behind schedule. Foucault's (1977) concept of surveillance and panopticism (see Chapter 2) can be applied to explain this behaviour. The mere fact that their manager can appear at any time, made the radiographers feel that they were being watched and therefore they began to manage themselves. This of course had a negative impact on teaching and carrying out assessments as they appeared as an inconvenience for the radiographers. The greatest pressure felt by some of the radiographers was having two students from different cohorts on the treatment unit. Rad2 felt that she found it '*very difficult to give them what they require[ed] for their level of training*' (p.196). The first-year student would not necessarily understand the depth of instruction that a third-year might receive and the third-year was beyond the level of

simplistic instruction. Although the radiographers were aware of the needs of students from different cohorts, they found it very difficult to manage when time was at a premium.

An increase in student numbers and increasing pressure for radiographers to deal with paperwork, responsibilities of running and organising a machine together with a lack of time, all served to exacerbate the lack of development of critical thinking and professional judgement. I felt that the focus group sessions were turning into some kind of confrontation between the two institutions, namely the hospital and the university. The radiographers seemed to be aggrieved by the pressure they were put under and were trying to defend themselves against unrealistic expectations that were being forced upon them by the hospital to treat the patients and the university to teach the students. Again, Foucault's concept of governmentality can be applied here and in this case; the radiographers felt they had to conform to the rules and regulations of both institutions. To add to this, there was an expectation that they maintained their CPD, which was a requirement of the professional body (SoR) and the regulatory body (HPC). The radiographers were being pulled in different directions, but their main focus was on their clinical responsibilities and treating the patients.


### 5.5.2.2 Banding responsibilities and Continual Professional Development

The radiographers, particularly Band 7 as they were in charge of the treatment unit and working with patients, were keen to tell me that they felt this enormous pressure to teach. Rad2 (a Band 7 radiographer) made it clear that they were expected to '*work in the room the same as everybody else'* (p.202) implying that there was no distinction between the grades as far as hands-on work inside the treatment room. They found this a tough balance between treating the patients and being responsible for the staff and the running of the treatment unit. Agency and part-time staff and a frequently changing staff rota made for a very changeable environment and this disruption added to their stress. To add into the mix, there were part-

time staff that needed briefing as to what had been happening in their absence. Rad1 indirectly criticised the manager when s/he referred to the rota changing on a weekly basis for no apparent reason. It was the manager's responsibility to devise and deliver the staff rota, which appeared to be causing added pressure for the Band 7 radiographers on the treatment units. For them these changes were very unsettling and meant that the team of radiographers and the students had no time to form meaningful relationships. The radiographers were aware of their banding and associated responsibilities (see Appendix J) and the correct line of management to follow, even if it meant the Band 5 radiographers asking the Band 7 radiographers' permission to send the students for their break.

In addition to the multiple roles and responsibilities, the radiographers appeared stressed when discussing their own professional development. They stated that they had to demonstrate their CPD as this was one of their goals. This was not optional, it was a requirement. If the radiographers could not demonstrate that their CPD portfolio was up-to-date, this would result in them being unable to register to practice. Again this can be related to Foucault's (1977) concept of governmentality. As discussed in Chapter 2, the SoR could perform 'spot-checks' on practitioners and demand evidence of their CPD. Even though their manager may not check their CPD portfolios, the burden of responsibility lay with the radiographers and as a result they would monitor themselves. This behaviour of self-regulation can be explained by Foucault's (1977) concept of panopticism (see Chapter 2, p.53), which can be used to explain the discreet power the SoR, has over its practitioners in maintaining their CPD portfolio. Like the panopticon (designed by Jeremy Bentham) the radiographers were under surveillance and never quite knew when they were being watched, so they effectively policed themselves. For Foucault (1977), this concept was generally concerned with the way that society orders such practitioners by 'training their bodies'. The radiographers are not physically being monitored and the SoR is an invisible power, but the fact remains that they could be called upon at any

time, which makes them, feel as though they are being watched and therefore actively police themselves. Freidson also (1988) discussed the impact that the professional and regulatory bodies had on professionals (discussed in Chapter 2). He argued that these regulatory bodies such as the HPC, NMC and GMC, had a great influence over the careers of individuals by being able to deny them membership. This is what the radiographers feared.

There is also the pressure for the radiographers to advance their education if they sought promotion to a higher band. They appeared to be stressed and emphasised that there was no protected time during working hours. Rad13 was keen to point out that the students had their own goals and that they had theirs – which was CPD (p.205) and Rad14 categorically stated that some did not want the extra pressure of teaching the students. Rad15 stated that *'they've shifted the goalposts'*, 'they' referring to the faceless people behind AfC. The radiographers now had to demonstrate through CPD and higher qualifications that they were deemed suitable for higher post such as a Band 7 radiographer. The radiographers were prioritising their work, which appeared to be firstly treating the patient, then their own CPD before meeting the needs of teaching the students. I gleaned from this that they perceived these goals to be unrealistic or difficult to achieve. As a result the radiographers felt teaching students was an extra pressure that they had little autonomy over how this was carried out.

The radiographers felt that the students expected them to know most of everything as remarked by Rad19, but as Rad11 added, they often did not know the answers. The students seemed to ask the radiographers questions on obscure diseases that they may have known at one time but have now long forgotten (Rad16 comment, p.199). The students did not realise that some of the knowledge that they accrue whilst training as students may be forgotten in time, particularly if the radiographers have no need for that knowledge and it is not recalled for a long period of time. The radiographers' knowledge appeared to be the skills at treating the patients on a daily basis and knowledge of disease may either be forgotten or that it

needed to be updated through CPD and practice-based knowledge. This is why it was essential for radiographers to keep pace with innovations and new knowledge of cancer. The tension seemed acute here and the working atmosphere could be depicted as stressful, affecting the relationship that the radiographers had with students. Moreover the radiographers were afraid of being portrayed as bad teachers.

### 5.5.2.3 Assessment, competency-based learning and the clinical folder

The radiographers felt that the first-year students were '*learning by rote and following instructions*' (Rad6, p.217). This comment seemed to infer that there was no evidence that they understood what they were doing or that they could develop critical thinking skills. As in Lave and Wenger's study (1991) this was a process akin to the Vai and Golai tailors – learning by observation and copying their masters at work. As stated earlier, the students needed to have their competencies signed and to pass their clinical assessments. If the radiographers could see that the students could replicate their procedures, then they felt that the students had achieved competency. There was very little evidence of reflection or that critical-thinking was being encouraged by the radiographers. This could be reinforced by my observations of the pedagogy that occurred between students and radiographers. The radiographers seemed to like the idea of the students learning being guided by the clinical folder, as Rad1 stated, it was a good guideline for them too.  However Rad10 felt that the clinical folder was similar to the 'old logbook' that they had once used as students. This radiographer referred to the 'numbers game' giving the impression that students, even under the new system of using the clinical folder, were still attempting to merely get as many objectives and competencies signed off. This again gives the impression that the students may not fully understand the knowledge and skills that underpin the radiotherapy techniques, do not reflect or think critically, but more importantly that the radiographers are willing to sign

them off, as the students have demonstrated that they can reproduce what the radiographers have taught them to do. One recently qualified Band 5 radiographer admitted that when they were a third-year student, they switched the machine on during an assessment, after setting up the patient's treatment, but had no idea what they were doing. The radiographers also feel the pressure that the students are under in demonstrating their competency, as Rad4 remarked, '*being told you're not going to graduate unless you've got 20 prostates and so you just think `I've got to get them [the student] signed off*' (p.223). Again we can apply Foucault's concept of governmentality where the academic institution dictates to the students and the radiographers that these competencies should be signed off or the student fails. The radiographers felt this immense pressure to sign the students' competencies and carry out assessments when the student was placed on a site-specific machine (i.e. a machine that mostly treats one site such as breast, prostate and head and neck treatments). Rad4 was aware that some students may only be on a breast machine once or twice during their three years of training and that there was pressure to get the student to 'competent' level. The structure of the clinical placement rota and the objectives and the competencies that the students need to fulfil, may be at odds with the erratic and changing nature of clinical placement, exacerbated by the increased number of students that need to rotate through each of these placements. Again, this can be related to Nolan's (1998) and Walker's (2005) conclusions on frequent rotations and short placements as discussed in section 5.5.1.5. A question that must be asked, is the structure of the clinical curriculum setting the students up to fail? Moreover, is it imposing unrealistic goals on the students and radiographers who are constantly dealing with the stress and pressure for the students to get to competent levels and for the radiographers to teach them to achieve competency? There appears to be little dialogue between the two institutions regarding these challenges and the tension that is developing between the students and the radiographers. The clinical assessments also appear to be a headache for the

radiographers. The radiographers were keen to tell me that during assessments they had to organise double-slots for the patients (double appointment times), to give them extra time. They knew that when it came to assessments, they were basically going to be late and by giving these double-slots they could possibly avoid falling behind schedule. The fact that Rad1 states that the boss was coming around often wondering why they were late added to the pressure of keeping to time. The double-slots were a way of the radiographers keeping their heads above water. In my experience as clinical lecturer, this intensified when the third-year students had to perform their assessments, as they were an hour in duration. The radiographer who took part in the assessments also had to discuss the marks with the clinical lecture after the assessment had taken place. Therefore the assessment could take up to two hours of the radiographers' time.

As discussed in chapter 4, this chapter demonstrates that belongingness and being part of a team, was crucial to the students' development and learning. A lack of teaching time and being ignored severely hampered learning. The students' learning was driven by the clinical folder (clinical curriculum), with an emphasis on completing tick-box objectives and competencies. This meant that students needed to have hands-on experience to be able to learn these new skills. They achieved this through the apprenticeship model of learning combined with the competency approach. Student reflection seemed to add little value to their learning, as it was not carried out in the manner originally intended. The overall impression was that there was a constant battle for the radiographers' attention and time.

For the radiographers, time seemed to be the greatest challenge. Responsibilities and the pressure to maintain targets severely eroded the time spent with students. The radiographers

were keen to point out that they had their own goals with regards keeping their CPD portfolio current, but had no protected study time. They were aware that they were not doing enough for the first-year students, but their responsibilities appeared to be pulling them in different directions. Not only did they have to adhere to hospital policies, but they were also under pressure to deliver with their teaching from the university. The radiographers appeared to be caught in a web of power of governing organisations, the symptoms of which was to be a helpless captive, powerless to change things.

# *Chapter 6*

## *Conclusion*

### *6.1 Introduction*

This study has offered some insights into the challenges that first-year radiotherapy students face when embarking on their first clinical experience. The aims of the research were to examine the perceptions of first-year therapeutic radiography students embarking on their first clinical placement, paying special attention to how they were socialised into the profession, how they acquired the knowledge and skills of practice and their perceptions of teaching from radiographers. Attention was also paid to the views of the radiographers (the practice themselves, who were involved in the training of the students and the pressures and challenges they faced being practice educators.

As the researcher, the study gave me the opportunity to step back from my role as a clinical and academic lecturer, to listen and observe for myself and to take the time to absorb and appreciate the struggles that these students face in learning to become radiographers. Familiarity with the pedagogical environment that we work in on a day-to-day basis can make us 'blind' to what is actually happening (Delamont 2002).

Stepping back and listening to the students' viewpoints revealed to me the challenges they faced as they tried to learn in what was for them an alien workplace environment. In my prior role as an academic and clinical lecturer, my focus had been more on learning outcomes and ensuring that the students completed their objectives and competencies on time. The preoccupation with organising the students' clinical learning and assessment overshadowed my appreciation of their struggles. But my general sense of their challenges drove me to carry

out this study. I wanted to better understand clinical pedagogy primarily through the perceptions of first-year students, but also through the opinions of radiographers. By the thematic analysis of the data from interviews with students, focus group sessions with radiographers and my observational fieldwork, I have been able to shed light on the behaviours, challenges and tensions which impacted on the students' professional socialisation and learning in the clinical environment. The predominant thread that linked all the subthemes reported in the professional socialisation chapter (hierarchy, workplace culture, teamwork and competition) was the sense (or lack) of 'belongingness' (as described by Levett-Jones and Lathlean, 2008). If the students felt excluded, ignored, or at the periphery of teamwork activities, this affected their relationship and interactions with the radiographers. Ultimately this hampered their professional socialisation and their learning. 'Belongingness' was also a significant thread in the teaching and learning chapter. Sense of belongingness linked both main themes of the thesis and demonstrates how professional socialisation and learning and teaching are inextricably linked.

### 6.1.1 Professional socialisation

Professional socialisation was a process whereby students learnt the behaviours, norms and skills of radiotherapy as practiced in that particular workplace context. These socialisation processes were expressed in the 'hidden' curriculum and encompassed the values and culture of the workplace. Through socialisation processes, the students learnt communication norms; they learnt how to behave in a clinical environment; their place in the workplace hierarchy; and such practices and values not explicitly expressed as part of the curriculum. They begin to know their place, where to stand, when to sit down and whom to approach and how. They develop, or fail to develop, a sense of belongingness.

Related to students' learning the hidden curriculum was their learning of tacit knowledge, that is the knowledge of radiographers, which is not explicitly communicated in words. The placement afforded the students the opportunity to experience and learn simply from being in the workplace - a kind of osmosis.  Tacit knowledge played an important part in both the main themes in this study.

The first-year students in this study realise that the placement is more than just hands-on experience of treating patients. They begin to experience a process of workplace enculturation. They are challenged by the differences between the academic and hospital environments. They see the academic and clinical institutions very differently and begin to put what they have learned in the university setting to the back of their minds and focus instead on learning to fit in and do the job. Although on their first placement, they also develop an awareness of differences between clinical departments. Nothing in the academic placement seems to have prepared them for the variation between clinical departments.

Focus group sessions with the radiographers added richness to the study. Some of the views of these practice educators corroborated the students' perceptions (and indeed my own experience), but other views were juxtaposed.

### 6.1.2 Teaching and learning

The second major theme that emerged from the data was teaching and learning. It has been argued that in order to create a curriculum and pedagogy that develops individuals who are reflective and challenging (Howe, 2002), academic leaders need to be cognizant of the barriers, psychological resistances and political issues in clinical practice. The students in this study identified a considerable number of barriers, resistances and challenges to clinical practice. An appreciation of these may help radiotherapy as a profession find ways to enhance the learning process.

Very early into their clinical education, the students attempted to take matters into their own hands by doing something to overcome these challenges and barriers to learning. If they were ignored, they tried to ask questions or attempted to gain control of the equipment so that the radiographers were obliged to teach them. However, there were limits to their forcefulness and they were frequently asked to stand back or were excluded during busy times. This caused tensions between the two parties. The radiographers appeared to perceive themselves as the inevitable hapless deliverers of someone else's (the university's) curriculum whilst enduring being a helpless captive within the healthcare organisation. These pressures were described in terms of Foucault's concept of governmentality, panopticism and the power of the state. The external pressures for the radiographers appeared to be immense. Through my experience as an academic and clinical lecturer I had detected these pressures. However, I was both surprised and dismayed that they were so great. As a result of these factors the first-year students struggled to adapt to their new environment, form meaningful relationships with the radiographers and be part of a team and so make their learning meaningful. I felt I had a duty to report these findings for the benefit of the radiographers and ultimately for the benefit of the students. By presenting these conclusions to both organisations (the university and the hospitals) and importantly, to the professional and regulatory bodies, I hoped that overt changes could be made to the design and delivery of a suitable clinical curriculum. By understanding the impact of student numbers, frequent rotation, short placements and the modes of learning on clinical pedagogy, it may be possible to make these overt changes to the current clinical curriculum.

On the basis of the evidence in this thesis, it can be argued that students would benefit from being introduced to some of the values of the hidden curriculum prior to their first clinical placement. They could be made more aware of the challenges ahead and the importance of learning the norms, values and behaviours of a developing radiographer and so enhance the

likelihood of 'belonging'. The radiographers, as practice educators should also be made aware of the hidden curriculum and how this impacts on the student. This could be achieved through practice educators' courses, as approved by the SoR (2006) and better communication between the academic and clinical environments through seminars. Such seminars would be more conveniently delivered by academics or clinical lecturers in the clinical environment, as release of clinical staff to attend them would be difficult. It is clear that it is not enough to expect radiographers to 'deliver' on all aspects of the students' clinical teaching. More collaborative work between academic and clinical staff is needed to ensure that the students' induction into clinical practice is as smooth a process as possible.

The methodological strategy of talking to radiographers in a focus group setting was an innovation compared to Becker *et al*'s work (1961) and Atkinson (1997) who focused solely on the students' perspective. The discussions with radiographers meant it was possible to get their perspective on issues emerging from the clinical environment. These discussions also provided recognition of 'learning' as a relationship. The radiographers themselves were under pressure, and their foremost duty was to treat and care for the patient. The real lived world of healthcare poses its own pressures and challenges in clinical pedagogy. Rapid advances in technology means that the radiographers themselves have to be cognisant of the operation of new machinery, and as such involve their own on-going training. National directives and targets related to patient waiting times need to be adhered to and these have an impact on the everyday working lives of clinical staff. Training of junior staff or agency staff also need to be factored in, all of which leads to intensification and a fast pace of work, which imposes pressures from the directive from 'above'. In the data, the radiographers noted that such pressures leaves little time and sometimes patience or energy to be able to slow down the pace of work in order to accommodate new students who also constitute a demand on their

time and attention. The data have also shown that the impact of organisational pressure are such that clinical staff may be left feeling guilty that they may not have given sufficient support or instruction to the students as the latter strive to accomplish their competencies. The students are left feeling ignored, with no sense of belonging and perceiving a substandard level of instruction from the radiographers all of which impact on student learning.

The students expected the radiographers to teach them how to treat the patients, by explaining how the equipment should be used, and describing the different treatment techniques with step-by-step instructions. They seemed to conceptualise their experience along the lines of what Lave and Wenger (1991) described as an apprenticeship model. The students appeared unaware of the knowledge underpinning the 'doing' and that is needed to truly understand the practice of radiotherapy. Indeed from the data it seems that there was no space in the institution or relationships with radiographers for fostering this kind of understanding. The students in this study seemed to place more importance on the 'formal' curriculum. Their learning was driven by the competencies and objectives in their clinical folder. They competed with each other to achieve the highest mark in clinical assessment, to be the first to reach competency and complete more clinical objectives. The students felt that repetition of the same treatment technique would enable them master the technique so that they could give a better performance at assessment and gain a higher mark. This focus on mastery reveals that little has changed over the past years and that the issue of how to facilitate students' application of knowledge to novel situations has not been given enough attention. It is clear that students still feel themselves disadvantaged when not working on a site-specific machine whether for recording their level of competency or indeed when carrying out their clinical assessment.

Attempts at using reflective practice as part of student learning appeared to have fallen short of meaningful learning and development of critical thinking skills. Critical thinking should be the focus of the curriculum and this is laid out in the SETs which is defined by the HPC (2004) as previously discussed in Chapter 2. However, the development of critically thinking student radiographers who do not simply copy the radiographers without truly understanding what is happening remains a challenge.

The experience that students gain in the 'real world' of radiotherapy practice is composed of a complex mixture of social elements of clinical education, professional socialisation, as well as direct teaching which is important in the student's development and student's perceived satisfaction. Facets of the hidden curriculum affected the learning experience of students in both positive and negative ways.

## 6.2 Limitations of study

The challenges of using an ethnographical approach were considered in the methodology section and the limitations of time and cost were noted. It was difficult to negotiate time to be released from the academic institution for data collection. As a result, five weeks were spent in Hospital A with a further five weeks in Hospital B. During the last five weeks I could not find cover for my teaching duties and as a result, only 3 students were followed in Hospital B instead of 4. In addition I was unable to carry out research in a third hospital due to time constraints, distance and financial implications. I realised that this was difficult when in full-time employment as highlighted in Chapter 3 (Hammersley and Atkinson 1995; Delamont, 2002). However, this did not adversely affect the data collection and I was able to collect a detailed corpus of data through interview sessions, focus group sessions with radiographers as well as my own fieldwork observations. I was mindful that this was ethnography of a particular kind – a focused ethnography of ten-week duration in total, involving seven

students in two hospital settings. The aim of the research was not to generalise my findings, but to produce accurate and faithful descriptions of these experiences, which may add insight and assist further discussions between both organisations around these issues and challenges.

There were challenges co-ordinating focus groups in Hospital B, being a larger department and due to shift-work, time commitments and the radiographers being unable to leave their duties. In this instance I conducted a series of mini focus groups at the end of observational periods or during the observational periods when the opportunity permitted or when questions arose. This was less structured than the focus groups in Hospital A, but it had the benefit of recording responses clearly and allowing for more discussion as there were less participants involved.

The study concentrated on the views and experiences of students and radiographers in two centres only. An exploration of the views of other clinical departments/academic institutions in different locales would give a broader insight into the clinical education of therapeutic radiographers across the UK and improve the qualitative external validity of the study. However, through triangulation, that is using interviews, focus group sessions and observational methods, I was able to produce rich and meaningful data that may reflect the whole population of radiotherapy.

Being an insider and known by many of the radiographers and all of the students may have introduced some bias into the study. However, I was not acutely aware that the students gave responses to questions that they thought I wanted to hear. Generally they were very vocal in their responses, but it was difficult to say categorically that there was no bias. This also applied to my observations within the two centres. I was very aware of the Hawthorne effect (participants changing their behaviour because they are being observed), and indeed in the beginning the radiographers looked on their guard, but this was short-lived and they soon forgot I was there. However there were significant advantages to being an insider, which may

have outweighed these challenges. These advantages include access (Leung, 2002); ability to be responsive and flexible when for example it was not possible to hold larger focus groups; and authority - i.e. possibly students felt that in saying things to someone that mattered could lead to change.

## *6.3 What the study adds*

My purpose in undertaking this study was to explore student and practitioner perceptions of professional socialisation and clinical pedagogy – the main focus being on the learner's experiences. The study has revealed that a significant factor, which impedes the socialisation process and effective learning and competency development, is the lack of belongingness. Socialisation and learning are inextricably linked and sense of belongingness affects both. The study has shown how the socialisation process and clinical pedagogy are hampered by student exclusion and is something that both academics and radiographers appear to have overlooked. The emphasis has been on achieving objectives and competencies using the tick-box approach to learning and summative assessments. Students appear to place the most importance on achieving high grades in the competencies prescribed in the formal curriculum.

Teaching is an expectation of Band 6 radiographers and above, but radiographers need to work towards becoming competent teachers and to be cognisant of the challenges and barriers students face. Through this study, I have built a picture of radiographers' current teaching practices which are affected by time, responsibility and banding. I have revealed that students view their teaching and learning as ad hoc and lacking communication of tacit knowledge. The radiotherapy department is a complex environment with a primary focus on treating and caring for the cancer patient. It is affected by demands related to care and management of collegial and team relationships, short-term staff and students as well as the

technologies/equipment. On a daily basis there are complex interactions (clinical, educational and managerial) taking place between the clinical lecturers, radiographers, students, and patients who are the centre of this. Patients' safety and accurate treatment delivery is central to these interactions and as a consequence the learner must take second place. This does not mean that the students' needs should be ignored. However, in the lived context of the work environment there is a tension between clinical pedagogy and patient welfare.

There were no clear suggestions from radiographers on how to improve their teaching, except having only one student on the treatment machine at a time. The radiographers seemed to focus more on workforce pressures that hindered effective teaching and there is some indication that work needs to be done at an institutional level, or at least at the interface between the academic and clinical institutions to improve student learning. There were some hints that the academic institution may be somewhat unrealistic in their goals of effective training, attainments of competence and assessment in an environment which is in constant flux.

The study suggests that benefits can ensue from heightening both student and practitioner awareness of the challenges and barriers that students face on first entering the clinical environment. Radiographers seem unaware of the impact that they have on the socialisation process in terms of how their attitudes, behaviours and time spent with students, and how this affects student learning and the desire to take on professional values. Likewise, students appeared ill prepared for entering the clinical environment.

## 6.4 Personal development

The profession of therapeutic radiography is a scientific, technologically driven profession, encompassing patient care and welfare, knowledge of cancer and physics of equipment. As a consequence, I have been accustomed to randomised-controlled trails, best practice, efficacy

of treatment, in short, everything has been presented to me in black and white, i.e. hard facts. Qualitative research has taught me that things are not so clear-cut. Analysing behaviours, institutional arrangements and situations can be subjective and outcomes can be somewhat blurred and subject to unfamiliar forms of evidence and analysis. As a radiographer and lecturer in radiography, who has not been accustomed to sociology in education, I found it difficult in the beginning to analyse situations using concepts and theories. I now find that my thought processes and analysing situations have changed and I am now able to reflect and analyse behaviours and social phenomena from a sociological viewpoint. I have developed a heightened awareness of the challenges and barriers to effective clinical pedagogy and find that it has also had an impact on me personally as a lecturer; so I find I have been observing in myself a parallel process to the students and have been observing of trying to make sense of critical understanding. I can see a place for the sociological aspect of clinical pedagogy in the radiotherapy curriculum, so that students can develop a more reflexive approach and be more prepared when entering the clinical environment for the first time.

## 6.5 Further research

The following is a list of suggestions for future research that have emerged from this study:

(i) It would be useful to conduct a comparative study involving other academic institutions and clinical placements within therapeutic radiography. This study may highlight similarities or differences regarding the challenges and barriers that students face when being socialised into the profession and their perception of learning and teaching. Radiographers' perceptions could be collated through the use of questionnaires, as a data collection tool if time and distance were an issue for the researcher. Any differences noted would then be analysed to see if these were attributed to course structure, curriculum design and the variety and duration of clinical placements.

(ii) As there are two branches of radiography, i.e. diagnostic and therapeutic radiography it would be interesting to conduct a similar study with first-year diagnostic radiography students. This study may demonstrate any marked similarities or differences in the perceptions of students and radiographers towards teaching and learning and professional socialisation, particularly as the nature of the work of radiology as a profession is so different, involving different patient groups (only cancer patients are mainly involved with radiotherapy - although there are a few exceptions).

(iii) Repeating this study involving overseas radiotherapy students may uncover different needs and challenges that students may face in the UK and any additional challenges radiographers may face when teaching such a group.

*Final thoughts*.....It will be challenging to deliver effective learning as desirable by the education literature and the professional bodies. This study has shown that real attention needs to be given to the continuing resource challenges, especially in the context of increasing radiography student numbers and cross-disciplinary learning. Attention needs also to be given to how to create a clinical culture that supports student inclusion and reflection in the face of problematic issues. There are reasons to be sceptical about learning in the clinical context and we need to continue to question whether overt changes to curriculum content and pedagogy are capable of making a real difference.

# *References*

Adams, A.M., (2004) 'Pedagogical underpinnings of computer-based learning', *Journal of Advanced Nursing,* 46 (1): 5-12.

Adler, P.A. and Adler, P. (1994) 'Observational techniques', in Denzin, N. And Lincoln, Y. (eds), *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage. p.377-92

Adler, P. Kwon, S.W. and Heckscher, C. (2008) 'Professional work: The emergence of collaborative community', *Organisation Science,* 19 (2): 359-376.

Anant, S.S. (1966) 'The need to belong', *Canada's Mental Health,* 14, 21-27.

Aronson J., (1994) 'A Pragmatic View of Thematic Analysis' *The Qualitative Report*, 2 (1) – available at http://nova.edu/ssss/QR/BackIssues/QR2-1/aronson.html - Accessed 03/02/12.

Assmus, A. (1995) *Early History of X-rays-* available at www.slac.stanford.edu/pubs/beamline/25/2/25-2-assmuspdf - Accessed 24/05/12.

Atkinson, P., (1997) *The Clinical Experience: The construction and reconstruction of medical reality* (2$^{nd}$ ed.). England: Ashgate Publishing Company.

Alexander, J.; McDaniel, G.; Baldwin, M. *et al* (2002) 'Promoting, applying and evaluating problem-based learning in the undergraduate nursing curriculum', *Nurse Education Perspectives,* 23 (5): 248-53.

Allen, D. and Pilnick, A., (Eds.) (2006) *The Social Organisation of Healthcare Work.* Oxford: Blackwell Publishing Limited.

Aunger, R., (1995) 'On Ethnography: Storytelling or Science?' *Current Anthropology*, 36(1): 97-130.

Babbie, E., (1990) *Survey Research Methods*. California: Wadsworth Inc.

Babbie, E., (1992) *The Practice of Social Research*. Belmont, CA: Wadsworth.

Baker, L. M., (2006) 'Observation: A complex research method' - available at http://findarticles.com/p/articles/m1.m1387 -Accessed 11/01/2009

Ball, M., (2006) 'Remarks on Certain Essential Problems Involved in the Analysis of Visual Data: A Case Study' *Ethnographic Studies,* 8, 1-16.

Bauer, M. (1996*) The narrative interview, LSE methodology Institute Papers, Qualitative Series* in Holloway, W. and Jefferson, T. (2000) *Doing qualitative research differently.* London: Sage Publication Ltd.

Baumann, Z. (2004) 'Liquid Sociality', cited in Dall'Alba, G. (2009) *Learning to be Professionals*. London: Springer.

Becker, H.S., Geer, B. and Everett, C. (1961) *Boys in White: Student Culture in Medical School.* Chicago and London: University of Chicago Press.

Becker, H.S. (1971) Footnote in Wax, M., Diamond, S. and Gearing, F. (Eds) *Anthropological perspectives on education* (p.3-27) cited in Delamont, S. and Atkinson, P. (1995) *Fighting Familiarity: Essays on Education & Ethnography.* Cresskill, New Jersey: Hampton Press Inc.

Benner, P., (1984) 'From Novice to Expert' In: Doughty, J., Hodgson, D., (2009) 'Evaluation of a new clinical support model in radiotherapy practice' *Nurse Education in Practice*, 9, 28–35.

Berg, B., (2007) *Qualitative Research Methods for the Social Sciences* (6th ed.). London: Pearson-allyn & Bacon.

Bleakley, A. (2006) 'Broadening conceptions of learning in medical education: the message from team working' *Medical Education*, 40, 150-157.

Bloor, M. (1997) *Techniques of Validation in Qualitative Research: A Critical Commentary* In: Miller, G. and Dingwall, R. (Eds pp.37-50) *Context and Method in Qualitative Research.* London: sage.

Bogdan, R., (1972) *Participant Observation in Organisational Settings* in Berg, B., (2007) *Qualitative Research Methods for the Social Sciences* (6th ed.). London: Pearson-allyn & Bacon.

Boshuizen, H.P.A., (1996) 'The shock of practice: effects on clinical reasoning' in Prince, K.J.A.H., Boshuizen, H.P.A., van der Vleuten, C.P.M., and Sherpbier, A.J.J.A. (2005) 'Students' opinions about their preparation for clinical practice', *Medical Education,* 39, 704-712.

Bourdieu, P. (1977*) Outline of a Theory of Practice,* trans. Richard Nice, Cambridge: Cambridge University Press.

Bourdieu, P. (1984*) Distinction: A Social Critique of the Judgement of Taste* in Shilling, C., (2003) (2nd Ed) *Body and Social Theory*. London: Sage Publications.

Boyatzis, R. E. (1998) 'Transforming qualitative information: thematic analysis and code development' in Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology,* 3, 77-101.
Boyne, R. (2000) 'Post-Panopticism' *Economy and Society*, 29 (2): 285-307.

Bradbury-Jones, C., Sambrook, S. and Irvine, F. (2008) 'Power and empowerment in nursing: a fourth theoretical approach', *Journal of Advanced Nursing*, 62 (2): 258-266.

Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology' *Qualitative Research in Psychology,* 3, 77-101.

Breen, M. *et al* (1997) 'Profiling ESL children. Volume 1: Key issues and findings' in Brindley, G. (2001) 'Outcomes-based assessment in practice: Some examples and emerging insights', *Language Testing*, 18 (4): 393-407.

Briggs, A. (2005) *A History of The Royal College of Physicians of London* (Vol 4). Oxford: Oxford University Press.

Brindley, G. (1998) 'Outcomes-based assessment and reporting in language programs: a review of the issues', *Language Testing*, 15, 45-85.

Brindley, G. (2001) 'Outcomes-based assessment in practice: Some examples and emerging insights', *Language Testing*, 18 (4): 393-407.

Brown, L., Herd, K., Humphries, G. *et al* (2005) 'The role of the lecturer in practice placements: what do students think?' *Nurse Education in Practice,* 5, 84–90.

BSA (British Sociological Association), (2002) 'Statement of Ethical Practice for The British Sociological Association' – available at www.britso.co.uk/media/27107/StatementofEthicalPractice.pdf - accessed 13/08/12.

Caplow, T. (1984) 'Rule enforcement without visible means: Christmas gift giving in Middletown', *American Journal of Sociology,* 89, 1306-1323.

Clare, J., Edwards, H., Brown, D. *et al* (2003) 'Learning outcomes and curriculum development in major disciplines' in Levett-Jones, T., Lathlean, J., Maguire, J. *et al* (2007) 'Belongingness: A critique of the concept and implications for nursing education', *Nurse Education Today,* 27, 210-218.

Clark, G.P., Cott, C. and Drinka, T.J.K. (2007) 'Theory and practice in interprofessional ethics: A Framework for understanding ethical issues in health care teams', *Journal of Interprofessional Care*, 21 (6): 591-603.

Chesser-Smyth, P. A. (2005) 'The lived experiences of general student nurses on their first clinical placement: A phenomenological study', *Nurse Education in Practice,* 5, 320–327.

Coffey, A. and Atkinson, P. (1996) *Making Sense of Qualitative Data*. London: Sage.

Cohen, L. and Manion, L. (1997) (4th ed.) *Research Methods in Education*, London: Routledge.

Cohen, L. *et al* (2000) *Research Methods in Education* (5th ed), London: Routledge-Falmer.

Collier, S.J., (2009) 'Topologies of Power: Foucault's Analysis of Political Government beyond Governmentality', *Theory, Culture & Society*, 26(6): 78-108.

CoR (2003) The College of Radiographers (2003a) *Educational and Professional Development: Moving Ahead.* London: The College of Radiographers.

Corbetta, P. (2003) *Social Research, Theory, Methods and Techniques*, London: Sage.

Dall'Alba, G. (2009) *Learning to be Professionals*. London: Springer.

Deacon, D., Pickering, M., Goldind, P. *et al*(2<sup>nd</sup> edition)    (2007) *Researching Communications: A Practical Guide to Methods in Media and Cultural Analysis*. New York: Hodder Arnold.

Dearing, R. (1997) *Higher Education in Learning Society*, London: HMSO.

Decker, S. and Iphofen, R. (2005) 'Developing the profession of radiography: making use of oral history', *Radiography,* 11 (4): 262-271.

de Cossart, L. and Fish, D. (2005) *Cultivating a Thinking Surgeon:New Perspectives in Clinical Teaching, Learning and Assessment.* Shrewsbury: tfm Publishing Ltd.

Delamont, S. and Atkinson, P. (1995) *Fighting Familiarity: Essays on Education & Ethnography.* Cresskill, New Jersey : Hampton Press Inc.

Delamont, S., (2002) *Fieldwork in Educational Settings.* London: Routledge.

Della Porta, D. and Keating, M. (Eds) (2008) *Approaches And Methodologies In The Social Sciences: A Pluralist Perspective*, Cambridge: Cambridge University Press.

Denzin, N. And Lincoln, Y. (eds) (2005) *Handbook of Qualitative Research* (3<sup>rd</sup> Ed). Thousand Oaks, CA: Sage.

DoH (1999) *HSC11, Diagnostic and Therapeutic Radiographers*, Department of Health (March 1999) – available at http://www.qmuc.ac.uk/rad/therapeutic.htm -  accessed 11/09/07.

Donetto, S. (2010) 'Medical students' views of power in doctor-patient interactions: the value of teacher-learner relationships', *Medical Education*, 44, 187-196.

Doughty, J., Hodgson, D., (2009) 'Evaluation of a new clinical support model in radiotherapy practice', *Nurse Education in Practice*, 9, 28–35.

Du Toit, D. (1995) 'A sociological analysis of the extent and influence of professional socialisation on the development of nursing identity among nursing students at two universities in Brisbane, Australia, *Journal of Advanced Nursing,* 21 (1): 164-171.

Duch, B., Gron, S. and Allen, D. (2001) *A Practical "How To" for Teaching Undergraduate Courses in any Discipline*, London: Stylus Publishing.

Durkheim, E. (1956) *Education and Sociology* in Allen, D. and Pilnick, A., (Eds.) (2006) *The Social Organisation of Healthcare Work*. Oxford: Blackwell Publishing Limited.

Dziebel, G. (1997) *Between Observation and Participation: Some Perspectives of the Field Research Methodology (Sociological and Anthropological Contexts).* Available at: www.kinshipstudies.org/MAsociology/CEU.FieldMethodsPaper.pdf. Accessed: 04/12/12.

Edens, G. E. (1987) 'Professional Socialisation in Nursing', Paper presented at the Annual Research in Nursing Education Conference, San Francisco, CA. Jan 14-16, 1987.

Edwards, H. (2006) 'Critical thinking and the role of the clinical ultrasound tutor', *Radiography,* 12 (3): 209-214.

Elcigil, A., Sarı, H. Y., (2007) 'Determining problems experienced by student nurses in their work with clinical educators in Turkey', *Nurse Education Today,* 27, 491–498.

Elliott, M., Wall, N., (2008) 'Should nurse academics engage in clinical practice?' *Nurse Education Today* 28, 580–587.

Entwistle, N.J. and Entwistle, A. (1991) 'Contrasting forms of understanding for degree examinations: the student experience and its implications', *Times Education*, 22, 205-227.

Epstein, R.M. and Hundert, E.M. (2002) 'Defining and Assessing Professional Competence', *Journal of American Medical Association (JAMA)*, 287(2): 226-235.

Eraut, M. (1994) *Developing professional knowledge and competence,* London: Falmer Press.

Eraut, M. (2000) 'Non-formal learning and tacit knowledge in professional work', *British Journal of Educational Psychology,* 70, 113-136.

Evetts, J. (2009) 'New professionalism and public management: Changes, continuities and consequences', *Comparative Sociology,* 8, 247-266.

Felstead, A., Fuller, A., Unwin, L. *et al* (2005) 'Surveying the scene: learning metaphors, survey design and workplace context', *Journal of Education and Work* ,18, (4): 359-383.

Fenwick, T., Nerland, M. and Jensen, K. et al (2012) 'Sociomaterial approaches to conceptualising professional learning and practice', *Journal of Education and Work*, 25 (1): 1-13.

Field, P. A. (1983) 'An ethnography: 4 Public Health Nurses' Perspective in Nursing' *Journal of Advanced Nursing,* 8, 3-12.

Field, P.A. and Morse, J.M. (1985) *Nursing Research: The Application of Qualitative Approaches* in Holloway, I. and Wheeler, S. (1996) *Qualitative Research for Nurses London*: Blackwell Science Ltd.

Fish, D. (2012) *Refocusing Postgraduate Medical Education: from the technical to the moral mode of practice*, Cranham: Aneumi Publications.

Fish, D. and Coles, C. (1998) *Developing Professional Judgement in Health Care,* Edinburgh: Butterworth-Heinemann.

Fish, D. and de Cossart, L. (2006) 'Thinking outside the (tick) box: rescuing professionalism and professional judgement' *Medical Education,* 40, 403-404.

Fish, D. and de Cossart, L. (2011) *Developing the Wise Doctor: A resource for trainers and trainees in MMC*. London: The Royal Society of Medicine Press Ltd.

Flyvbjerg, B. (2001) *Making Social Science Matter*, Cambridge: Cambridge University Press.

Foucault, M. (1977) *Discipline and Punish: The Birth of the Prison*, London: Penguin Books Ltd.

Frank, A., Garssen, B. and Huijer Abu-Saad, H. (1995) 'Determinants of changes in nurse's behaviour after continuing education: a literature review', *Journal of Advanced Nursing,* 21 (2): 371-377.

Friedman, L.H. and Burnell, S.L. (2006) 'The Importance of Team Level Tacit Knowledge and Related Characteristics of High-Performing Health Care Teams', *Health Care Management Review*, 31, 223-230.

Freidson, E., (1988) *The Profession of Medicine.* New York: Dodd Mead.

Galton, M., and Delamont, S. (1985) 'Speaking with forked tongue? Two styles of observation in the Oracle Project' cited in Delamont, S. (2002) *Fieldwork in Educational Settings.* London: Routledge.

Gamble, J. (2001) 'Modelling the Invisible: the pedagogy of craft apprenticeship', *Studies in Continuing Education,* 23 (2): 185- 197.

Glaser, B.G. and Straus, A.L. (1967) *The Discovery of Grounded Theory: Strategies of Qualitative Research.* Chicago: Aldine Publishing Company.

Goffman, E., (1959) *The Presentation of the Self in Everyday Life.* USA: Anchor Books.

Goffman, E., (1968) *Stigma: Notes on the Management of Spoiled Identity.* London: Pelican Books.

Gold, R. (1969) *Roles in sociological field observation.* In: McCall, G.J. and Simmons, J.L. (Eds), *Issues in Participant Observation* (pp.30-39). Reading, MA: Addison-Wesley.

Goldenberg, D. and Iwasiw, C. (1993) 'Professional socialisation of nursing students as an outcome of a senior clinical preceptorship experience', *Nurse Education Today,* 13, 3-15.

Goldie, J., Dowie, A., Cotton, P. and Morrison, J. (2007) 'Teaching professionalism in the early years of a medical curriculum: a qualitative study', *Medical Education,* 41, 610-617.

Gray, M. (1994) 'Personal experience of conducting interviews' in Chesser-Smyth, P. A. (2005) 'The lived experiences of general student nurses on their first clinical placement: A phenomenological study', *Nurse Education in Practice,* 5, 320–327.

Gray, M. and Smith, L.N. (1999) 'The Professional Socialisation of Diploma of Higher Education in Nursing Students (Project 2000): a longitudinal qualitative study' in Brown, L., Herd, K., Humphries, G., Paton, M., (2005) 'The role of the lecturer in practice placements: what do students think?' *Nurse Education in Practice,* 5, 84–90.

Grogan, S., Fry, G., Gough, B. *et al* (2009) 'Smoking to stay thin or giving up to save face? Young men and women talk about appearance concerns and smoking', *British Journal of Health Psychology,* 14, 175-186.

Hacking, I. (1992) 'The self-vindication of Laboratory Science', in Pickering, A. (ed.), (1999), *Science as Practice and Culture,* Chicago: University of Chicago Press, pp. 29-64.

Hager, P. (2004) 'Lifelong learning in the workplace? Challenges and Issues,' *Journal of workplace Learning,* 16 (1-2) 22-33.

Hammersley, M., Atkinson, P. (1995) *Ethnography: Principles in Practice* (2nd ed.) Routledge: London, New York.

Hathaway K.B., (1943) *The Little Locksmith* cited in Goffman E., (1968)*Stigma: Notes on the Management of Spoiled Identity*(pp18-19). London: Pelican Books. P.

Heidegger, M. (1967) Plato's Doctrine of Truth, trans. T. Sheehan, in: McNeill, W. (1998) (ed.),*Pathmarks.*Cambridge, Cambridge University Press, pp. 155–182.

Hertz, R. (1997) *Reflexivity and voice* in Denzin, N. And Lincoln, Y. (eds) (2005) *Handbook of Qualitative Research* (3rd Ed). Thousand Oaks, CA: Sage.

Hickey, M.T. (2010) 'Baccalaureate Nursing Graduates' Perceptions of Their Clinical Instructional Experiences And Preparation for Practice' *Journal of Professional Nursing*, 26 (1): 35-41.

Higgs, J. and Titchen, A. (2001) 'Rethinking the practice-knowledge interface in an uncertain world: A model for practice development', *British Journal of Occupational Therapy,* 64 (11): 526-533.

Higgs, J. (2009) *Ways of knowing for clinical practice.* In: Delany, C. and Molloy, E. (2009) *Clinical Education in the Health Professions.* London: Churchill Livingstone, pp. 25-37.

Horrocks, C. and Jevtic, Z. (1997) *Foucault for Beginners*. Cambridge: Icon Books.

Holloway, I. (2008) (2nd edition) *A-Z of Qualitative research in Healthcare*. Chichester: Blackwell Publishing.

Holloway, I. and Wheeler, S. (1996) *Qualitative Research for Nurses London*: Blackwell Science Ltd.

Howe, A. (2002) 'Professional development in undergraduate medical curricula – the key to the door of a new culture', *Medical Education*, 36, 353-359.

HPC [Health Professions Council] (2004) *'Standards of Education and Training',* available at http://www.hpc.org/publications – accessed 24/02/08.

HPC [Health Professions Council] (2007) '*Standards of Proficiency – Radiographers'*, available at http://www.hpc.org/publications – accessed 24/02/08.

HPC [Health Professions Council] (2012) available at – www.hpc.org/aboutus/cpsm - accessed 24/05/12

Hughes E.C. (1958) *Men and their Work*cited Riska, E. (2005) 'Health Professions and Occupations' in Cockerham, W.C. (Ed) (2005) *The Blackwell Companion to Medical Sociology*. Oxford: Blackwell Publishing Ltd.

Huntingdon (1957) cited in Merton, R.K., Reader, G.G. and Kendall, P.L (eds), (1957) *The Student Physician: Introductory Studies in the Sociology of Medical Education*, Cambridge, Mass.: Havard University Press.

Jackson, P.W. (1968) *Life in Classrooms* cited in Margolis, E., Soldatenko, M. Acker, S. and Gair, M. (2001) 'Peekaboo- Hiding and Outing the Curriculum' in Margolis, E. (Ed) *The Hidden Curriculum*, London: Routledge.

James, J.E. (1994) 'Health care, psychology and the scientist-practitioner model', *Australian Psychologist,* 29 (1): 5-11.

Jarvis, P. (1992) *Paradoxes of learning on becoming an individual in society.* San Francisco, CA: Jossey-Bass.

Johnson, R.B. (1997) 'Examining the Validity structure of qualitative research', *Education,* 118 (2): 282-292.

Kelly, J. and Ahern, K. (2008) 'Preparing nurses for practice: A phenomenological study of the new graduate in Australia', *Journal of clinical Nursing,* 18, 910-918.

Kinchin, I.M., Baysan, A. and Bruce-Cabot, L. (2008) 'Towards a pedagogy for clinical education', *Journal of Further and Higher Education,* 32 (4): 373-387.

Kneebone, R. (2002) 'Total internal reflection: an essay on paradigms,' *Medical Education,* 36, 514-518.

Kramer, M. (1974) *Reality Shock: why nurses leave nursing*, St Lois: Mosby.

Kumar, R. (2005) *Research Methodology: A step-by-step guide for beginners*. London: Sage Publications.

Larkin, G. (1978) 'Medical dominance and control: radiographers in the division of labour', *Sociological Review*, 26, 834-858.

Lave, J. (1988) *The culture of acquisition and practice of understanding* (Report N0 IRL88-0007) in Rogoff, B. (1990) *Apprenticeship in Thinking: Cognitive Development in Social Context,* Oxford: Oxford University Press (p.39).

Lave, J. (1997) 'The culture of Acquisition and the Practice of Understanding' in Kirschner, D. and Whitson, J. (1997) *Situated Cognition: Social Semiotic and Psychological Perspectives*, Mahwah, N.J: Lawrence Erlbaum Associates.

Lave, J. and Wenger, E., (1991) *Situated learning: legitimate peripheral participation.* Cambridge University Press: Cambridge.

Leung Wai-Ching (2002) 'Why is evidence from ethnographic and discourse research needed in medical education: the case of problem-based learning', *Medical Teacher*, 24 (2): 169-172.

Levett-Jones, T., Lathlean, J., Maguire, J. *et al* (2007) 'Belongingness: A critique of the concept and implications for nursing education,' *Nurse Education Today,* 27, 210-218.

Levett-Jones, T., Lathlean, J., Higgins, I. *et al* (2008) 'The duration of clinical placements: a key influence on nursing student's experience of belongingness', *Australian Journal of Advanced Nursing*, 26 (2): 8-16.

Levett-Jones, T., Lathlean, J., Higgins, I. *et al* (2009) 'Staff-student relationships and their impact on nursing students' belongingness and learning,' *Journal of Advanced Nursing*, 65 (2): 316-324.

Levett-Jones, T. and Lathlean, J. (2008) 'Belongingness: A prerequisite for nursing students' clinical learning', *Nurse Education in Practice*, 8, 103-111.

Levett-Jones, T. and Lathlean, J. (2009) 'The Ascent to Competence conceptual framework: an outcome of a study of belongingness', *Journal of Clinical Nursing*, 18, 2870-2879.

Lindgren, S. (2000) *Michel Foucault: Classical and Modern Social Theory*, Massachusetts: Blackwell.

MacBride-Stewart, S. (2012) 'The effort to control time in the 'new' general practice' *Sociology of Health & Illness,*p.1-15 [Online] – available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9566.2012.01503.x/abstract - accessed 04/12/12

Macdonald, M. K. (1995) *The Sociology of The Professions*, London: SAGE publications.

MacLeod, C. M., Dodd, M. D., Sheard, E.D. *et al* (2003) *In opposition to inhibition* in Ross, B.H. (2003) (Ed.) *The Psychology of learning and motivation* Vol 43, p.163-214, USA: Elsevier Science – available at http://psychology.concordia.ca/fac/deAlmeida/COGSCI/MacLeod-et%20al-2003-inhib.pdf – accessed 26/05/12.

Mallaber, L. and Turner, P. (2005) 'Competency versus hours: an examination of a current dilemma in nurse education' in Elliott, M., Wall, N., (2008) 'Should nurse academics engage in clinical practice?' *Nurse Education Today,* 28, 580–587.

Margolis, E., Soldatenko, M. Acker, S. and Gair, M. (2001) 'Peekaboo- Hiding and Outing the Curriculum' in Margolis, E. (Ed) *The Hidden Curriculum*, London: Routledge.

Maslin-Prothero, S.E. and Owen, S. (2001) 'Enhancing your clinical links and credibility: the role of nurse teacher and teachers in clinical practice', *Nurse Education in Practice*, 1, 189-195.

Maslow, A. (1987) *Motivation and Personality (3$^{rd}$ Ed)* in Levett-Jones, T. and Lathlean, J. (2009) 'The Ascent to Competence conceptual framework: an outcome of a study of belongingness' *Journal of Clinical Nursing*, 18, 2870-2879.

Mayan, M.J. (2009) *Essentials of Qualitative Inquiry*. CA: Left Coast Press Inc.

McNeill, W. (1998) (ed.) *Pathmarks.* Cambridge, Cambridge University Press.

Melia, K. (1987) 'Tell it as it is- qualitative methodology and nursing research: understanding the student nurses' world', *Journal of Advanced Nursing*, 7 (4): 327-335.

Melia, K. (1999), 'Book reviews', *Sociology of health and Illness,* 21 (1): 124-132.

Merlingen, M. (2006) 'Foucault and World Politics: Promises and Challenges of Extending Governmentality Theory to the European and Beyond', *Millennium: Journal of International Studies*, 35 (1): 181-196.

Merleau-Ponty, M. (2002) *Phenomenology of perception* (Colin Smith, Trans). London: Routledge Classics. (Original work published in 1945).

Merton, R.K., Reader, G.G. and Kendall, P.L (eds), (1957) *The Student Physician: Introductory Studies in the Sociology of Medical Education*, Cambridge, Mass.: Havard University Press.

Mohrman, S.A., Cohen, S.G. and Mohrman, A.M. Jr. (1995) *Designing Team-Based Organisations,* San Francisco: Jossey-Bass.

Morse, J. (1991) 'On the evaluation of qualitative proposals', *Qualitative Health Research,* 1 (2): 147-151.

Nahas, V.L. and Yam, B.M.C. (2001) 'Hong Kong nursing students' perceptions of effective clinical teachers', *Journal of Nursing Education,* 40, 233-237.

Nelms, T. (1996) 'Living, a caring presence in nursing: a Heideggerian hermeneutical analysis' in Brown, L., Herd, K., Humphries, G., Paton, M., (2005) 'The role of the lecturer in practice placements: what do students think?' *Nurse Education in Practice,* 5, 84–90.

Nieweg, M. R. (2004) 'Case Study: innovative assessment and curriculum redesign', *Assessment & Evaluation in Higher Education*, 29 (2): 203-214.

NMC (2006) *Standards to support learning and assessment in practice* – available athttp://www.nmc-uk.org/Documents/Standards/nmcStandardsToSupportLearningAndAssessmentInPractice.pdf -accessed 24/05/12.

Nolan, C. (1998) 'Learning on clinical placement: The experiences of six Australian student nurses', *Nurse Education Today*, 18, 622-629.

Norman, G. (2005) 'Research in clinical reasoning: past history and current trends', *Medical Education*, 39, 418-427.

O'Leary, M. and Sheil, G. (1997) 'Curriculum profiling in Australia and the United Kingdom: some implications for performance-based assessment in the United States', *Educational Assessment*, 4, 203-235.

Olupeliyama, A.M., Hughes, C. and Balasooriya, C.D. (2009) 'A review of the literature on teamwork competencies in healthcare practice and training: Implications for undergraduate medical education', *South East Asian Journal of Medical education*, 3 (2): 61-72.

Oppenheim, A.N. (1992) (2nd ed) *Questionnaire Design, Interviewing and Attitude*. London: Pinter Publishers Ltd.

Papp, I., Markkanen, M., von Bonsdorff, M., (2003) 'Clinical environment as a learning environment: student nurses' perceptions concerning clinical learning experiences', *Nurse Education Today,* 23 (4): 262–268.

Park, E., Betancourt, J.R., Miller, E. *et al*(2006) 'Internal Medicine Residents' Perceptions of Cross-Cultural Training', *J.GEN. INTERN. MED.* 21, 476-480.

Patton, M. Q., (1990) *Qualtitative Evaluation and Research Methods* (2nd ed). Sage Publications: Newbury Park, London, New Dehli.

Pearcey, P., and Draper, P., (2008) 'Exploring clinical nursing experiences: Listening to student nurses', *Nurse Education Today,* 28, 595–601.

Pee, B., Wodman, T., Fry, H. *et al* (2002) 'Appraising and assessing reflection in students' writing on a structured worksheet', *Medical Education*, 36, 575-585.

Piercy, F.P., Franz, N., Donaldson, J.L. *et al* (2011) 'Consistency and Change in Participatory Action Research: Reflections on a Focus Group Study about How Farmers Learn', *The Qualitative Report*, 16 (3): 820-829.

Polgar, S. and Thomas, S. (1991) *Introduction to Research in the Health Sciences* (2nd ed). London: Churchill-Livingstone.

Polit, D.F and Hungler, B.P. (1987)*Nursing Research: Principles and Methods* (3rd Ed) in Baker, L. M., (2006) 'Observation: A complex research method' - available at http://findarticles.com/p/articles/m1.m1387 -Accessed 11/01/2009

Prince, K.J.A.H., Boshuizen, H.P.A., van der Vleuten, C.P.M. *et al*(2005) 'Students' opinions about their preparation for clinical practice', *Medical Education,* 39, 704-712.

Prosser, M. (2004) 'A student learning perspective on teaching and learning, with implications for problem-based learning', *European Journal of Dental Education,* 8, 51-58.

QAA (2001) 'Placements in Focus: guidance for education in practice for health care professions' in Brown, L., Herd, K., Humphries, G., Paton, M., (2005) 'The role of the lecturer in practice placements: what do students think?' *Nurse Education in Practice,* 5, 84–90.

Rees, C. (2004) 'The problem with outcomes-based curricula in medical education: insights from educational theory', *Medical Education*, 38, 593-598.

Riska, E. (2005) 'Health Professions and Occupations' in Cockerham, W.C. (Ed) (2005) *The Blackwell Companion to Medical Sociology*. Oxford: Blackwell Publishing Ltd.

Rogoff, B. (1990) *Apprenticeship in Thinking: Cognitive Development in Social Context,* Oxford: Oxford University Press.

Rosen,G. (1959) available at http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.49.1.145 - accessed 05/04/12.

Ryan, G.W. and Bernard, H.R. (2003) 'Techniques to Identify Theory', *Field Methods*, 15 (1): 85-109.

Sackett, D. L., Gray, J., Hayne, S.R. *et al* (1996) 'Evidence based medicine: what it is and what it isn't', *British Medical Journal*, 312, 71-72.

Seabrook, M. (2004) 'Intimidation in medical education: Students' and teachers' perspectives', *Studies in higher Education*, 29 (1): 59-74.

Segers, M. and Dochy, F. (2001) 'New Assessment Forms in Problem-based learning: the value added of students' perspective', *Studies in Higher Education*, 26 (3): 328-343.

Skog, M., Graftstrom, M., Negussie, B. *et al* (2000) 'The patient as 'teacher': learning in the care of elderly persons with dementia', *Nurse Education Today*, 20, 299-297.

Sfard, A. (1998) 'On Two Metaphors for Learning and the Dangers of Choosing Just One', *Educational Researcher*, 27 (2): 4-13.

Shilling, C., (2003) (2$^{nd}$ Ed) *Body and Social Theory*. London: Sage Publications.

Shinyashiki, G.T, Mendes, I.A.C., Trevizan M.A.*et al* (2006) 'Professional socialisation: students becoming nurses' *Rev Latino-am Enfermagen* July-August, 14(4): 60-7.

Schön, D. A. (1983) *The Reflective Practitioner: How Professionals think in Action*. New York: basic Books.

Schön, D. A. (1987) *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass.

Silverman, D. (2006) (3$^{rd}$ed) *Interpreting Qualitative Data*. London: Sage Publications Ltd.

Sinclair, S., (1997) *Making Doctors: An institutional apprenticeship*. New York: Berg.

Smith, M. K. (2009) 'Communities of Practice', *The encyclopaedia of informal education*, available at www.infed.org/biblio/communities of practice.htm – accessed 24/04/12.

SoR (2006) *The Approval and Accreditation of Educational programmes and Professional Practice in Radiography – Clinical Education and Training: Guidance and Strategies for Effective Relationships Between Education Providers, Placement Providers and Learners*. London: SoR.

SoR (2007) 'Society of Radiographers' available at http://www.aim25.ac.uk/cgi-bin/frames/fulldsec:inst_id=100&coll_id7276 - accessed 17/09/2007.

Stanford Report (2007) available at http://news.stanford.edu/2007/april18/med-accelerator-041807.html - accessed 25/01/12.

Stewart, D.W., Shamdasan, P.N. and Rook, D.W. (2007) *Focus Groups: theory and Practice* in Holloway, I., (2008) (2$^{nd}$ Ed) *A-Z of Qualitative Research in Healthcare*. Chichester: Blackwell Publishing.

Strauss, A. and Corbin, J. (1990) *Basics of Quantitative research: Grounded theory procedures and techniques*. Newbury Park: Sage.

Strohschein, J., Hagler, P. and May, L. (2002) 'Assessing the need for change in clinical education practices', *Physical Therapy* 82, 160-172.

Tan, O.S. (2000) 'Reflecting on innovating the academic architecture for 21st Century', *Educational Developments*, 1 (2), 8-11.

Tan, O.S (2004) 'Students' experiences in problem-based learning: three blind mice episode or educational innovation', *Innovations in Education and Teaching International*, 41 (2), 170-183.

Tang, N. K.Y., Salskovskis, P.M., Hodges, A.*et al* (2009) 'Chronic Pain Syndrome associated with health anxiety: A qualitative thematic comparison between pain patients with high and low health anxiety', *British Journal of Clinical Psychology,* 48, 1-20.

Taras, M. (2002) 'Using Assessment for Learning and Learning from Assessment', *Assessment & Evaluation in Higher Education*, 27 (6): 501-510.

Thomas, A. (2000) 'The Invisible Light' *The Journal of The Radiology History and Heritage Charitable Trust,* 13 – Available at http://www.rhhct.org.uk/news/may2000/may2000.html - accessed 11/09/07.

Thomson, I. (2001) 'Heidegger on Ontological Education, or: How We Become What We Are', *Inquiry*, 44, 243-268.

Toon, P. (2000) 'Book reviews', *Family Practice,* 17 (6): 574-580.

Trede, F.V. and Higgs, J. (2003) 'Reframing the clinician's role in collaborative clinical decision making: rethinking practice knowledge and the notion of clinician-patient relationships', *Learning in Health and social Care*, 2 (2): 66-73.

Tuckett, A.G. (2005) 'applying thematic analysis theory to practice: a researcher's experience' in Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology,* 3, 77-101.

Turner, C., Davies, E., Beattie, H. *et al* (2006) 'Developing an innovative undergraduate curriculum- responding to the 2002 National Review of Nursing Education in Australia', *Collegian*, 13 (2), 7-14.

Twomey, L. (1990) 'A growing commitment to research and evaluation', *Australian Journal of Physiotherapy*, 36 (2): 83.

United Nations (1993) *Earth Summit: Agenda 21*. USA: United Nations.

Vertual (2012) –http://vertual.eu/products/vert - accessed03/04/12.

Walker, K. (2005) 'Post modern pedagogy and the nursing curriculum: collaborating for excellence', *Collegian,* 12 (4): 36-40.

Walliman, N. (2005) *Your Research Project (2nd ed).* London: Sage Publications

Wax, R.H. (1971) *Doing Fieldwork: Warnings and advice* in LeCompte, M.D. and Goetz, J.P. (1982) 'Problems of Reliability and Validity in Ethnographic Research', *Review of Educational Research,* 52 (1): 31-60.

Weaver, S.J., Salas, E. And King, H.B. (2011), Twelve Best Practices for Team Training Evaluation in Health Care', *The Joint Commission Journal on Quality and Patient Safety,* 37 (8): 341-349.

Weidman, J.C., Twale, D.J., & Stein, E.L. (2001), *Socialization of graduate and professional students in higher education: a perilous passage?* ASHE_ERIC Higher Education Report, Vol.28 (3) San Fransisco, accessed 15 January 2012, Available at: http://www.eric.ed.gov/PDFS/ED457710.pdf

Weir, E.C. and Kippen, C. (2007) 'Gifts from patients: a consideration of gift-giving as an ethical dilemma for the podiatrist' *British Journal of Podiatry*, 10 (4): 146-149.

Wenger, E. (1998) *Communities of Practice: Learning, meaning and identity.* Cambridge: Cambridge University Press.

Welsh Government (2012) 'Referral to treatment times for Wales' – www.data.gov.uk/dataset/referral_to_treatment_times_for_wales - accessed 19/05/12.

Wessely, S. (1998) 'Medicine and books', *British Medical Journal,* 316, 713.

West, M.A. (1999) 'Communication and Team Working in Healthcare' – available at www.astonod.com/attachments/library/research-papers/communicatio%20and%20Team%20Work%20in%20Healthcare.pdf– accessed 11/06/13.

White, N. and Klem, R. (2005) 'Capacity and quality of clinical education and training', *Synergy*, April 2005, 24-27.

Williams, B. (2001) 'Theoretical links between problem-based learning and self-directed learning for continual professional nursing education', *Teaching in Higher Education,* 6 (1): 85-98.

Wolf-Michael, R. and Lawless, D.V. (2001) 'Computer modelling and biological learning' in Adams, A.M., (2004) 'Pedagogical underpinnings of computer-based learning', *Journal of Advanced Nursing,* 46 (1): 5-12.

Wolcott, H. (1990) *Writing up qualitative Research*. Newbury Park CA: Sage.

Wolcott, H. F. (1994) *Transforming Qualitative Data- Descriptive Analysis and Interpretation.* California: Sage.

Woods, P. (1974) *The Divided School*, London: Routledge and Kegan Paul.

# APPENDIX A

## Distribution of the course time in weeks between the Academic and Clinical Education

4. **Course Structure**
   **Levels, Aims and Intended Learning Outcomes**

4.1 **Overview**

The total duration of the course is 142 weeks (Table 4.1). Each academic year is divided into academic and clinical education blocks ranging from 6 to 12 weeks in duration. There are 7 academic and 8 (7+1) clinical education blocks within the total duration of the course (Table 4.2).

**Table 4.1**

**Distribution of the course time in weeks between the Academic and Clinical Education**

| YEAR | Academic Education | Clinical Education | Holidays | Total Weeks |
|------|-------------------|--------------------|----------|-------------|
| 1 | 20 | 19 | 13 | 52 |
| 2 | 20 | 19 | 13 | 52 |
| 3 | 17 | 15 | 6 | 38 |
| Total | 57 | 53 | 32 | 142 |

Student attendance is mandatory and any absence must be covered by an appropriate certificate (section 9.16.1). Registers of attendance are taken at academic and clinical sessions.

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# APPENDIX  B

## Block Plan

| WEEK NO. | WEEK BEGINNING | Year 1 2007 INTAKE | Year 2 2006 INTAKE | Year 3 2005 INTAKE |
|---|---|---|---|---|
| 1 | 24.09.07 | Freshers /Admin | A | C |
| 2 | 01.10.07 | A | A | C |
| 3 | 08.10.07 | A | A | C |
| 4 | 15.10.07 | A | A | C |
| 5 | 22.10.07 | A | A | C |
| 6 | 29.10.07 | A | A (6) | C (6) |
| 7 | 05.11.07 | A | C | A |
| 8 | 12.11.07 | A | C | A |
| 9 | 19.11.07 | A | C | A |
| 10 | 26.11.07 | A in C | C | A |
| 11 | 03.12.07 | A | C | A |
| 12 | 10.12.07 | A (11) | C (6) | A (6) |
| 13 | 17.12.07 | Christmas Holidays | | |
| 14 | 24.12.07 | | Christmas Holidays | |
| 15 | 31.12.07 | | | Christmas Holidays |
| 16 | 07.01.08 | C | A | A |
| 17 | 14.01.08 | C | A | A |
| 18 | 21.01.08 | C | A | A |
| 19 | 28.01.08 | C | A | A (4) |
| 20 | 04.02.08 | C | A | C |
| 21 | 11.02.08 | C | A | C |
| 22 | 18.02.08 | C | A | C |
| 23 | 25.02.08 | C | A | C |
| 24 | 03.03.08 | C | A | C |
| 25 | 10.03.08 | C | A | C |
| 26 | 17.03.08 | C (11) | A | C (7) |
| 27 | 24.03.08 | Easter Holidays | | |
| 28 | 31.03.08 | | Easter Holidays | |
| 29 | 07.04.08 | | | Easter Holidays |
| 30 | 14.04.08 | A | A/R | A |
| 31 | 21.04.08 | A | A/R | A |
| 32 | 28.04.08 | A | E (14) | A |
| 33 | 05.05.08 | A | C | A/R |
| 34 | 12.05.08 | A | C | E (5) |
| 35 | 19.05.08 | A | C | C/elective |
| 36 | 26.05.08 | A/R | C | C/elective |
| 37 | 02.06.08 | E (8) | C | C/elective |
| 38 | 09.06.08 | C | C (6) | C/elective (4) |
| 39 | 16.06.08 | C | | |
| 40 | 23.06.08 | C | | |
| 41 | 30.06.08 | C | | |
| 42 | 07.07.08 | C | Summer Holidays | |
| 43 | 14.07.08 | C | | |
| 44 | 21.07.08 | C | | |
| 45 | 28.07.08 | C (8) | | |
| 46 | 04.08.08 | | C | |
| 47 | 11.08.08 | | C | |
| 48 | 18.08.08 | | C | |
| 49 | 25.08.08 | Summer Holidays | C | |
| 50 | 01.09.08 | | C | |
| 51 | 08.09.08 | | C | |
| 52 | 15.09.08 | | C (7) | |
| 1 | 22.09.08 | | | |

A= Academic

A/R =Academic/Revision

A in C = Academic in Clinical (a clinical week where students are given academic tasks to research and write up on)

C = Clinical

E = examinations(academic)

# APPENDIX  C

## Module descriptors for Clinical Education 1

MODULE DESCRIPTION

6.5    Clinical Education (Radiotherapy) I

| | |
|---|---|
| **Module Code:** | |
| **Module Title:** | **Clinical Education (Radiotherapy) I** |
| **School Responsible:** | |
| **Module Tutor:** | |
| **Number of Credits:** | 30 | **Level:** I |
| **Terms:** | 1, 2 & 3 | **Number of Terms:** |
| **Approximate dates when the module is to be taught:** | January - August |

| **Prerequisite Modules:** | **Code:** | **Title:** |
|---|---|---|

| **Precursor Modules:** | **Code:** | **Title:** |
|---|---|---|

| **Co-Requisite Modules:** | **Code:** | **Title:** |
|---|---|---|
| | | Introduction to Professional Practice |
| | | Radiotherapy and Oncology Practice I |
| | | Introduction to Radiation Science |
| | | Pre-treatment Procedures |

| **Other Prerequisites:** |
|---|

| **Programmes of Study For Which This Module Is *Compulsory*:** | | | **Programmes of Study For Which This Module Is *Optional*:** | | |
|---|---|---|---|---|---|
| **Title of Programme:** | **JACS Code:** | **Years:** | **Title of Programme:** | **JACS Code:** | **Years:** |
| BSc (Hons) Radiotherapy & Oncology | | 3 | None | | |

**Module to be offered on a Free-Standing basis?**    No
**Please identify any additional restrictions to Free-Standing status:**

---

**AIMS OF THE MODULE:**
*(Aims define the broad purpose of the module)*

To:
- to enable the student to integrate clinical experience with theoretical knowledge;
- to enable the student to execute straightforward treatment procedures.

BSc (Hons) Diagnostic Radiography & Imaging / BSc (Hons) Radiotherapy & Oncology
Validation Document 2007

## LEARNING OUTCOMES OF THE MODULE

*On completion of the module a student should be able to:*

*Knowledge and Understanding:*

1. Describe the adverse treatment reactions (including tolerance doses of specific organs) which may arise in those patients who partake in clinical assessments and the patient care to be implemented.

*Discipline Specific (including practical) Skills:*

2. Give accurate instructions, explanations and assistance to the patient prior to, during and after treatment, reporting any relevant information to the radiographer in charge.

3. Assist the radiographers in the positioning of the patient and setting up of techniques, correctly manipulate radiographic equipment, carry out the necessary observations of the patient during treatment.

4. Comply with health and safety regulations with respect to patients and staff, regarding such areas as equipment, radiation protections, hygiene and cross-infection, electrical hazards, fire, etc.

5. Carry out the calculation of the following radiotherapy prescriptions: simple two field parallel opposed fields; single direct fields; single field of a plan or equivalent.

6. Complete identified clinical competencies for Level 1.

## METHODS OF TEACHING AND LEARNING:

Lectures, tutorials, practical demonstrations and practical sessions, student centred learning, student managed learning.

## ASSESSMENT:

**Summative**
- Clinical assessment of student performance in the treatment of TWO patients receiving simple two-field parallel opposed fields, single direct field or single field of a plan or equivalent. Weighting: 80%.
This will assess learning outcomes 1, 2, 3, 4, 6..
- Three calculations from any of the following: single applied field; single applied field at depth; parallel opposed field. Weighting: 20%.
This will assess learning outcomes 5 and 6.

## METHOD(S) OF SUMMATIVE ASSESSMENT:

| Type | % Contribution | Title | Duration (if applicable) |
|------|---------------|-------|--------------------------|
| CW | 80 | Clinical Assessment | |
| CW | 20 | Calculations | |

**Syllabus Outline:**

**6.5.1 Radiotherapeutic techniques and equipment**

Observation and performance of clinical practice within radiotherapy department/oncology centre and may include: kilovoltage X-ray units; megavoltage X-ray and γ-ray units; simulator; mould room; compensatory and field shaping devices; beam direction devices; methods of patient immobilisation; accessory equipment; unsealed sources; sealed sources (afterloading equipment); treatment investigations; diagnostic imaging; preparation of treatment room; the recognition, reporting and recording of faults.

**6.5.2 Treatment planning.**

The interpretation and application of treatment prescriptions. Calculation of treatment dose with the treated volume to include tumour and skin / sub-dermal doses, daily treatment times and monitor units. Interpretation of isodose distributions. Simulation and verification of treatment plan with particular reference to beam/patient alignment. Treatment records relevant to planning.

**6.5.3 Management of treatment reactions and patient care.**

Care of local reactions including those of skin, mucosa and individual organs. Diet and fluid intake. Additional care of patients with specific needs to include children; irrational patients; paraplegic patients; anaesthetised patients; patients with advanced malignant disease; patients in terminal stages of malignancy.

# APPENDIX  D

## Example of Clinical Education folder Objectives (Level 1) and Competencies (Levels 1,2 and 3)

| Clinical Placement Objectives Intake: 2007 | Signature | Date |
|---|---|---|
| | | |

| Megavoltage objectives | Level I | |
|---|---|---|
| Greet and correctly identify patients | | |
| Position patients on the treatment couch unaided | | |
| Learn the correct handling of: | | |
| Wedges | | |
| Shielding blocks | | |
| Electron applicators | | |
| Manual Handling Devices | | |
| Be able to set treatment parameters using console / handset | | |
| Be able to manoeuvre and immobilise the treatment couch | | |
| Under supervision demonstrate the correct use of the control panel | | |
| Act as team leader for the following techniques: | | |
| Single Direct Photon Field | | |
| Anterior & Posterior Parallel Opposed Pair | | |

| Megavoltage objectives | Level II | |
|---|---|---|
| With minimal assistance, use the control panel correctly | | |
| Understand the reasons for shielding | | |
| Be able to prepare a new patient for radiotherapy treatment | | |
| Develop communication skills | | |

| Megavoltage objectives | Level III | |
|---|---|---|
| Understand & assist with daily quality assurance checks | | |
| Describe the steps needed to implement a new radiotherapy prescription | | |
| Observe portal film matching | | |
| Enter patient data into networked verification system | | |

## Clinical Progress Record

The date on which a student achieves one of the set levels is entered in the column and countersigned by the supervising radiographer. Whilst the levels relate to the degree of supervision it is imperative that the student is supervised at all times.

The levels are defined as follows:-

**Observed**      The observation, by the student, of a procedure carried out by a qualified member of staff.

**Assisted**      A procedure carried out by the student with considerable guidance and supervision by a qualified member of staff.

**Performed**      A procedure carried out by the student with minimal assistance from a qualified member of staff.

**Consistent**      A procedure which the student is able to perform consistently well with minimal assistance from a qualified member of staff.

**Competent**      A procedure in which the student can overcome difficulties due to the patients' condition, while carrying out the technique as team leader.

| Diagnosis / Site | Radical / Palliative | Megavoltage Technique | Observed | | Assisted | | Performed | | Consistent | | Competent | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Breast - photons | | | Date | Sign | Date | Sign | Date | Sign | Date | Sign | Date | Sign |
| *E.g. Ca Rt Breast* | *Radical* | *Medial & lateral isocentric tangential pair, EDW* | | | | | | | | | | |
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# APPENDIX E

## Timetable of participant students' placements indicating observational periods and interviews

## Timetable of clinical placements during data collection period

| Student | 7th Jan | 14th | 21st | 28th | 4th Feb | 11th | 18th | 25th | 3rd Mar | 10th | 17th |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RT01** | *Linac 1 | *Linac 1 | Linac 1 | *Sim | Sim | Calcs | Linac 6 | Linac 6 | Linac 6 | CT/ X-ray | SXR/ Study |
| **RT05** | Linac 2 | Linac 2 | Linac 2 | Linac 2 | Linac 2 | Calcs | *CT/ X-ray | *MR/ CT | *Linac 7 | Linac 7 | Linac 7 |
| **RT03** | *Linac 3 | *Linac 3 | *Linac 3 | Linac 3 | Linac 3 | Calcs | Linac 8 | Linac 8 | Linac 9 | Linac 9 | Linac 9 |
| **RT04** | CTX/ Clinic | *Clinic | *X-ray | *Linac 1 | Linac 1 | Calcs | SIM | SIM | SIM | Linac 6 | Linac 6 |
| **RT02** | *Linac 4 | *Linac 4 | *Linac 4 | Linac 4 | Linac 4 | Calcs | Linac 9 | Linac 9 | CT/ X-ray | SIM | SIM |
| **RT07** | Linac 5 | Linac 5 | Linac 5 | Linac 5 | Linac 5 | Calcs | *Linac 7 | *Linac 7 | *RR | SIM | SIM |
| **RT06** | SIM | SIM | SIM | Clinic | CTX/ clinic | Calcs | *SIM | *SIM | *Study/ SXR | Linac 10 | Linac 10 |

Legend:
- Hospital A (green)
- Hospital B (blue)
- Hospital C (Not in study)

*Period of observation

Week 4th February – Interviews in Hospital A with Students RT01; RT02; RT03 and RT04.

Week 17th March – Interviews in Hospital B with Students RT05; RT06 and RT07

Linac = Linear Accelerator:  SIM = Simulator; SXR = Superficial machine; CTX = Chemotherapy Clinic; Calcs = Calculations tutorials and assessment; X-ray = main X-ray dept; CT = CT Scanning room; RR = Radiographer Review Clinic;  MR = Mould Room

**N.B. No data collection took place during the calculations week (Calcs) commencing 11th February as the whole cohort of students were taken out of clinical practice and taught in a tutorial room within hospital B.**

# APPENDIX  F

## Consent Form and Study Information Sheet

# Participant Consent Form

**Title of research:**

*'A focused ethnography of radiotherapy students' learning on their first clinical placement'*

I confirm that I have read and understood the information sheet regarding the research and have had the opportunity to ask questions and thereby agree to take part in the study.

I consent to take part of my own free will and understand that I may withdraw from the above said study at any time without reason or prejudice to my clinical education.

I understand that all information will be kept confidential and that my name will be kept anonymous.

Should I decide to withdraw from the study, any information collected will not be included in the study and ultimately destroyed.

**Name (participant)**    ……………………………    **Date** ……………

**Signature (participant)**    ……………………………

**Name (Researcher)**    ……………………………    **Date** ……………

**Signature (Researcher)**    ……………………………

**Contact details:**

Rosanna Sutton; e-mail: whcrs1@groupwise.cf.ac.uk Tel: Swansea 01792 205666 ext 6456

Cardiff 029 20744169 (main office)

# Participant Study information sheet

**Title of research:**

*'Learning to Play the Part of Therapeutic Radiographer: The Drama of Clinical Placement'.*

## Purpose of Study:

The main aim of this research is to examine how radiotherapy knowledge is transmitted and acquired in the clinical setting and to look at the students' perceptions of clinical pedagogy (teaching and learning). Much research has been documented on medical students – how they cope with their first clinical placement; the pressures and barriers faced with learning; being assessed in different clinical placements; how they perceive their experiences and what they feel the educational institutions requires of them in order to succeed. The purpose of this research is therefore to fill the perceived gap in our knowledge of teaching and pedagogy in the clinical education of therapeutic radiographers.

## Outline of data collection methods:

Following a well-established ethnographical approach as used for medical students, the research will include:

a) Observational data collection (observing the student on clinical placement). It must be stressed that your performance whilst being observed, will not be reflected in your record of clinical competence. It is merely for research purposes only.

b) Face-face semi-structured interviews – to obtain in-depth information on your opinions.

- You have been selected so that you represent a range of gender, age and ethnic background, in order to reflect the composition of the student cohort.

- You are invited to take part of your own free will and may withdraw from the above said study at any time without reason or prejudice to your clinical education.

- All information will be kept confidential and your name will be kept anonymous.

- Should you decide to withdraw from the study, any information collected will not be included in the study and ultimately destroyed.

- Items such as stationery/mugs/calculators will be given to you as an appreciation of your participation in the study.

**Contact details:**

Rosanna Sutton; e-mail: whcrs1@groupwise.cf.ac.uk

Tel: Swansea 01792 205666 ext. 6456 / Cardiff 029 20744169 (main office)

# APPENDIX G

## Observation Checklist

# Observation checklist

- **Physical surroundings:**

  **Room, space and comfort**

- **The level of communication between the practitioner(s) and student**

- **The level of explanation between practitioner(s) and student**

- **The student's behaviour inside and outside the treatment/clinical room:**

  **Did the student ask questions; level of interest; attitude and professionalism?**

- **The position of the practitioner(s) and the student around the treatment area or area of interest:**

  **A note should also made of the grade (position of seniority) of the practitioner. This should be done by means of a sketch.**

- **To observe any positive/negative body language in response to instruction**

- **Explanations/instructions and methods of delivery given to the student from practitioners and level of support**

- **To observe any hierarchy amongst the professional team:**
  **Look at power relationships and any political/current issues voiced during the period of observation.**

# APPENDIX  H

## Interview Schedule

# Semi-Structured Interviews

**Interviews to be conducted in a quiet room in the clinical department and audio-taped.**

**Notes will also be taken during the interview.**

**Gender:**          **Male** ☐          **Female** ☐

**Age:**          _____

**Ethnic Origin** _____

**Overseas student:**     **Yes** ☐          **No** ☐

Qualifications:    A Levels  ☐

                        Degree  ☐

         Post graduate  ☐

Other

## Professional Socialisation

1. How did you feel at the start of your first clinical placement?

Prompt: Were you nervous?
Prompt: What kinds of hopes, emotions, and feelings did you have?

2. Can you tell me whether you felt that you were prepared for your clinical placement?
Prompt: What did you think of the preparatory sessions in the academic block prior to clinical placement?

3. How did you find the transition from academic to clinical block?
Prompt: Did it go smoothly/any problems?
Prompt: What adjustments did you need to make to settle into your new environment?
Prompt: How long did it take you to feel settled?

4. Can you tell me about any experiences that you found stressful?
Prompt: Experiences with patients/staff/learning/facilities?

5. How did you find working with qualified members of staff?
Prompt: Were you made to feel part of the working team?
Prompt: Did this vary with different placements? If Yes; how?
Prompt: How did you feel working with different grades of staff?
Prompt: Were you aware of any hierarchy?

6. Can you add anything more about your introduction to clinical placement?
Prompt: Was it satisfactory/poor excellent?
Prompt: Can you suggest anything that would make your first placement easier/more satisfactory?

## Workload
7. What challenges did you encounter in relation to the workload whilst on clinical placement?
Prompt: Long/tiring/satisfactory/ok?
Prompt: How did you cope with studying during the working day and in the evening?
Prompt: Are there any differences with the workload between academic and clinical blocks?


## Patient Contact
8. Can you tell me what your feelings are about patient contact?
Prompt: Did you find it easy/difficult?
Prompt: How do you feel about starting a conversation with a patient?
Prompt: Did it stimulate you to want to learn more?
Prompt: How do you feel about touching patients?
Prompt: How do you think patients felt about being treated by a student?

## Learning & Education
9. Can you tell me how you prefer to learn/study whilst on clinical placement?
Prompt: Do you like to study independently/prefer group work?
Prompt: Is there any difference in the way that you learn whilst on clinical placement compared with academic placement?
Prompt: Is your learning driven by questions from clinical staff?

10. What effect does the assessment programme (formative and summative – explain) have on the way you learn?
Prompt: Do you learn the things that interest you or things that you need to know in order to pass an assessment/or that affect your clinical competencies?
Prompt: What pressures do you think you feel when undergoing an assessment/competencies need to be signed off by clinical staff?

Prompt: How do you judge your own progress/performance?

11. Can you tell me how you have found the teaching from clinical staff?
Prompt: Is there a difference between different grades of staff?
Prompt: How do you think the staff felt about your presence during procedures (were you a hindrance/were you included/were they patient with you)?
Prompt: What do you think of the speed at which staff carried out the procedures?
Prompt: What do you think of the depth of explanations that were given to you?
Prompt: How did you find the body language of clinical staff (non-verbal communication)? Do you have any experiences?

12. Can you tell me how you learned/understood procedures?
Prompt: Did you learn by watching and copying/by having procedures explained to you step by step?
Prompt: How do you think carrying out a procedure with minimal help affected your learning?
Prompt: Can you tell me how you feel about following exact steps in a particular order to carry out procedure (did the student understand what they were doing or merely going through the process)?

13. What are your expectations from clinical placement in order that good teaching and learning takes place?
Prompt: How important is having a good rapport with staff?
Prompt: What are your expectations of the knowledge and skills held by staff?
Prompt: What do you think of the knowledge held by junior and senior staff?
Prompt: What do you think of the facilities in the department that are essential for you to study?
Prompt: How do you think that a clinical lecturer can help you to learn whilst on clinical placement?

14. Can you tell me how you felt about the approaches staff used in carrying out the same procedures?
Prompt: Did staff use slightly different approaches, but arriving at the same destination? If so, did this have an effect on your learning?
Prompt: How did this vary with grade/age of staff?
Prompt: How confident were staff in their explanations?

15. What were your experiences when you approached staff to sign your clinical progress record?
Prompt: How did you feel you were judged by different staff?
Prompt: What expectations do you think clinical staff had from 1st year students?
Prompt: How do you think you had to prove your level of competence to staff and thereby fulfil your list of objectives? (Did the student feel they had to replicate the procedures of the supervising staff in order to be considered a good student?)
Prompt: How do you think your clinical progress record affects what you learn?

Is there anything else you would like to add regarding your learning experiences whilst on your first clinical placement?
Can you suggest anything that would improve the teaching and learning environment from this clinical placement?

# APPENDIX I

## Focus Group Schedule

# Focus Group Schedule

## Focus Group Plan

- Organise seating layout in a circle.

- Organise refreshments in the middle of the circle.

- Position audiotape close to the middle of the circle

- Welcome participants and offer refreshments

- Explain the nature of the study to the participants (although the participants would have had a brief outline on the staff noticeboard beforehand)

- Assure anonymity and confidentiality of the recording of data

- Inform participants that they can leave the session if they should desire

- Conduct a sound check with the recording device before commencement of the session.

## Questions:

How did the students fit in during their first weeks of clinical placement?

Do you feel they need more preparation for clinical practice in the preceding academic block?

What do the students tend to focus on when they first start?

How did you find their attitude and behaviour towards you?

How do you find their attitude and behaviour towards the patients?

How do think they cope with patients who are very ill or unsightly events like fungating tumours or patients bleeding out? Have you had any experiences that you can talk about?

Do you feel they had preconceived expectations of you?

Are you comfortable knowing what is expected of teaching first year students on their first clinical placement?

Do you know at what level to pitch your teaching?

Do you think the clinical folder drives their learning?

Are you guided by the clinical folder, in gauging what should be taught and at what level?

Do they object to carrying out menial tasks?

Do the students ask you questions?

How do you respond to their questions i.e. do you tell them the answer or do you tell them to find out?

Are there expectations of you that you should know everything?

How do you feel the students learn from you i.e. what learning style do they use?
Prompt if needed – do they learn by copying?

Do you explain the radiotherapy techniques using step-by-step instruction?

Do you single out a member of the team to carry out the instruction?

Do the students draw upon the knowledge that they have learned in the preceding academic block or do they see clinical placement as a separate thing – like learning a new job?

How do you find the clinical assessment programme works for you?

How does it affect your teaching if you know they have an assessment coming up?

Are the assessments realistic?

How do the students behave before an assessment and what do you think their expectations are of you?

Does the assessment period impact on your work schedule?

Do you think that there is a difference in the level of assessments due to complexities of treatments between site-specific machines?

Have the students commented on the difference in assessment between site-specific machines?

How do you find signing the student's clinical folder?

Do you think the students are generally happy with your judgement of them?

Are you comfortable working with students from different cohorts e.g. a first-year and a third year?

Does this impact on your teaching?

Do you feel that they fight for your attention, as their needs are different?

Have you noticed any hierarchy between the first and third-year students?

Do the third-year students explain procedure to the first-years?

Do you think you treat them differently?

What pressures do you feel that you are under at work?

Do you feel that these pressures affect how you teach the students?

Has Agenda for Change had any effect on the way you teach – in terms of banding and responsibilities?

Do you think that the academic institution is fully aware of the pressures of clinical teaching and assessment?

Do you think that the students have picked up on these pressures or stresses at work?

What do you feel is your priority?

Do you feel that you devote enough time to teaching students?

If you are very busy or behind schedule, do you exclude the student from participating in the treatments? If so do you tell them why? How do they respond?

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Thank participants for their time and contribution to the study.

# APPENDIX  J

## Band 5 National Profile

## NATIONAL PROFILES FOR DIAGNOSTIC & THERAPEUTIC RADIOGRAPHY

## CONTENTS

| Profile Title | AfC Banding | Page |
|---|---|---|
| Clinical Support Worker Higher Level (Radiography) | 3 | 2 |
| Assistant Practitioner (Radiography) | 4 | 3 |
| Radiographer (Therapeutic)* | 5 | 4 |
| Radiographer (Diagnostic)* | 5 | 5 |
| Radiographer Specialist (Diagnostic Therapeutic)* | 6 | 6 |
| Radiographer Advanced | 7 | 7 |
| Radiographer Specialist (Reporting Sonographer) | 7 | 8 |
| Radiographer Team Manager | 7 | 9 |
| Radiographer Principal** | 8a | 10 |
| Radiographer Consultant (Therapy) | 8A – 8C | 11 |
| Radiographer Consultant (Diagnostic) | 8B – 8C | 12 |

*revised in December 2005
** New in September 2006

**December 2005**
Three radiography profiles:
- o   Radiographer (Therapeutic),
- o   Radiographer (Diagnostic)
- o   Radiographer Specialist (Diagnostic, Therapeutic)

have been revised in the light of findings made by the JE Consistency Monitoring Group, which identified that there appeared to be some misapplication of the KTE factor.  Although changes are in wording only and not to factor levels, it is recommended that sites revisit their matching outcomes to these profiles to ensure that jobs are correctly banded'

www.lihnn.nhs.uk/staffdevelopmentsupport/agendaforchange

**Profile Label:** Radiographer (Therapeutic)

**Job Statement:**
1. Assesses own workload of patients/clients, makes pre-treatment calculations and checks; maintains associated records
2. May supervise Support Workers / Assistant(s) /students working with post holder
3. May participate in departmental research

| Factor | Relevant Job Information | JE Level |
|---|---|---|
| 1. Communication & Relationship Skills | **Provide and receive complex, sensitive information; barriers to understanding**<br>Communicates therapy related information to patients e.g. those with learning difficulties, claustrophobia | 4 (a) |
| 2. Knowledge, Training & Experience | **Expertise within specialism, underpinned by theory**<br>Professional knowledge acquired through degree or equivalent | 5 |
| 3. Analytical & Judgemental Skills | **Range of facts or situations requiring analysis**<br>Skills for analysing data and calculating treatment doses, assessing patient/client conditions | 3 |
| 4. Planning & Organisational Skills | **Plan and organise straightforward activities, some ongoing**<br>Plans & prioritises own patient workload | 2 |
| 5. Physical Skills | **Developed physical skills; manipulation of objects, people; narrow margins for error; highly developed physical skills, accuracy important**<br>Dexterity, co-ordination & sensory skills for positioning, manipulation of patients, equipment to fine tolerances | 3(a) (b) |
| 6. Responsibility for Patient/Client Care | **Provide clinical technical services**<br>Implements radiotherapy treatments for patients/clients | 4(b) |
| 7. Responsibility for Policy/Service Development | **Follow policies in own role, may be required to comment**<br>Follows departmental policies, contributes to discussions on service/policy development, provides comments | 1 |
| 8. Responsibility for Financial & Physical Resources | **Safe use of expensive equipment**<br>Responsible for safe use of expensive specialist, highly complex equipment used by self | 2(e) |
| 9. Responsibility for Human Resources | **Demonstrates own work/ clinical supervision**<br>Demonstrates work/ may supervise work of support workers, assistant(s), students | 1-2(b) |
| 10. Responsibility for Information Resources | **Records personally generated information**<br>Updates client records | 1 |
| 11. Responsibility for Research & Development | **Occasionally participates in/ regularly undertakes R&D activity**<br>Occasionally/ regularly participates in research and development activities | 1-2(a) |
| 12. Freedom to Act | **Clearly defined occupational policies**<br>Works within codes of practice and professional guidelines with accountability for own actions | 3 |
| 13. Physical Effort | **Occasional/frequent moderate effort for several short periods**<br>Positioning, manoeuvring patients, equipment, lead blocks | 2(b)-3(c) |
| 14. Mental Effort | **Frequent concentration, predictable pattern**<br>Concentration on patient treatment, dosage checks, calculations | 2(a) |
| 15. Emotional Effort | **Frequent distressing situations**<br>Works with people with cancer, terminal illnesses | 3(a) |
| 16. Working Conditions | **Occasional/ frequent unpleasant conditions; occasional/frequent highly unpleasant conditions**<br>Body odours/body fluids | 2(a)-3(a)(b)-4(b) |
| JE Score/Band | **JE Score 334 – 364** | Band 5 |

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