An ethnographic study of the culture in a Diagnostic Imaging department (DID) - R. M Strudwick.

Abstract

This is my doctoral thesis for my Professional Doctorate, which is nearing completion.

There has been very little written about radiographers and how they work and interact. This study explored the culture in a DID, looking at how radiographers work and the issues within their working environment. This study contributes to the sparse evidence base by providing valuable insights into how radiographers work in the pressurised environment of the NHS. The results of this study may prove beneficial for prospective diagnostic radiographers (DRs) and other health and social care professionals. This paper outlines my study so far and presents the findings.

Introduction

Much of the research that has been undertaken in radiography is quantitative research looking at radiographic techniques and imaging methods and modalities. Ng and White (2005) encourage the use of qualitative research to look at the interactions that occur within a DID, they state that qualitative research is needed in radiography to "provide insight into certain topics of which little is known" (p217), for example looking at the perceptions and experiences of DRs. Adams and Smith (2003) support this idea saying that "there is considerable potential for the sustained use of qualitative methodologies in radiography research to more clearly define what radiographers do and how they do it"(p194).

Methodology

The reason for my choice of a qualitative methodology is that qualitative research inquires into the meaning individuals or groups ascribe to a social or human problem, it allows for the exploration of people's thoughts, feelings and ideas (Creswell, 2007). The purpose of my research was to investigate the culture in the DID amongst DRs and in order to do this I needed to see the culture from the perspective of those who were a part of it, namely the DRs working in that DID (Crotty, 2005). Quantitative research does not provide meanings, it provides numerical data and hard facts (Bowling, 2004). Quantitative techniques can be used if the subject is known about, simple and unambiguous and able to be measured in a valid and reliable way (Bowling, 2004). Qualitative methods provide further insight and rich data about the complex issue of culture (Bowling, 2004).

Ethnography.

I chose ethnography as a methodology because of its link to the study of culture. I did not want to merely describe the culture as in narrative research or case study research but rather seek to interpret my findings and try to understand the basis of the culture (Creswell, 2007). Ethnography employs

several research methods, which link findings together (O'Reilly, 2005). These research methods include observation, interviews, focus groups, and studying artefacts and documents.

Ethnography has its roots in both British social anthropology, where researchers went out to study foreign cultures and in American Sociology (from the Chicago school) which used observation to explore groups on the margins of urban industrial society. The task of these two distinct groups was the same, that of cultural description (Brewer, 2000). Since then ethnography has developed and moved into other spheres such as education, health care and social work. In many respects ethnography is really the most basic form of social research; it bears a close resemblance to the ways in which we make sense of the world around us (Hammersley and Atkinson, 1991). "Ethnography is the art and science of describing a group or culture" (Fetterman, 1989 p11). The study of a culture looks at the way in which people interact and behave when they are part of a community. This community can be a work setting such as a DID.

Ethnography involves the study of a particular social group or culture in naturally occurring settings (McGarry, 2007; Hobbs and May, 1993). Spradley (1979) maintains that the aim of ethnographic research is to gain an understanding of the culture from the point of view of the members of this community. Hobbs and May (1993) concur with this saying that ethnography is a way of telling it like it is, describing the culture observed and looking at the social world being studied as seen from the inside. However Davies (1999) argues that the researcher's understanding of the culture forms the basis of the findings, which come from the information provided by informants. Denzin (1997) agrees with this point saying that "there can never be a final representation of what was meant or said – only different textual representations of different experiences" (p5). There are many interpretations and representations of an experience. The researcher has their own interpretation of an event and the participants may have a different interpretation. The researcher attempts to uncover the participants' interpretation and draw their own conclusion about the event using the many versions that exist to try to make sense of the experience.

In order to document their findings the researcher needs to become part of the culture being studied to gain understanding and insight. The researcher needs to have direct and sustained contact with those being researched within their cultural setting. This involves watching what happens, listening to what is said and asking questions (O'Reilly, 2005). Hammersley and Atkinson (1991) advocate the study of a culture in its natural state, as undisturbed by the researcher as possible. Ethnography should also be carried out over a period of time in order to reduce the impact of the researcher's presence on the situation being studied. "People can sustain an act or maintain their best image only so long" (Wolcott, 1999 p49). The researcher's presence may alter behaviour for a short period of time, but this will only continue for a while as 'real' behaviour re-emerges. Nieswiadomy (2002) suggests an adjustment period is needed in order for behaviour to return to normal as people can only maintain an act for a short while.

This study of the culture in a DID explored how DRs made decisions and behaved, and looked at whether this culture is the source of human behaviour or the result of it (Crotty, 2005). Within a cultural setting meanings and actions are based on the meanings and actions of others. These can be modified through observations of and further interactions with others (Crotty, 2005). This can be positive; for example DRs may learn how to deal with difficult patients by observing their colleagues, or it could be negative; for example DRs may follow the example of a colleague in being rude or unhelpful to a referring clinician. This is an example of situated learning (Lave and Wenger, 1991), where members of a community of practice learn from one another in practice about their professional role. This study looked at how DRs interacted with one another, with other health care professionals, with students and with patients. In order to be understood people try to make their actions meaningful to others (Ellen, 1984).

The heart of ethnography is the 'lived order', the way in which members of a group construct, enact, do and inhabit their daily world (Allen, 2004). Ethnography utilises three main research methods; observation, interviews and the study of written documents (Brewer, 2000; Hammersley and Atkinson, 1991). Ethnography is iterative-inductive research, and is an ongoing simultaneous process of theory building, testing and re-building (O'Reilly, 2005). Ethnography is usually fluid and flexible; a reflexive process with a broad topic and some guiding questions (O'Reilly, 2005).

Culture.

Many writers have tried to define culture. Ogbonna and Harris (2002) define culture as "the collective sum of beliefs, values, meanings and assumptions that are shared by a social group and that help to shape the ways in which they respond to each other and their external environment"(p34). Crotty (2005) sees culture as the source of human thought and behaviour, rather than the result and goes on to say that culture teaches us how to "see" things. Geertz (1973) agrees saying that culture is a concoction of "webs of significance" which man has spun and that any culture is a symbolic system with elements, relationships and symbols. Each culture has its own norms and values (Chesney, 2000), the culture can teach us how to "see" things as interpretations become layered and cultural meanings take over (Crotty, 2005). Fetterman (1989) defines culture as "the sum of a social group's observable patterns of behaviour, customs and way of life" (p27). Wolcott (1999) also sees culture as acquired social behaviour. Culture is about how members of a group interpret the world around them by developing shared understandings, it provides people with rules about how to operate in the world in which they live and work (Rubin and Rubin, 1995). Spradley (1980) says that culture is what people do, what they know and what they make and use – cultural behaviour, knowledge and artefacts. He also says that culture is the acquired knowledge people use to interpret experience and generate behaviour.

For the purposes of my study I am going to use the definition and explanation of culture provided by Beals et al. (1977, p27) "a culture emerges when a set of individuals come together to form a group and consciously or unconsciously make decisions affecting some sort of common enterprise".

They go on to say that culture includes ideas, plans and common understandings and that there are 5 main components of a cultural system; 1) a group or society with a set of members - for the DID this includes all of the staff working there,
2) an environment within which the members carry out their characteristic activities – for this study this will be the DID,
3) a material culture – equipment and artefacts, and effects of past and previous members – X-ray equipment, computers, documents, notice boards, white boards etc.
4) a cultural tradition – historically accumulated decisions, appropriateness and desirability of particular behaviours – how we do things around here,
5) human activities and behaviours – complex interactions between 1), 2), 3) and 4).

The culture I studied was the DR's workplace culture. The focus of this research was the DRs and the way that they work and interact.

I looked at the issues which face DRs in their work, encouraged by Adams and Smith (2003) and the perceptions and experiences of DRs, suggested by Ng and White (2005). I was particularly interested in how DRs became 'professionally socialised' and how they 'learnt' to be a DR and become a member of this community of practice (Lave and Wenger, 1991). DRs learn from one another and use shared language and symbolism when working (Crotty, 2005). I was interested in looking at how this occurs in practice and what this language and symbolism consists of.

The theoretical perspective that I used was that of symbolic interactionism (Manis and Meltzer, 1978). This viewpoint explores the understandings that we have within society and culture that provide a meaningful matrix to guide our lives. The meanings and actions that we use are based on the meanings and actions of those around us. These can therefore be modified, and adapted through our observation and interaction with other people. We learn to ascertain the intention of others and then make of responses to them on the basis of what we perceive to be their intention (Manis and Meltzer, 1978). Culture itself is based on human thought and behaviour (Crotty, 2005). We know what we know because of who we interact with, what we observe and what we learn from others. Symbolic interactionism looks at how different social groups interact within their group, each group has a different common understandings and a different set of words and symbols which are used by the group members. So a place of work can become a different social group in which the perspectives shared by the group gradually become internalised (Manis and Meltzer, 1978). A DR therefore learns how to behave like a DR and internalises shared values, symbols and actions.

Over the past decade DRs have taken on extended roles within the NHS which are not traditionally associated with key radiographic tasks (Prime and Le Masurier, 2000). DRs have taken on roles such as performing Gastro-intestinal radiography examinations, radiographic reporting and giving intravenous injections. This has increased job opportunities and job satisfaction within the profession of diagnostic radiography (Prime and Le Masurier, 2000). However, in some DIDs the culture is not supportive of this

role development and of lifelong learning within the profession (Sim et al., 2003). I was interested to see if role development and lifelong learning were issues that were discussed by DRs and what if any effects were seen within the working culture of the DID. It may be that role development causes conflict and bad feeling, or it may prove to have a positive effect upon the staff members in the DID.

Ethics and ethical issues.

Ethics in research involves the application of ethical principles which include the way in which the research is designed and conducted. The main principle is that participants should not be harmed as a result of participating in the research (Bowling, 2004). All participants should give informed consent in order to participate and this consent should be written (Bowling, 2004). Ethical approval must be sought for all studies using human subjects which take part within the NHS.

Ethical approval was needed for this study from the University of Salford Research Governance and Ethics Committee, the local research ethics committee (LREC) and the research and development committee (R&D) at the NHS Trust where the study took place. Ethical approval for the study was finalised in May 2008.

Access to the field

Long et al. (2008) state that it is not easy to gain access to a hospital for research purposes. Because of my position as a radiography lecturer at the university I was fortunate to be on first name terms with all of the radiology managers in the region that provided clinical placements for diagnostic radiography students. The manager of one of the trusts volunteered to host me and was very interested in my study. It was therefore relatively easy for me to gain access to the DID. Allott and Robb (1998) cite this as a distinct advantage of doing research in your own area of practice.

However, because of the way in which I gained access to the field I was aware of coercion and made every effort to ensure that participants made an informed decision about taking part in the research and did not feel obligated to do so because the manager had given permission for me to work in the DID. Roberts (2007) discusses coercion in her paper about carrying out research on her own students. She was aware of the pressure to consent to be involved in eth study for students as she was their lecturer. However, she points out that from her experience the students were not easy to coerce into divulging information that they wanted to keep private. I agree with this notion, and I believe that the staff in the DID had the opportunity not to participate in my study and they also had many opportunities to discuss subjects that they did not want me to hear about or be aware of outside of my earshot.

Johnson (2004) speaks about openness in research and gives examples of past research that was covert in which participants were unaware that they were part of a study. This is not permissible now due to stringent ethical requirements and ethics committees are very keen that researchers consider

their position and do not misuse any power that they might have over the participants to coerce them into taking part.

Informed consent.

Before the study I had to resolve the issues of informing the staff about the study and gaining consent. It was important that staff members were not coerced into taking part. Therefore I spoke to all of the staff in the DID at their staff meeting and provided each one of them with a participant information sheet and my contact details. After staff members had time to read about the study they were asked to complete the consent form. Staff members were able to opt out of the study at any time.

The LREC asked me to ensure that patients gave their consent for me to observe them. This was achieved by placing a notice in the patient waiting room in the DID and asking each patient being observed for their permission, this was practiced by other similar studies such as May-Cahal et al. (2004). This did not achieve informed consent for the patients but no patient details formed part of the study as my primary focus was on observing the DRs and their practice. The LREC were satisfied with this level of consent for patients as I was abiding by professional code of conduct with regards to patient information.

Ensuring no harm.

Before the commencement of the study I had to decide how I would deal with the observation of mal-practice. It was decided in discussion with the manager of the DID that I would intervene if necessary and that I would report any instances to the manager of the DID. This was difficult for me as I did not feel that this was my role as a researcher to 'police' the department. Dixon-Woods (2003) says that "ethical issues about when and how to intervene are not uncommon" (p326), and other writers speak about the dilemma of observing bad practice and if intervention is necessary (Hobbs and May, 1993; McGarry, 2007).

Johnson (1997 and 2004) discusses why intervention is a difficult concept for researchers in the clinical environment. He calls the lack of intervention by a researcher the 'wildebeest perspective' (Johnson, 1997), referring to nature documentaries where the person filming does not intervene when the predator stalks and eats the vulnerable newborn and ageing wildebeests, it is argued that intervention would disturb or intervene with nature. Johnson (1997) argues that in some cases researchers should perhaps have intervened, for example to relieve pain. He goes on to state that it is useful to consider where interventions or their avoidance can be planned for or predicted in research, but this does not reflect the turmoil of the real and messy world of clinical research. When considering when I might have to intervene I realised that it was not as simple as saying I would intervene when I thought that the patient or my colleagues was in danger or at risk. This was fine in terms of radiation dose, but there could be other occasions where there could be a small risk or maybe where I felt that the care of the patient was not optimal. I needed to decide where I would draw the line. As a DR I needed to abide by

my professional code of conduct and this provided some guidance. Johnson (2004) calls this an 'intervention dilemma' and suggests the development of a personal 'bottom line' of care below which the researcher feels they must intervene. For me this was if I felt that anyone could be physically harmed unnecessarily as a result of an interaction. It is important to report practice that is less than satisfactory in research, because although this may be controversial, without reporting such incidents future practice cannot improve and the profession can move forward.

Thankfully I did not have to intervene at any time during my research, although I did observe some less than satisfactory practice with regard to communication with patients. As an educator I found if difficult to stand by and observe these interactions, I wanted to take the DR to one side and help them to reflect on and learn from what had happened, but this was not my role as a researcher.

During the study there needed to be a mechanism for staff to withdraw from the study. It was agreed that should a staff member wish to withdraw they could either inform me as the researcher or they could inform one of the superintendent DRs in the DID who would tell me. If a staff member decided to withdraw from the study all data relating to them would also be removed from the study.

From the 45 staff members working in the main DID at the time of the study, only 2 did not consent to being observed. Agreement and consent to participate was therefore strong with 43 out of 45 staff consenting. During the study none of the members of staff withdrew from the study. So it was relatively easy to manage to avoid observation of the 2 staff that did not consent.

Confidentiality.

The names of staff were not used during the study and staff members were referred to by their profession or title, e.g. nurse, DR, administrative assistant. Each member of staff was also numbered, e.g. DR 1, nurse 2, and student DR 4. None of the staff knew their numbers, so the data remained anonymous. I kept the list of staff numbers separate from the rest of the data collected.

It was decided, in discussion with the manager of the DID that I should wear a DR's uniform for the duration of the observation. It was felt that this would be less intimidating for both staff and patients and I would fade into the background more easily. Coffey (1999) says that the researcher should have an acceptable appearance which includes dress, demeanour and speech. Hammersley and Atkinson (1991) agree with this and think that the personal appearance and impression created by the researcher can influence data collection.

I was prepared for staff members to be un-co-operative and in fact at the initial meeting with the staff some of the DRs felt that I might be there to spy on them, a finding which Roper and Shapira (2000) shared. I dealt with this

by explaining the reason for my presence and by showing them what I would be doing and trying to ensure that DRs were comfortable with my presence each time I carried out a period of observation. Dixon-Woods (2000) also warns against hostile staff members when observation is part of the research. There was a potential for hostility due to my educator role. I felt that some of the DRs were a little wary of me to begin with. One of the newly qualified members of staff who had been a student of mine did not give consent to participate originally, but after a few hours of me being in the DID, she changed her mind and agreed to participate in the research. In reality I did not experience any hostility from DRs whilst I was in the DID, in fact I was welcomed into the team fairly quickly and none of DRs appeared to be worried about my presence.

I ensured that all staff had the opportunity for support should any element of the study cause them distress. The LREC wanted to ensure that if any staff member became upset as a result of participating in my study that support was available for them. This support was provided by the Occupational health department at Anytown NHS Trust, where the study was carried out. The occupational health department were aware of my study and staff members were able to self-refer to occupational health should they wish to discuss distressing issues that may have been uncovered through participation in the research. Thankfully this was not needed.

Situational ethics.

I decided to record my observational data in a notebook which I took with me into the DID. I left my notebook on the work surface in the DID when I went into the X-ray rooms. I wanted staff to realise that I had nothing to hide from them and that they could read my notes at any time. I wanted the staff to feel that I was being open and honest with them about what I was observing. Costley and Gibbs (2006) talk about the issue of caring for participants when they are known to you and how you can try to instil trust. They use the expression 'moral trusting' and say that the instillation of trust helps to promote the researcher's integrity. I wanted the participants to know that I wasn't there to check up on them or to write down everything they were doing to see if they were doing their job properly. In this way I hoped to reduce the feeling that I was a 'spy'.

Assigning numbers to staff members protected their identity. The numbering system was used for the whole study.
Before the commencement of the study I had to decide how I would deal with the observation of mal-practice. It was decided in discussion with the manager of the DID that I would intervene if necessary and that I would report any instances. This was difficult for me as I did not feel that this was my role as a researcher, but as a practicing DR I had to resolve my own conscience and I realised that I could not in all good conscience watch whilst a patient was put at risk. Dixon-Woods (2003) says that "ethical issues about when and how to intervene are not uncommon"(p326), and other writers speak about the dilemma of observing bad practice and if intervention is necessary (Hobbs and May, 1993; McGarry, 2007).

During the study there was a mechanism for staff to withdraw from the study. If a staff member decided to withdraw from the study all data relating to them would also be removed from the study.

Methods.

In order to study the culture three main research methods were used; 1) observation within the DID to identify issues, 2) interviews with staff members from the DID to further explore the issues highlighted by the observations, and 3) examination of documents used in the DID. The research was carried out in one DID in a medium sized acute NHS teaching hospital by one researcher over a period of seven months. The purpose of the research was not to seek generalisable results but to gain understanding and meanings about the culture in which DRs work (Creswell, 2007).

Kennedy (1999) advocates this type of research using observation in a practice based profession as it allows for the collection of rich data, "observation helps to make sense of the world around us and guides our decisions and actions" (p56). In a profession such as diagnostic radiography there are many complex actions and interactions which can be explored through observation. Ethnography can illuminate hitherto covert patterns of behaviour and decision making (Kennedy, 1999). It is very difficult to explain how professionals behave or why they make certain decisions without seeing these in context. Ethnographic research helps to contextualise behaviour and decision making; it seeks to understand people's actions and their experiences of the world through observing the participants in their natural settings (McGarry, 2007).

Observation.

The study commenced with a prolonged period of observation within a DID. At the beginning of the observation I started with an initial mapping of the DID (Hodgson, 2002). O'Reilly (2005) suggests that a plan or description of the field (in this case the DID) assists in description of the culture. May-Chahal et al. (2004) and Wolf (1988) provide floor plans of the departments/wards in which they carried out their research which can be referred to by the reader to gain an understanding of the location of different events described in the research. The space and place is an important part of the data as it helps to contextualise the findings.

Observation involves all of the senses. Observation involves sound, movement, touch, and smell. Edvardsson and Street (2007) argue for a "sensate field researcher" (p25) who is able to "accurately document and reflect on the use of sensate material" (p30). Using this form of sensate observation allowed me to reflect on how the body is central to any care environment.

The observations for this study were carried for one day per week, this day was altered each week and I also spent some time observing during the out of hours period (after 5pm), this was in order to observe the DID in its natural state. I took on the role of 'observer as participant' from the four researcher

roles in observation outlined by Gold (1958). I considered being a participant observer, but discounted it for this study as I felt that if I was working as a radiographer I may miss out on interactions between staff as I could be alone in an X-ray room imaging patients.

During the period of observation I took field notes in a small notebook. I used these field notes to record my observations and also my own thoughts and feelings about what was going on. Allan (2006) says that the researcher's thoughts and feelings are also important data. In my notes I differentiated between my actual observations and my thoughts on those observations. I felt that it was important to record how I felt about what I had observed. When I typed the observations I used italics to represent my feelings.

The field notes that I took were personal to me and I chose what to record (Coffey, 1999). This involved my decisions about what was significant (Agar, 1980; Anspach and Mizrachi, 2006). Abbott and Sapsford (1997) state that the interpretations, values and interests of the researcher are a central part of the research. My ideas obviously directed where I observed and what I observed.

Observation prompts the researcher to consider what it means to be a part of the group being studied (Allen, 2004). During observation I had to balance the dual roles of professional and researcher. During the whole period of observation I was aware that my insider status could contribute to me missing out on important information (Styles, 1979), this was because I would not necessarily see something as strange or unfamiliar and record this in my notes. I needed to fight familiarity when carrying out my observations and look at the environment with a sense of strangeness (Coffey, 1999). I needed to try to see the DID as through the eye of an outsider, which is often termed the etic perspective (Fetterman, 1989). I had to try to view the environment from a different perspective (Cudmore and Sondermeyer, 2007). I needed to be aware of over familiarisation (Bonner and Tolhurst, 2002), so every day I endeavoured to look around the department for something new that I hadn't seen before or written about. This way I tried to keep my observations fresh and tried to see the environment in a new light.

It was difficult at first to adjust to being in the department but not working there. I had a feeling of guilt about not having a clinical role and being able to assist the radiographers. This was particularly true when the department was busy and all I wanted to do was to take the next X-ray request form and X-ray the patient. Rudge (1995) also highlights this tension and talks about the ethics of assisting in the practice area when your role there is to be a researcher and to observe.

The observation took place over a period of four months. I hoped that over this period of time I began to fade into the background and participants were able to behave as they would if I were not present (Ellen, 1984). Some of the DRs forgot that I was there, whilst others did not appear to consider the reason for my presence and treated me as a member of the team. In studies of this nature the "Halo effect" often occurs (Asch, 1946) where participants being observed want to be seen in a favourable light. Other writers describe

the "Hawthorne effect" (Bowling, 2004; Vehmas, 1997) where participants are aware of being observed and alter their behaviour. Some of the radiographers engaged me in the team, and spoke to me frequently, whereas others were quite happy to ignore me. However, after a week of my period of observation many of the staff members included me in the team and admitted to forgetting why I was actually there. This reinforced my understanding that over a period of time the researcher will begin to fade into the background and participants will behave as they would if the researcher were not present. Ellen (1984) says that this is true after a short period of time and Bowling (2004) says that the "Hawthorne effect" fades over time. It is however important to acknowledge that it is not possible to be completely overt; people may forget that the researcher is present and it is not always easy to explain fully the nature of the research (O'Reilly, 2005). It is difficult to balance the need to be open and honest with the need to fit in and become unobtrusive.

My decision to wear uniform helped me to integrate into the department. However, this prompted thoughts about how I felt to be wearing uniform and yet not being involved in the care and imaging of patients. As professionals the wearing of uniform is a powerful statement and it helps us to take on our professional role and persona. I struggled with the fact that I was dressed as a radiographer but was not 'being' a radiographer. This is a concept referred to by Cudmore and Sondermeyer (2007) as being there but not being there. It has been argued that without true immersion in the culture the researcher cannot provide an authentic account (Allen, 2004). Therefore I spent the whole of each day of the observation with staff including eating lunch and taking tea breaks in the staff room. I felt that this helped me to become integrated into the team and recognised as a part of the staff group.

I was able to use both structured and unstructured observations during this time. Structured observations were carried out through the observation of one particular DR over a period of one complete shift using an observation chart which documented their movements, actions and interactions (May-Chahal et al., 2004). "Observation is pivotal to the way in which skills are passed on and things are known" (Grimshaw and Ravetz, 2005 p74). Unstructured observations were carried out in significant areas of the DID, which included the main viewing area, the staff room and the patient waiting areas. When observing in these locations I made field notes about actions, behaviours and interactions which were observed. I chose the locations for the unstructured observations after my initial survey of the DID where I tried to determine the main areas of the department where interactions between staff took place and areas which provided me with useful and meaningful data. I was able to observe a cross section of the staff in the DID.

Another challenge was being able to fit in, in order to cause as little disruption as possible (Bonner and Tolhurst, 2002). I intended to become a familiar part of the work setting within the DID in order that staff members continued to work as normal. Coffey (1999) encourages carving out a space to be, a location that allows for observation but does not intrude on events. To this end I selected places to stand that were as unobtrusive as possible. This often involved standing in a corner in the viewing area or behind the lead

glass screen of an X-ray room where I could see what was going on but I wasn't in the way of the DRs and did not interrupt their work flow.

During the period of observation I learnt my own style. When I started I found it difficult to decide what to record and how to record it. I developed a note form with my own abbreviations which I typed up as soon as I reached home when the work was still fresh in my mind. I used the drive home to reflect on my day and did a lot of thinking in the car. I was keen to formally record the data as soon as possible after the event to reduce the chances of inaccuracy.

Interviews.

Interviews with key informants were used following the observations to explore issues further. I was able to interview a cross-section of staff from the DID. May-Chahal et al. (2004) were able to gather useful information from a variety of staff groups in the department where they carried out their study, and this included domestic staff. For my study 10 interviews were carried out with key informants. The key informants were identified during the observations and I selected these people, this was a purposive sample in order to gather meaningful data (Bowling, 2004).

The interviews were semi-structured and explored further the issues highlighted by the observations (Coffey, 1999). I was able to seek clarification about issues from the participant's perspective. Different staff groups were chosen with the intention of choosing some leaders and some followers. Leadership has an influence upon the culture (Wolf, 1988), and I wanted to see if leaders and followers have different perspectives. There is a structured hierarchy within the DID with different staff being responsible for and leading teams of people.

The questions used during the interviews were open and exploratory questions. These questions were based on the themes extracted from the observations and also explored further some of issues uncovered by the literature review. The interviews were recorded onto a digital recording device and transcribed verbatim. The data produced was contextualised and I began to look at issues and events from the insider's or emic perspective (Fetterman, 1989). Validation of findings can be done by examining all of the data from a study to test the findings. Results can be confirmed by using data from different sources and this helps to give authority to the findings (Brewer, 2000). However, it is important to acknowledge that the final ethnographic report is not 'the truth', it is the researcher's representation, the researcher's 'voice' (Allan, 2006). I was able to look for patterns of behaviour, action and interpretation (Fetterman, 1989; Hodgson, 2002).

Examination of documents.

In my original plan I had decided to look at the documents that were kept and used in the DID. My rationale for this came from Prior (2003) where he suggests that documents can be full of concepts, assumptions and ideas and that "documents are produced by humankind in socially organised circumstances" (Prior 2003, p4). I thought that I could look at policies and

procedures used by DRs and be able to look at how their documents provided information about how the DID was structured (Allen, 2000). I also wanted to find out a bit more about the hierarchy and power relationships within the DID (Becker et al., 1961; Lofland and Lofland, 1984).

However, it became apparent early into the study that DRs rarely use these documents in their work. In fact, most of the information was conveyed verbally. DRs were more likely to ask their colleague about something than look it up or find the policy/protocol. This finding is shared by Hunter et al. (2008) in their ethnography of a neonatal ward. As a practitioner I was aware of this element of the working culture. When visiting or working in a DID, either as an educator or practitioner I often find that the DRs will ask me something about their work rather than refer to a document.

It was decided that the study of documents would add very little to the research and so I decided not to study documents as I felt that they were a very small part of the culture.

Data analysis

Collation and organisation of data.

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Reading and re-reading of data to make sense of it and to begin to establish codes.

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Coding the data into lots of small codes with the use of coloured pencils to highlight each code in a different colour.

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Once the data was coded, the data was grouped together in tables

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The codes were grouped together into 4 overarching themes.

Results.

Relationships with patients	**Relationships with colleagues**

Task focussed interactions Time pressures and waiting times Patient assessment Avoiding confrontation Categorising patients Ethical dilemmas Involvement with patients	Team working and communication between DRs Interprofessional relationships DR – radiologist relationships Discussion and story telling Transfer of information in the DID Role modelling Use of dark humour
Structure and environment	**Characterising the role of the DR**
Structure, organisation, routine – the way things are done Workflow, pressure for rooms and prioritisation Blame culture Behaviour in different areas Depersonalising patients Interaction with computers and equipment Seeing the bigger picture	Views about research, CPD and evidence-based practice Extended role and barriers Dealing with radiation Use of knowledge and teaching Visible product

Relationships with patients.

The relationship between the DR and the patient is a complex one. The DR is focused on the task that needs to be completed and is constantly weighing up the care and time needed by the patient and the time pressures that they have to complete all of the work required. Generally DRs make a rapid assessment of their patient and categorise them into a particular patient type, this allows the DR to make judgements about the patient. DRs do not appear to enjoy confrontation with patients or show their emotions in front of their patients. This appears to learnt behaviour and the way in which DRs take control of their own emotions in distressing situations. DRs do not feel empowered to make a difference despite encountering situations with which they are not happy about. There is an element of impression management where DRs have a public professional face with their patients and a less professional face with their colleagues (Goffman, 1959).

These findings fit with all of the study objectives. Some current issues have been uncovered, learnt behaviour has been identified and some of the communication and interaction methods have been explored.

Relationships with colleagues.

The relationships that DRs have with their colleagues is an important part of the culture in the DID. How DRs learn to fit in to the team in the DID is done through role modelling and learnt behaviour. DRs learn from those they work with. Often the DRs' attitude to other professional groups and the closed nature of the department causes problems with interprofessional working within the hospital. I think that story telling and discussion which is part of the everyday working of the DID can be utilised in a positive way for future professional development. Dark humour is used as a coping mechanism between professionals to cope with the situations they face and to support

one another in a subliminal way. So, the way in which DRs interact with colleagues has an effect on the culture in the DID. Behaviour is learnt and passed on, and so the culture develops and perpetuates.

There are similarities with other health care professionals, but some of these relationship themes appear to be unique to DRs.

The findings from this chapter link particularly with objectives 2 and 3; how DRs learn to be DRs through observing others and creating role models, and how DRs communicate and interact with their colleagues.

Structure and environment

There are aspects of the environment that have an influence on the way in which DRs work. DRs also develop a pattern of working which perpetuates and becomes learnt behaviour, so that newcomers to the profession pick up this particular way of doing things and the behaviour continues and perpetuates. DRs become socialised into their profession and develop professional traits and norms and these become 'the way things are done'. The structure and routine becomes set and if someone does something slightly different the DRs do not seem to accept it, and they do not appear to be open to change. It seems that an important part of the culture is to talk about the workload and how busy the DID is. This is a form of impression management, trying to convey that they are always busy. The impression that DRs wish to convey to their patients is different from the impression that they create with colleagues. DRs learn from others how to behave in different areas of the department and know what is and is not acceptable.

All of these aspects have an influence on the workplace culture.

These findings link to objectives 1 and 2; there are several current issues around the structure and environment in which the DR works, and there are also further aspects of learnt behaviour.

Characterising the role of the DR

There are some aspects of the work of the DR that are very specific to their professional role. Each of these aspects have an effect on the way in which DRs work and interact, and ultimately the culture within the DID.

This relates to objective 1, and explores some of the issues around role, related to learning to become a DR (objective 2).

Conclusions.

The conclusions have been written in relation to the original study objectives.

To describe the culture in a DID and highlight the current cultural issues that face DRs.

The DID is a task-focussed, target-driven environment where throughput of patients is important. It is time-pressured and efficiency is paramount. This working environment influences the way in which DRs behave and interact with their patients and colleagues. DRs behave in a very task-focussed manner which to some observers may appear to be uncaring, they like to take control of the patient interaction and concentrate on the task of producing diagnostic images.

DRs exhibit resistance to change; they appear ambivalent to research, CPD and evidence-based-practice. This has made it difficult for the profession to move forward and embrace the four-tier structure. There are many barriers to extended role and the relationship between the DRs and the radiologists is a contributing factor. In the past the diagnostic radiography profession has been dominated by the medical profession and some of this remains within the DID. The radiologists have a certain amount of control over opportunities for extended role within their own DID.

New DRs or students come into the culture with new ideas and suggestions and these tend to be prevented from being implemented as they do not conform to ideas that are acceptable. This therefore maintains the cultural status quo.

The DID is a closed community which makes interprofessional working and liaison between professions difficult. The use of ionising radiation by DRs as part of their role and the confusion this can cause to other professionals can also put a strain on interprofessional collaboration. DRs can use their knowledge of ionising radiation as power.

DRs interact with equipment and computers and this is becoming an even more important part of the job. DRs are one of the only professional groups that have a visible product (an image) as a result of their interaction with the patient. This visible product is there for all time as a record of the interaction between the DR and the patient. DRs are wary of this and can be very defensive of the images they produce.

To explore how people learn to become a DR and how they become professionally socialised.

There is a system of work within the DID, and a way things are done. There is expected and acceptable behaviour. Whenever a DR behaves 'differently' other staff members comment on this and find this difficult to deal with. DRs tend to conform to the acceptable pattern of behaviour as this contributes to the smooth running of the service within the DID.

This expected and acceptable behaviour is passed on through role modelling and by DRs to students as they learn to become DRs and copy the behaviour of others. DRs share their knowledge with one another and spend a lot of the time informally teaching their colleagues. Discussion about the job and story telling are integral to the culture within the DID.

DRs learn how to behave in different areas of the DID by observing and copying the behaviour of others. Student DRs talk about emulating others and how they observe and copy what they perceive to be good behaviour and how they decide not to copy what they deem to be less acceptable behaviour.

To look at how DRs communicate and interact within the DID.

DRs communicate with patients in a task-focussed manner, they make a rapid assessment of their patients, categorise them and depersonalise them in order to deal with them. In categorising their patients DRs can make decisions about how the patient might behave and how much time might be needed for the examination. DRs use their previous experiences and expertise to make decisions and judgments about their patients.

DRs do not like to become involved with patients on an emotional level; they exercise professional detachment and do this for self-preservation. DRs try to avoid a display of emotion and instead try to avoid emotional engagement. It appears that it is not acceptable for a DR to become upset in front of patients or relatives. DRs learn their patient care from one another, and this is very much like an apprenticeship model which results in little change in practice.

DRs, like many professionals working with the public use dark humour as a coping strategy. Dark humour is used to diffuse a potentially upsetting situation and also to check that a colleague is okay. It is rare to see DRs discussing an upsetting situation without the use of humour.

The team working between DRs in the DID can appear choreographed as DRs become used to working together and taking on different roles within the team. The DR quickly fits into this team approach to tackling the workload. Discussion with colleagues is an important part of the culture in the DID, and DRs often discuss their work with one another as they are carrying it out.

DRs exhibit different behaviours in different parts of the DID; there are front areas where they interact with patients and the public, taking on a professional appearance, and then there are back areas which are much more informal, where DRs behave in a more relaxed manner.

Some of these findings do not paint a good picture of the profession. As a researcher I am interested in and open to the findings, and I feel that it is important to articulate them to my readers. However, as a practitioner and as an educator in diagnostic radiography I find these results to be uncomfortable.

Part of the process for me is becoming comfortable with sticking my head above the parapet and saying 'this is what I think', and this is what I have found out about the culture in my own profession of diagnostic radiography.

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