

Enabling fourth year student-doctors
to learn through participation on
ward-rounds: an action research
study

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Abstract

This thesis develops the concept of apprenticeship to capture and explore how the learning of student doctors takes place in hospital ward rounds, with the aim of developing pedagogical approaches that enable and improve learning. The research pays particular attention to the shifting complexities of the hospital and ward-round environment and the ambiguous status of student-doctors as participants.

Using action research the study sets up a collaborative inquiry with eleven student-doctors who use audio-diaries and reflective learning sessions to harness learning from ward-round experiences, explore the nature of their participation and facilitate critical reflection both on and through the workplace. Exploration enables the student-doctors to see that learning needs to be understood not simply as an intellectual activity but as participation in social practice and that this necessitates focusing upon development of their agency and professional identity.

Changes were identified at three levels: in the student-doctors' practice, in their understandings of practice and in the conditions under which they practised. Nine of the students were enabled to learn through active participation on the ward round. Eight student-doctors came to understand they were learning about becoming a doctor. By changing their own understandings of forms of knowledge, of their role and opportunities for learning they influenced the way other clinicians responded to them and were offered more opportunities to participate.

The thesis as a whole represents an original and distinct contribution to the growing socio-cultural literature in medical education and specifically points to the need for changes in the way learning in the workplace is conceptualised. It challenges medical educators and policy makers to think not just about the individual, but also the culture and power relationships which shape select and legitimise what learning affordances the student-doctors attend to; that is the relational interdependence between personal and social agency.

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To my all dear friends especially Kay and Judith: thank you for helping me keep my sanity and for understanding that you had to take second place. Your practical support, encouragement, and friendship, combined with your refusal to let me think I might not make it, have finally paid off. Judith you will hopefully get your chance to wear that hat!

To my husband Tom, Emma and Jamie: thank you for your unconditional love, continued support, and endless understanding through all my years of study and especially the last two years; this thesis is dedicated to you.

Declaration and Word Length

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

Word count (exclusive of appendices, the list of references and bibliographies but including footnotes, endnotes, glossary, maps, diagrams and tables is 49256.

Jally Cluibya

“Let the main object of this, our
Didactic, be as follows: to seek and...
find a method... by which teachers
may teach less, but learners learn
more”

John Amos Comenius 1649

Table of Contents

Abstract	2
Acknowledgements	3
Declaration and Word Length	4
Table of Contents	6
Table of Figures	9
Table of Tables	9
Table of Appendices	10
Glossary	11
Statement of learning	12
1 Apprenticeship Learning in Medicine	18
1.1 Introduction	18
1.2 Researcher's rationale for study focus	20
1.3 Challenges to apprenticeship learning	21
1.4 Response of medical education to complexity of medical practice	23
1.5 The research context	25
1.6 Learning in clinical practice	27
1.7 Medical ward-rounds	27
1.8 Research and learning in clinical practice	29
1.8.1 Research and ward-round learning	30
1.9 Conclusion	32
2 Personal Agency and Workplace Participatory Practices	34
2.1 Introduction	34
2.2 Social-cognitive theory	35
2.2.1 Relevant constructs of social-cognitive theory	35
2.2.2 Relevance of key concepts of social cognitive theory to study	37
2.3 Socio-cultural learning theory	38
2.3.1 Relevant constructs of socio-cultural theory	38
2.3.2 Relevance of key concepts of socio-cultural theory to study	41
2.4 Workplace learning theory	43
2.4.1 Relevant constructs of workplace learning theory	43
2.4.2 Relevance of key concepts of workplace learning theory to study	44
2.5 Use of critical reflection to support development of learning	46

3	An Action Research Study	52
3.1	Research methodology	52
3.1.1	Action research.....	52
3.1.2	Study design.....	54
3.1.3	Ethics.....	55
3.1.4	The pilot study	56
3.1.5	Recruitment	56
3.1.6	Methods.....	57
	Audio diaries	57
	Reflective learning sessions	60
	Focus groups	63
3.1.7	Data analysis and interpretation	67
3.1.8	Researcher's diary	70
3.1.9	Quality of research	71
4	The Story of the Reflective Learning Sessions	72
4.1	Changing understanding of knowledge in professional practice.....	73
4.1.1	The effect of context and power in medical communication	78
4.1.2	Team-work.....	79
4.1.3	Learning the rules of engagement.....	80
4.2	Changing nature of participation	82
4.2.1	Forms of participation	84
4.2.2	Effect of participation.....	86
4.3	Developing Identity.....	86
4.3.1	Prior experiences of learning.....	86
4.3.2	Role of learner in the clinical workplace	88
4.4	Facilitating critical reflection.....	92
4.4.1	Creating a safe and trusting environment.....	92
4.4.2	Challenging assumptions	93
4.4.3	Confidence to self-direct their learning on ward rounds	94
4.5	Goal setting	97
4.6	Sharing and affirming experiences	101
4.6.1	Struggles	101
4.6.2	Successes	103
4.6.3	Sharing strategies	104
4.6.4	Value of sharing	104
4.7	Outcome of intervention	105
4.8	RQ1: What factors influence student-doctors' understanding of learning in the clinical workplace?.....	106

4.9	RQ2: What is the nature of student-doctors' participation on ward-rounds?	108
4.10	RQ3: How might reflective learning sessions and audio-diaries better support student-doctors developing understanding of the ward-round as a learning experience?	109
4.10.1	Limits of RLS.....	110
4.11	Summary	111
5	Seeing Apprenticeship Learning Through a New Lens	112
5.1	How affordances were constrained and contested within the CW.....	113
5.2	Identifying and negotiating affordances of the workplace.....	115
5.3	Identity.....	118
5.3.1	Emerging identity as a professional.....	118
5.3.2	Development of individual agency and learner identity	119
5.4	Relationship and relevance of theoretical framework to study outcomes	121
5.5	Contribution of study to medical education.....	126
5.5.1	Policy.....	127
5.5.2	Theory.....	128
5.5.3	Practice	129
5.6	A new understanding of apprenticeship in the clinical workplace.....	130
6	Conclusion	132
6.1	Ethics.....	132
6.1.1	Participating in the co-construction of data.....	132
6.1.2	The researcher's position	135
6.2	Quality and validity of research	136
6.3	Study findings.....	137
6.4	Limitations.....	138
6.5	Study impact	139
6.6	Recommendations for research.....	140
6.7	Dissemination	141
	References.....	143

Table of Figures

Figure 1: <i>Research Cycle</i>	65
Figure 2: <i>Outcome of group activity RLS 1</i>	77
Figure 3: <i>Outcome of group activity RLS 2</i>	83

Table of Tables

Table 1: <i>Chronology of events</i>	55
Table 2: <i>Number and frequency of audio-diaries</i>	59
Table3: <i>Details of participants and their attendance</i>	66
Table 4: <i>Analytic framework used for thematic analysis adapted from Braun and Clarke (2006)</i>	68
Table 5: <i>Examples of facilitative strategies</i>	96
Table 6: <i>Goals set and Outcomes</i>	97

Table of Appendices

Appendix 1:	Recruitment Email	152
Appendix 2:	Student Information Sheet.....	153
Appendix 3:	Student Consent Form	155
Appendix 4a:	Focus Group 1 Questions and plan of approach	156
Appendix 4b:	Focus Group 2 Questions	159
Appendix 4c:	Focus Group 3 Questions	161
Appendix 5:	Excerpt from Focus Group 1 Transcript	162
Appendix 6a:	Audio-Diaries Prompt Sheet.....	167
Appendix 6b:	Focus of Audio-Diaries and Student Role.....	168
Appendix 7a:	Exercises used in Reflective Learning Sessions	177
Appendix 7b:	Excerpt from Reflective Learning Session 2	178
Appendix 7c:	Limits of the Reflective Learning Sessions	182
Appendix 8a:	Thematic Analysis.....	184
Appendix 8b:	Subthemes for identity as Learner and Professional	185
Appendix 8c:	Indicative Data for Learner Identity	187
Appendix 8d:	Indicative Data for Participation	191
Appendix 8e:	Outcomes of Goal Setting	196
Appendix 8f:	Facilitating Critical Reflection.....	198
Appendix 9:	Researcher Diary	207
Appendix 10:	Email to Student-Doctors 10.9.11	212

Glossary

British National Formulary is a prescribing reference resource

CW Clinical workplace

COP Community of practice

FG Focus groups

FY A Foundation Doctor (FY1 or FY2) is a junior doctor undertaking the Foundation Programme - a two-year, general postgraduate medical training programme which forms the bridge between medical school and specialist/general practice training.

OSCE Objective structured clinical examination is a type of exam used in medicine to test clinical skill performance and competence in skills such as communication and clinical examination.

PBL Problem based learning is a student-centred pedagogy in which students learn about a subject through the experience of problem solving.

RLS Reflective learning sessions

SpR A Specialist Registrar is a senior doctor undertaking advanced training in a specialist field in order to become a consultant.

Statement of learning

The process of the Educational Doctorate has largely been one of discovery; discovery of self, discovery of medical professionalism and discovery of pedagogy. I now understand that my epistemological values – how I make sense of knowledge and knowledge generation - may not always be shared; in other words, I believe that knowledge is dynamic, situated within a given set of communities or contexts and constructed by them (Crotty, 1998). I can appreciate that some of my colleagues in the medical profession may not see this complexity, but rather understand knowledge as more fixed and certain, and that these differences can be both an asset and distraction. This distraction has led me, on occasion, to respond in ways that are not consistent with the epistemological underpinnings of my research approach. For example, my focus on bias in my early research, something that is frequently raised in discussions with medical colleagues, has on occasion led me to foreclose more in-depth analysis of my own assumptions, and I believe it was only when I reached the thesis that I began to see this. This personal statement of my learning throughout the last five years will begin by reviewing the key learning in each component of the doctorate. I will then consider how I have come to understand my own professional identity and developed the confidence to fulfil my role as a researcher.

This journey began with the professionalism module. Within this module I attempted to understand how professionalism was defined by medicine, how that definition has changed over time and how it related to my own role as a medical educator. Critiquing it now, I am puzzled to see how I could write a paper on this subject without considering the different epistemological values; in fact this was, as the marker noted, somewhat a-theoretical. Again, looking back I do not think I really understood the importance of adequately theorising underpinning concepts. Furthermore, I can now see that within the module on post-compulsory education and lifelong learning, I was still failing to see the importance of understanding the theoretical assumptions underpinning the models of pedagogy we use and that these assumptions both shape one's perceptions and are contestable. These modules also highlighted to me the skills required for academic writing and the need to use a system for identifying, accessing and recording annotated references. Whilst I still find academic writing hard, I also find it very satisfying and have learnt my areas of weakness and ways to address these. Specifically, structuring my writing with clear signposting and attending carefully to punctuation will always need careful attention. I have also come to understand

that the level of analysis I achieve in my writing, combined with my ability to write reflectively, are strengths. Throughout the Doctorate I have shown that I can manage my time effectively, even on one occasion, undertaking the professionalism and MOE 2 modules simultaneously. This has been good preparation for developing writing habits which will be essential if I am to publish research in the future.

Methods of Enquiry 1 &2 and the Institution Focused Study introduced me to a range of approaches for collecting and analysing data, including case study, linguistic ethnography, participant observation and interviews. These modules highlighted to me the importance of identifying and articulating a research problem. They also prepared me practically by allowing me to reflect on learning points related to time management (estimate the time it will take for analysis and double it), recording my research decisions, the choices involved in producing transcriptions, the advantages and disadvantages of engaging in collaborative analytical procedures, and introduced me to different methods of micro and macro-analysis. Through these modules I also became clear about how my epistemology was shaping the decisions I made about methodology.

This thesis is timely: there is a new imperative calling for research into the education of health professionals to represent complexity well and I am pleased to have contributed to that. Undertaking this action research project, introduced me to a new methodology which showed me that it was possible to involve participants in research, contribute to theory and make a practical difference, all of which are things I value. Yet it also pointed to the many challenges involved in this type of research, not least the gap between the theory of participatory research and the practice; something I hope to write about in the future. At times I found the analytic process both lonely and bewildering, but I am beginning to understand that feeling lost in the fog is part of research and that if I trust my instinct I usually find a new, improved route. It has also given me a far greater understanding of critical reflection and specifically the value of challenging assumptions. I have been struck by the power of the process, both in identifying and examining assumptions about my own facilitative approach and how student-doctors learn. Had I not had recordings and transcriptions of the reflective learning sessions, I doubt I would have been able to articulate, and thus reproduce, the student-doctors' developing understanding and confidence in learning through participation, or developed my understanding of the facilitative processes; knowledge of both of these aspects was crucial to implementation of this intervention across the curriculum. It also helped me to further understand my own professional identity.

As a lecturer in Clinical Communication (whose profession is nursing) within a School of Medicine, I now recognise that my unusual education positions me as a boundary broker, that is someone who has multi-membership and uses this to transfer some element of one practice into another, to make connections and engage in import and export of ideas (Wenger, 1998). Perhaps more importantly, I realise that this is an asset and that I thrive in this position. Acknowledging the socio-cultural differences between myself as a nurse and educator and doctors who work within the clinical workplace, involves accepting the discontinuities in practices, actions and interactions. At the same time it injects a richness into our interactions and an ability to link practices, facilitate transactions and enable learning by introducing into our practice elements of each other (Wenger, 1998; Wenger, 2000). However, the role of boundary broker is far from easy.

This is best illustrated by my recent experience as a member of the development team for the professionalism strand of the curriculum. A policy decision was made that the new curricular innovation involving professional practice groups, which were set up to explore medical professionalism, needed to be run by senior doctors. This meant that I, as the only non-doctor, would be the only member of the team who would not run a group. As these groups were modelled on the groups I ran and, at least in part, an outcome of this professional doctorate, this was difficult. Furthermore, I was asked jointly to develop and implement the faculty training for the facilitators of these groups, highlighting the ambivalence and challenging nature of multi-membership. Recognising my personal agency and knowing that how I acted would influence how others would respond to me, has been very important for my own development within medical education. Whilst initially feeling disempowered, I concluded that development of faculty gave me far more opportunity to influence a significant number of small groups and so after a period of reflection I decided, at least for the time being, to accept the decision. Perhaps it was experiences like this that also enabled me to help the students identify the significance of responding effectively to power imbalances.

I am a member of the School and a health professional, yet on occasion I belong to neither. I am not a doctor and therefore will remain at the periphery of the traditional medical school, excluded from certain activities, nor am I seen as a nurse, having not practised for nearly ten years. I must therefore accept the accompanying ambiguity. In this position I also may not appear to contribute directly to specific outcomes and therefore the value I bring risks being overlooked.

When I began the Educational Doctorate, this position left me questioning my competence, feeling inadequate and isolated. Whilst still alert to the risk of organisational invisibility, I now recognise the strength within this position. My contribution lies in the fact that I understand something about both worlds, that my distance enables me to see alternate perspectives and that my abilities to do so give me enough legitimacy to be listened to by the membership of different communities of practice. My skills lie in my ability to manage this ambiguous position, to engage others in discussions about these socio-cultural practices and also to have internal dialogue engaging in critical reflection myself about the multiple divergent perspectives I need to consider.

When I began this Doctorate, I was confused about my role as a researcher and lacked confidence in my ability to undertake research effectively. My journey over the last five years has given me confidence and enabled me to fulfil this aspect of my role. This confidence is underpinned firstly by a clear idea of how my own understanding of epistemology shapes every decision I make about research questions and research design. Secondly, by a realisation that I can now develop clear and coherent arguments which justify my research approach to those whose understanding of science sits within a positivist framework, without appearing defensive. Thirdly, by the knowledge that all research needs to be underpinned by a clearly articulated theoretical framework and that there must be coherence between that, the research questions and methodology. I am also aware that this may be difficult to achieve in institutional settings like my own, where qualitative research is still poorly understood. Finally, by the realisation that whatever research approach is used, the rigour and quality of that research must be attended to throughout the research process and be made explicit. Whilst there are numerous examples I could discuss to illustrate this, I will focus on three, the first of which is the consideration of ethics within research.

Whilst preparing a subsequently rejected submission for the NHS ethics process was one of the hardest tasks I have ever undertaken, the learning I took from that process about the ethics of research, combined with the thoughtful discussions I shared with a colleague about autonomy, led to us contributing to the debate on widening notions of ethical conduct within the NHS review process in an article in the Journal of Medical Ethics (Fistein and Quilligan, 2012). Secondly, the process of submitting an article for publication (Quilligan and Silverman, 2012) and engaging with and responding to the editors' and reviewers' comments, enabled me to see the importance of justifying my research decisions, either in terms of their appropriateness to my choice of methodology or indeed to provide the further detail needed to demonstrate the quality and rigour of my research. Thirdly, a constant problem for me has

been that I am an isolated researcher. I have worked hard to ensure I participate within a wider academic and professional community, in order to engage with contemporary research within my field of learning in the clinical workplace. Following my recent presentations, I am engaged in discussions with a number of researchers, including professors in Ireland and Canada, about the possibility of developing an international community of scholars of clinical education so that we can support each other, share ideas, theory and data, and critically reflect on our work.

Throughout the Educational Doctorate, I have grown in confidence as a researcher, an author and a conference speaker (see below). In September 2012 I co-presented this research at an international conference and following positive feedback we have been invited to submit an article to the special issue, which is dedicated to work presented at the conference. Through these experiences I am beginning to find my voice within the wider community of medical education and feel able to debate, reflect critically upon and contribute to development of policy, research and practice within medical education.

Papers

Fistein, E. and Quilligan, S. (2012). 'In the lion's den? Experiences of interaction with research ethics committees'. *Journal of Medical Ethics*, 38 (4), 224-227.

Quilligan, S. and Silverman, J. (2012). 'The skill of summary in clinician–patient communication: A case study'. *Patient Education and Counseling*, 86 (3), 354-359.

Presentations

Quilligan S. Is the skill of summary of value in student-doctor/simulated patient consultations? Doctoral School Conference, June 2010, Institute of Education, London.

Quilligan S and Silverman J. Is the skill of summary of value in student-doctor/simulated patient consultations? European Association for Communication in Healthcare, September 2010, Verona.

Quilligan S and Silverman J. Student-doctors' experience of learning communication in the clinical learning environment: A case study. European Association for Communication in Healthcare, September 2010, Verona

Quilligan S. Making the most of the ward round: an action research study. Some methodological challenges, Research in Medical Education, November 2011 London.

Quilligan S. Developing critical reflection to empower 4th year student-doctors to communicate their learning needs on ward rounds: an action research study "Creating Space

II: Taking narrative and reflection to the next level in medical education, research and practice” Canadian Conference on Medical Education, April 2012, Banff.

Quilligan S, Aikman N, & Silverman J. Enabling student-doctors to learn through participation on the ward- round. Association Medical Education Europe August 2012, Lyons.

Quilligan S, Griffiths A and Silverman J. Enabling student-doctors to communicate their learning needs on ward rounds. European Association for Communication in Healthcare, September 2012, St Andrews.

1 Apprenticeship Learning in Medicine

1.1 Introduction

This chapter charts the emergence of the apprenticeship system in clinical practice and considers how that model is being threatened by changes in health care delivery. My discussion will look at how the curriculum has moved from one dominated by the biomedical sciences to one that explores the wider roles of the doctor. It also considers how the curriculum is experienced by students in clinical practice. One way student-doctors learn in clinical practice is through attending ward-rounds: after providing a rationale for the focus on rounds, the discussion describes the nature of the ward-round and its place in learning clinical medicine. The decline of the traditional ward-round, suggested reasons for that decline and ways learning and knowledge are understood are analysed in the light of recent empirical evidence. The empirical evidence of ward-round learning as membership of a community of practice (COP) is critiqued to identify what these studies have uncovered and what this study may contribute to existing understanding. After giving a brief overview of the study, the detailed discussion will begin by identifying the rationale for the study and explaining how apprenticeship is perceived in medicine.

The opportunities are actually more rare than you think ... You've spoken to a patient who is on that particular ward round, under that particular consultant, who hasn't gone home, ... and the ward round has got enough time to stop for you to talk about them for a minute or two and then you've got to pluck up the courage to say "Actually can I do that" *SD2¹ FG2*

As educationalists we need to be cognisant of the clinical context in which students learn and ensure our teaching reflects the kind of complexity this quote portrays. Student-doctors can have access to all the reified things that the community of medicine has created, but if they cannot participate in the experience, they will struggle to make sense of what is happening. Barnett (2000) warns us that the super-complexity described above by SD2, (one of the student-doctors in this study), creates uncertainty about how we understand our world and our position and affects our confidence to participate in it. Super complexity is a:

state of affairs where one is faced with alternative frameworks of interpretation through which to make sense of one's world and to act purposively on it (Barnett and Hallam, 1999, p. 138)

¹ SD9 declined the request to use pseudonyms and so, whilst recognising this is impersonal, the students are numbered in the data as SD1-11.

This concept will be returned to in 1.3. The purpose of this action research study was two-fold: firstly, to produce and evaluate a change that resulted in fourth year student-doctors being enabled to learn through participation on the ward-round and secondly to contribute to the creation of knowledge about learning on the ward-round. My argument is that if student-doctors are to thrive as learners in the clinical workplace (CW), a super-complex environment, they need pedagogical space to engage in critical reflection, to develop their ideas and to explore and develop their emerging identity as learners and professionals. This study is informed by theoretical approaches from social-cognitive, socio-cultural and work-based learning.

The catalyst for this inquiry was the Institution Focused Study (IFS) which revealed that student-doctors at an East Anglian medical school – known for the purposes of this study as the Exe School of Medicine - were dissatisfied with ward-round learning; they felt that they were ignored and that they were not learning. As a consequence, some students were no longer attending the ward-round. In essence, the argument being presented was that ‘the doctors are frequently too busy caring for patients to teach us’.

Having completed the IFS, I invited eleven fourth year student-doctors to become participants in an action research study that sought to address three research questions:

1. What factors influence student-doctors’ understanding of learning on ward-rounds?
2. What is the nature of student-doctors’ participation on ward-rounds?
3. How might reflective learning sessions and audio-diaries better support student-doctors developing understanding of the ward-round as a learning experience?

A new pedagogical intervention involving reflective learning sessions (RLS) and audio-diaries was designed to enable the student-doctors to engage in critical reflection. RLS were held weekly for three weeks during the spring term in 2011 and recordings of audio-diaries of ward-round experiences were used to underpin discussions. Through this dialogue, the student-doctors identified that they valued learning through participation in routine ward-round activities. Whilst reflecting on how they could become more active within the learning process, they were each encouraged to explore, problematize and develop their understanding of knowledge, learning and individual-agency. They then selected a specific aspect of the ward-round they wished to focus on to improve their learning experience. By creating a space for critical reflection, group members engaged in meaningful dialogue among

themselves about the constraints and opportunities for learning and set themselves goals, which were tailored and responsive to the specific context in which they had arisen.

Eight of the eleven student-doctors felt confident to learn through participation and this increased confidence was sustained six months after the sessions had taken place and applied to other clinical settings such as the outpatient clinic. These claims to improvement in practice were evident in students' achievement of goals set in RLS, in the analysis of focus groups and in a student- led presentation to the deanery team.

1.2 Researcher's rationale for study focus

At the age of 30, immediately after leaving my role as a ward-sister, I became a teacher in nurse education, believing that I could impact patient care more through education than practice. Over the last two decades, whilst working in nursing and medical education, I have attempted to explore what needed to happen to reduce the gap between classroom learning and practice (Kaufman and Mann, 2010; Prince *et al*, 2000). I have been conscious of the complexity of clinical practice and of the comparison between the idealised teaching about clinical communication in the classroom and the reality of the workplace. Within the classroom, patients and students speak freely, their interaction is not shaped by role models or the demands of the clinical context (Brown, 2010; White *et al*, 2009).

Within my current role as Lecturer in Clinical Communication at the Exe School of Medicine, I am responsible (with colleagues both in the medical school and clinical practice) for the preparation and support of student- doctors for clinical practice. My role is equally divided between teaching and research. As a teacher, I am involved in curriculum development, responsible for facilitator training and for providing small group teaching focused on clinical communication. In these sessions, student-doctors work with simulated patients in the classroom practising some of the challenges encountered in clinical practice, such as explaining a diagnosis. Although I no longer provide care for patients, I continue to spend time on the wards and in clinics, and I work with student- doctors in my capacity as a researcher.

Arising out of my own reflections and experiences, there were three factors that influenced my decision to embark on this project in collaboration with a group of student-doctors:

- I have been struck by how student-doctors rarely recognise learning that is not formal and explicit and seem uncertain about how to learn in and from practice.
- I have been perplexed by how little time students now spend engaged in clinical practice when compared with simulated learning.

- I am aware of the perceived incongruity between student-doctors' experience in the clinical learning environment and in formal teaching sessions.

I believe that the main influence on learning and change is our experience of the world and how we understand it (Mezirow, 1997). Learning is an active process; learners construct their knowledge on the basis of what they already know and education must engage with and enlarge that experience (Dewey, 1933). I am also aware that this is a problematic area in a field where scientific knowledge is often seen as independent of context and as an objective single reality (Flyvbjerg, 2002). My questions are about pedagogy in the CW and whether it is possible to empower student-doctors to approach their learning in a way which views knowledge as socially constructed, relative and context bound and which seeks to address the complex issues of the CW through critical reflection.

1.3 Challenges to apprenticeship learning

Apprenticeship learning in medicine involves partnership between schools of medicine and clinical institutions to create learning opportunities for student-doctors in clinical practice. For a century, medical education in clinical practice has been structured according to the guidance of Flexner (1910) whose views of apprenticeship were underpinned by four principles: students learn by participating in authentic clinical situations (wards, clinics and community); having responsibility for patient care; becoming a member of the team and being taught and supervised by a master (an experienced clinician) (Dornan, 2005). Thus students are attached to a medical team and are expected to learn from real patients, in part, by negotiating opportunities to observe clinicians, practise skills and receive feedback.

Preparation for the role of a doctor involves enabling students to know, think and understand about the discipline of medicine. Student-doctors are in effect undertaking a medical education that synthesises three types of apprenticeship: cognitive, learning to think like a doctor; practical, learning to perform like a doctor and moral, learning to think and act in a responsible, respectful and ethical manner that integrates across all three categories (Shulman, 2005). The majority of the learning occurs in the CW where the focus of learning shifts from acquisition of knowledge to application and to learning how to act and make decisions in the uncertain and complex world of clinical practice. Thus learning involves cognitive processes to do with acquisition of knowledge, skills and understanding - but this does not mean that is about individual cognition alone, it also involves socio-cultural

knowledge-building processes (see 2.2-2.4 for detailed exploration of learning theories rooted in socio-cognitive, socio-cultural approaches).

Within the clinical attachments, students are still expected to learn as an apprentice by being attached to clinical teams in much the same way they did in 1910. In the Exe School of Medicine, fourth years undertake four five week attachments, two in a regional hospital and two at the main teaching hospital. Students participate in a wide range of activities including theatre visits, pre-operative assessments, ward-rounds and scheduled teaching. Their teachers are the clinicians who care for the patients, many of whom have had no training in education, which results in variable quality of teaching. The primary function of these attachment teams is, despite their commitment to medical education, healthcare provision. Yet, the world of healthcare and ward-rounds has changed almost beyond recognition. Within the last twenty years, significant events tied to the organisation of healthcare have had, and will continue to have, a powerful effect on learning in clinical practice. These are largely a result of increased patient numbers, shorter stays and sicker patients (Hoffman and Donaldson, 2004; Reilly, 2007); target driven care, resulting in prioritisation of patient care over teaching (Nair, Coughlan and Hensley, 1998) and the introduction of shift working, placing increasing clinical loads on senior clinicians giving them little time to teach. The working time directive has led to the adoption of shift patterns and ephemeral teams, resulting in team members frequently not knowing each other and on occasion not knowing the patients (Royal College of Physicians., 2005). This is a complex world in which staff are assailed by more data and tasks than can be easily handled within the accepted frameworks. A world which for students is super complex in that the frameworks by which they orient themselves to the world of clinical practice are themselves disputed. Students' assumptions about what should happen on ward rounds are that they will be taught by the master; the reality imposed by contextual factors is that they will learn by engaging in routine ward round activities. This super-complexity contests the apprenticeship framework, creating a fragility about how roles are understood, that arises from social change and which leads to changes in the way student-doctors understand their world, their position within it and how secure they feel to participate (Barnett, 2000). In consequence, I suggest that the knowledge and skills that used to be acquired through traditional approaches to learning in clinical practice may now be much less accessible to student-doctors.

Furthermore, the environment in which student-doctors are trying to learn is even more complex and challenging. Recent studies have begun to suggest reasons why the clinical environment is less student-friendly, resulting in the viability of the apprenticeship model

being challenged (Dewhurst, 2010; Quilligan, 2010; Walton and Steinert, 2010). Increasing specialisation means that in some specialities junior doctors, who have traditionally been pivotal in guiding student-doctors' learning, may only be attached to a firm² for two weeks. There is also less patient continuity and increased patient turnover, making it difficult for student-doctors to follow the patient's journey. This is the environment in which learners are increasingly expected to be independent self-directed learners and which, in spite of service pressures, offers unparalleled opportunities for real patient learning (Bell *et al*, 2009; Gordon *et al*, 2000; Quilligan, 2010).

Given this context, the need for engendering discussion about knowledge, learning and pedagogy is vital. This process will require the cultivation of greater flexibility and fluidity in defining and expanding the nature of learning in the CW; only through such awareness can medical educators respond and remain linked to the conditions of clinical practice and conscious of the political, social, and cultural issues that influence and shape them (Ashley *et al*, 2009). In order to contextualise this study, it is important to make explicit the changes that have taken place in medical education in response to this increased complexity.

1.4 Response of medical education to complexity of medical practice

Medical education has been undergoing reform since the Flexner Report (Cox *et al*, 2006) first highlighted the need for change in 1910. In the last thirty years particularly, further reform has urgently been needed across the globe to respond to the revolution in health care, resulting from changes in the practice of medicine and in society (Irvine, 1997; Segouin *et al*, 2007; Teo, 2007; Tosteson, 1994). These include changing demographics and disease patterns; technological developments; changes in health care delivery; increasing consumerism; patient empowerment; attention to patient safety, effectiveness, accountability and changing professional roles (Towle, 1998).

Within the United Kingdom, the General Medical Council (GMC) first introduced 'Tomorrow's Doctors' in 1993. This policy document encouraged medical schools to develop innovative approaches to curricula development, emphasised the importance of integrating the applied sciences with new curricula themes such as ethics, law and clinical communication and set standards designed to ensure that newly qualified doctors would be prepared to cope with the demands of modern health care (General Medical Council, 1993).

² a group of hospital doctors working as a specialist team led by a consultant.

Eraut (1994) noted that the curriculum of initial professional education is notoriously overcrowded because it tries to incorporate all the knowledge required for a life time in the profession. Recognising the overcrowding of the curriculum and the need to address new areas, the GMC highlighted the need for increasing integration and reduction in factual overload through the definition of a core curriculum (Newble *et al*, 2005), as well as a need to contextualise learning and develop skills of critical thinking. In addition, assessment needed to address not only factual knowledge, but also procedural skills, clinical judgement and relationships with patients and colleagues (Cox *et al*, 2006; Towle, 1998).

In 2003 the guidelines were further revised placing greater emphasis on the principles of professional practice and the outcomes required of all medical graduates (Rubin and Franchi-Christopher, 2002). The latest guidance produced in 2009 (General Medical Council., 2009) begins with the words "Doctors must be capable of regularly taking responsibility for difficult decisions in situations of clinical complexity and uncertainty". The new guidance responds to concerns about scientific education, technical skills and partnership working and proposes that to improve the health and care of patients, student-doctors need to be prepared to act as scholars, scientists, practitioners and professionals.

These three documents have produced fundamental change within the formal undergraduate medical education curriculum. Traditionally, the culture of medical education had privileged learning that provided the foundation of scientific knowledge, focused on factual content about medical practice and demonstrated mastery of the required knowledge. Today, student-doctors are viewed as adult learners who seek learning experiences rather than expect to be taught the facts. Following much debate about educational aims and pedagogic strategies, there is an attempt to acknowledge that delivery of patient care is extremely complex and that the demands of patients are much higher. Developments have included the integrated curriculum, and the use of problem-based, case -based and simulated learning. 'Tomorrow's Doctors' (General Medical Council., 2009) emphasises that medical graduates need to demonstrate the ability to self-direct their learning, reflect continually on their practice and translate that reflection into action. There is a focus on collective learning around additional curricula themes such as ethics, leadership, inter-professional team-working and organisation of healthcare. However, this widening of the curriculum may not be continued in clinical practice.

The Exe Medical School is the focus of this study. Exploring its response to these changes will help further situate this study.

1.5 The research context

Traditionally the Exe School of Medicine has constructed medical education as biomedical science following a Flexnerian curriculum (Flexner, 2002), where the basic and clinical sciences are presented in sequence. The students spend the first three years learning the science of medicine with little patient contact, only beginning the clinical component of their medical education in their fourth year. In 2006 a new curriculum was introduced in years four to six, which attempted, mainly through experiential teaching, to address explicitly the multiple domains in which doctors must be competent. As well as biomedical and technical knowledge, students are expected to demonstrate that they are effective clinical communicators, who can understand and apply concepts related to ethics, law, public health, leadership, management and clinical decision making. This teaching is designed to enable students to explore wider issues related to the political, economic, social and cultural contexts and to challenge their personal assumptions and beliefs (Kuper and D'Eon, 2011). In my experience this teaching sometimes utilises simplified, de-contextualised examples and problems such as paper-based cases. This can result in an inability to grasp the complexity of the issue and to understand and apply the knowledge. Whether or not the authentic clinical experiences in which the student-doctors have engaged is more successful, is an important issue for this research.

One learning strategy adopted by the Exe medical school to support the development of these wider socio-culturally based roles, is reflective practice. The development of reflective capacity was identified for the first time by the GMC in 2009 within the document outlining standards for medical education. As has been found in other medical schools (Feest and Forbes, 2007), reflection has been met by the students with a degree of scepticism and it is helpful to try and analyse why this might be. Within our curriculum, the introduction of reflection has been closely linked to written portfolio items and to analysis of past events. In the literature, writing reflection in this form has been questioned because of its time consuming nature, tick box approach and concerns expressed about assessment of reflection. Students have suggested that time writing could be better spent on meeting assessment needs (Grant *et al*, 2006), clinicians have argued that tick box exercises reduce medicine to meaningless ritual (Dornan, McKendree and Robbé, 2011) or encourage people to write "socially acceptable content" (Ross, Maclachlan and Cleland, 2009, p. 6) and the validity of written material submitted for assessment has also been questioned. Furthermore, students often write in isolation with little guidance and this can result in further problems.

Although the curriculum introduces the theoretical foundations of the reflective process, faculty do not sufficiently help students explore its practical application so that some students struggle to understand the relevance of reflective practice (Grant *et al*, 2006). Empirical evidence suggests that students working in isolation rarely analyse their experiences or weigh alternative perspectives (Boenink *et al*, 2004), which is perhaps not surprising: it is not easy to recognise one's own assumptions or make alternative suggestions without prompting (Plack and Greenberg, 2005). Yet without guidance about how to reach this deeper analytic process, the critical thinking needed for effective decision-making may not develop (Baernstein and Fryer-Edwards, 2003; Plack and Greenberg, 2005).

The course is divided into formal classroom learning and clinical attachments. Within clinical practice, review of the students' timetables suggests that biomedical expertise remains the central focus of teaching and students are given little opportunity to address other types of knowledge relevant in clinical practice. Dyche and Epstein (2011) have written an insightful paper exploring why curiosity and strategies that encourage it, such as reflection, may be inadvertently suppressed by common practices in medical education. They suggest that reflection flourishes in environments where responsibility for learning is encouraged and where attention is paid to both content and to the process of learning. This requires educational strategies that attend to emotional responses, allow for uncertainty and give time for students to step back and process their learning. Such strategies help students explore the uncomfortable or unexpected, challenge assumptions, explore alternative perspectives and value collaborative learning.

Although there are many examples of positive teaching, where students learn from both senior and junior doctors within the ward, students at Exe School of Medicine sometimes experience practices that may be suppressing consideration of the doctors' wider roles. The educational emphasis remains on assessment of facts, technical skills, efficiency, maintaining objectivity and developing rational thinking. In these situations, teaching can be delivered in top down communication from a senior clinician and allows little time for processing of experiences or reflection on the learning experience. Because questioning in this setting risks criticism, students tend to adopt the role of passive learners. The picture then is of two different curricula and a medical education culture, which, although trying to change, still prioritises biomedical science and in which some students struggle to see the value of reflective practice. Understanding more about the factors that shape the student-doctors' understanding of ward-round learning and whether engagement in critical reflection can influence the nature of their participation, will be key foci of this study.

1.6 Learning in clinical practice

Within *Tomorrow's Doctors* (General Medical Council., 2009), there is little discussion related to pedagogy in clinical practice; that is, to the educational aims and pedagogic practices needed to support student-doctor teaching and learning in clinical practice. This is perhaps surprising when considered in relation to the opportunistic nature of learning in the CW, the challenging learning environment and the institution's educational aims. Within the classroom, the particular topic, for example team-working, is taught within a controlled simulated environment and the teaching is designed to achieve specific outcomes (Kneebone *et al*, 2004). In contrast, in the clinical environment learning is opportunistic and students learn by participating in the routine yet complex *mêlée* of patient care activities. Although the school may have some initial control over these activities and additional guidance may be provided in the form of learning objectives and log books, the activities are dependent on the clinical context. Furthermore, students have a central role in determining what they learn (ten Cate, 2001). This suggests that understanding the context in which the student-doctors are learning may be vital to developing their ability to learn through participation in the CW.

The ward-round is an activity within clinical practice that exemplifies this issue. Currently, the Exe School of Medicine views the ward-round as a key vehicle for learning clinical medicine and expects student-doctors to attend. Yet, the IFS showed that there is a discrepancy between the curriculum and practice. The students' previous ward-round experiences have resulted in them developing alternative frameworks to understand the ward-round and their role as learners. Some have dismissed the ward-round as failing to meet their needs and no longer attend; others question what they should be doing within it and why.

1.7 Medical ward-rounds

Ward-rounds have traditionally been considered the cornerstone of clinical education (Melo Prado *et al*, 2011) and were divided into teaching and business ward-rounds (Stanley, 1998). The frequency of teaching rounds is decreasing (Tariq *et al*, 2010) and as students at Exe report that teaching rounds are rare, this study will focus on business rounds. Within business rounds, the focus is on patient care and only secondarily on students' learning. The rounds are key activities within the doctors' routine practice, when the consultant and their teams see patients to review their progress and treatment at the bedside. They are designed to be attended by all available members of the medical team, although in reality members may leave for short periods to attend to tasks as the round progresses.

My personal experience and Jaye et al's (2010) research suggest modern ward-rounds can be chaotic, frustrating and challenging as students and trained doctors of varying levels of expertise attempt to learn at the patient's bedside. For patients and staff, the round represents a major clinical decision-making event. Within this complex activity, students will observe the senior doctor reviewing results of investigations, adjusting treatment, identifying what tasks need to be completed (and by whom) and communicating with the patient. The expectation is that through engagement on the ward-round, the student will gradually and incrementally gain insight into what the doctor does and the capabilities needed to give high quality patient care.

Observation and participation of the ward-round theoretically provide opportunities for students to learn, expand and apply knowledge of bio-sciences; develop clinical reasoning skills; observe and practise clinical skills and learn about and begin to think of themselves as medical professionals (Hafferty and Franks, 1994). Specifically, it is intended to enable discussion of the patient's case; facilitate the development of students' clinical communication and physical examination skills; model professional behaviours and provide feedback to students (Aldeen and Gisondi, 2006; Murdoch Eaton and Cottrell, 1998).

Furthermore, the learning is opportunistic, part of patient care and not an exclusive event (Stark, 2003). Activities are dependent on the clinicians, the learning opportunities that emerge, peer interaction and the participants' (patients' students' and clinicians') responses to them (Jaye *et al*, 2009). Interactions can be influenced by the doctor's behaviour towards either the patient or student; simple factors such as failing to acknowledge the student or approaching the patient's bedside with a large group of learners, may position the students in both a passive and uncomfortable role and with a sense of invading the patient's privacy (Dornan, Scherpbier and Boshuizen, 2009). Conversely, supporting participation by sharing thinking out loud, asking for others' ideas and creating tasks for students to attend to, can both motivate and challenge students' learning (Eraut, 1994).

Ideally, student-doctors are expected to see the patients prior to the ward-round.

Surrounding the ward-round are two key activities. Firstly, there is the process of clerking a patient. Clinical clerking occurs prior to the ward-round and has three aspects: eliciting a patient's history, performing an examination, and documenting the information obtained. Visiting the patient legitimises the student-doctors' access to patients and to participating in ward activities. The intention is that through eliciting patients' histories, they develop confidence in obtaining information and understanding patients' experiences and also gain

knowledge of how diseases present and affect patients. This preparation also helps them engage and understand what they will observe on the ward-round. By encouraging student-doctors to review a patient's notes prior to or after the ward-round, they become aware of both the clinicians' clinical reasoning and the standard needed for effective documentation. Secondly, there is the case presentation which occurs during the ward-round. This is used to communicate to the team the salient features of a patient's history and examination findings and to argue a case for their suggested diagnoses, indicating what else has been considered and why it has been rejected. These presentations are challenging. They require the assimilation and prioritisation of key information, the ability to articulate this clearly and to respond to challenges about uncertainties (Lingard *et al*, 2003). By observing clinicians presenting patients and then practising presenting patients themselves, student-doctors progress via tasks of growing complexity and begin to understand the increasing levels of accountability. Student-doctors attending ward-rounds want the opportunity to hone and receive feedback on these skills and practices.

The ward-round is then a complex and yet key activity for the doctor which provides many potential learning opportunities for the student-doctor, but these may be difficult to identify or access. There are ward-rounds where student-doctors feel well supported, where the clinical team afford opportunities for individuals to engage in the ward-round activities and learners feel actively encouraged to participate. However, the intention of this study was to equip students to learn in complex learning environments, where the workplace was not explicitly supporting learning. Equally, there was no intention to ignore the importance of the clinicians' role as teachers; working with clinicians will be part of the second cycle of this action research project.

This discussion now turns to review the literature that is beginning to help us further understand learning in the CW and the ward-round. The literature that underpins how learning is conceptualised in this study will be addressed separately in Chapter 2.

1.8 Research and learning in clinical practice

This study addresses undergraduate students' learning in clinical practice, a research area that is under theorized (Deketelaere *et al*, 2006; Schuwirth and van der Vleuten, 2006), and when compared with research in the classroom, relatively scarce. Notable empirical studies that have focused on the way student-doctors learn in clinical practice include Deketelaere *et al* (2006), Dornan *et al* (2007) Jaye *et al* (2009), Bell *et al* (2009) and Sheehan *et al* (2005). These studies show that although learning in medical practice is embedded within real patient

activities such as ward-rounds, there are a number of important problems with the process: students struggle to adapt when entering the clinical environment (Deketelaere *et al*, 2006; Sheehan, Wilkinson and Billett, 2005); to acquire clinical experience (Bell *et al*, 2009); to apply knowledge from the basic sciences to patients seen on wards (Dornan, 2006) and to learn through practice (Deketelaere *et al*, 2006). However, some also suggest that through interpersonal interaction with the team and passive and active participation in tasks, they come to understand the significance of the activities attached to different tasks in medical practice (Dornan, 2005). Interestingly, these studies apply to both Flexnerian and problem-based learning curricula³.

1.8.1 Research and ward-round learning

Research that addresses clinical practice has tended to focus on learning in outpatients and the community (Ashley *et al*, 2009; Bowen and Carline, 1997; Irby, 1995; Usatine, Tremoulet and Irby, 2000; Van Der Zwet *et al*, 2011); much less attention has been paid to learning on the wards. As I argued in my IFS, learning on ward-rounds has been relatively under-investigated. The studies undertaken mainly relate to the United States (Irby, 1992) and Australasia (Deketelaere *et al*, 2006; Jaye *et al*, 2009; Sheehan, Wilkinson and Billett, 2005), where relationships between students and other members of the medical team are fundamentally different. This is in part because students are part of the team and are given direct responsibility for patient care. On the ward-round they are expected to participate actively, presenting patients' cases, examining patients and undertaking requested tasks. In contrast, student-doctors in the UK, when compared with colleagues in Europe and the United States, appear to be positioned primarily as observers and may therefore be interesting to study as an extreme case of students who are very peripheral to practice (T. Dornan, Professor of Medical Education Manchester and Maastricht, personal communication, 6th December 2010).

Given the paucity of research addressing business ward-rounds, in reviewing the literature I have considered studies that focus on both teaching and business rounds and addressed studies that consider the students' experience of learning in the CW, in order to show the gradual shift in focus from teaching to learning. This decision was made after the IFS identified a need for closer examination of the student-doctor experience in clinical practice.

³ 3 Problem-based learning (PBL) is a student-centred pedagogy in which students learn about a subject through the experience of problem solving

Traditionally, research has underlined the importance of the role of the clinician/teacher and sought to support teachers who need to improve the effectiveness of teaching, whilst locating this within their clinical work (Hargreaves, 1996; Neher *et al*, 1992). More recently, the importance of focusing on learning rather than teaching has been highlighted (Johnston and Valori, 2012; Reece and Klaber, 2012). Led by Dornan *et al* (2007), this research adopts a socio-cultural perspective and acknowledges the significance of a supportive learning context, of the teacher's role in facilitating students to participate legitimately in clinical activity and in providing appropriate supervision and feedback. Support of this nature promotes the development of students' confidence and their emerging professional identity.

Several recent studies in the USA, Australia and the UK have found students are dissatisfied with the ward-round as a learning experience (Balmer *et al*, 2010; Jaye *et al*, 2009; Quilligan, 2010). Observational studies point to the reasons for this criticism. Students appear unclear about the purpose of rounds, their roles and expectations (Elliot and Hickam, 1993; Quilligan, 2010; Shulman, Wilkerson and Goldman, 1992). Furthermore, students often feel excluded and hover on the edge of the team, making little attempt to become involved (Egan and Jaye, 2009; Quilligan, 2010). This is perhaps not surprising, given Walton and Steinerts' (2010) finding that the ward-round is usually dominated by the senior clinician and team members are often minimally involved. Time constraints further limit opportunities for teaching. Balmer and colleagues' ethnographic study (2010) with a paediatric team involved ninety six hours of direct observation and interviews with thirty nine clinicians and concluded participants' expectations of teaching on ward-rounds may be unrealistic.

In response to these difficulties with ward-round learning, some researchers seek to engage students actively in learning. Nikendei *et al* (2007) used one two hour simulated ward-round involving role play around three clinical scenarios to develop skills related to prescribing, chart review and documentation with forty five final year student-doctors. Although this focuses on students participating in ward-round activities, I question whether it can ever recreate the complexity of the ward-round and specifically issues related to exclusion. Melo Prado *et al* (2011) concentrate on developing students' ability to self-direct their learning on ward-rounds. Focusing on acquisition of biomedical knowledge and problem solving skills, students are encouraged to follow up ward-rounds with their own research.

Dornan *et al* (2007), Jaye *et al* (2009) and Sheehan *et al* (2005) acknowledge the need for students to learn by engagement with the team, the value of role models and the importance of many types of knowledge, noting that by being part of the experience, students can learn

about health, illness, disease and the role of the doctor. Through a series of studies, Dornan et al (2007) developed a conceptual model of experience-based learning. This model was originally synthesised from a grounded theory study. This involved analysis of group discussions with three groups of eight students, before and after experimental strengthening of medical students' clinical learning within a problem based curriculum (Dornan, 2006). A key finding was that students learn by participating in practice. Although the nature of participation lacks detail, student roles involved different levels of participation ranging from observer (passive or active) to rehearsing and performing the role of the doctor. Jaye and her colleagues' (2009) mixed-methods study involved observation of eighteen surgical ward-rounds and interviews with sixteen students and five consultants. Although considering legitimate participation and learning through engaging in workplace activity, both Dornan and Jaye still focus on the need for the clinician to invite students informally to participate. Sheehan et al (2005) also identify engagement with the team and team tasks as critical components for participation, and additionally point to the need to divide these further into two aspects, initiation and maintenance. Sheehan et al's study, which involved seventeen interns in New Zealand in focus groups and interviews, does discuss the need to acknowledge the trainees' as well as the clinicians' responsibilities.

In summary, research on learning on ward-rounds is primarily channelled towards analysing how the clinician might better meet the students' needs. Consideration is given to the clinician as a role model and the strategies the clinician can adopt, for example encouraging participation in the ward-round activities and developing the students' ability to self-direct their learning. The evidence also suggests that clinicians do little explicit teaching (Young *et al*, 2009) and that students are positioned primarily as passive learners (Quilligan, 2010; Young *et al*, 2009)). To date, it seems that little attention has been paid to exploring the ward-round learning experience from the perspective of the student-doctors; this study sets out to address, in particular, how their experience on ward-rounds shapes their view of themselves as learners and professionals and influences their approach to ward-round learning.

1.9 Conclusion

This discussion has endeavoured to outline the policy and practice context in order to justify the rationale for the study. Within medical education, workplace learning occurs in clinical practice in the form of apprenticeship and has historically been seen as a legitimate and effective means of educational provision. Traditionally, the ward-round was a key means of learning clinical medicine and the IFS suggests it is still replete with learning opportunities.

Before ward-round learning is dismissed as no longer valuable, it is important to strengthen the knowledge base about ward-round learning and, through action and reflection, to explore whether changes to practice might enhance the learning experience. Whilst learning on ward-rounds is relatively under researched, this study seeks to add to the work of Dornan et al (2007), Jaye et al (2009) and Sheehan et al (2005) who draw upon socio-cultural theories of learning to explore student-doctors' participation in the CW.

This thesis includes six chapters. In the next chapter I delineate the theoretical framework and conceptual understanding of learning that informed the educational intervention and the data analysis. Specifically, the way key concepts within social cognitive, socio-cultural and workplace learning theories link to the specific research context are considered. In Chapter 3 I introduce action research, explain how it is understood within this study, how it relates to my own epistemological understandings, describe the study design and justify how it is congruent with an action research study. Chapter 4 is designed to portray a rich detailed description of the research process and to allow the reader insight into the educational practices and context. The intention is to present the findings and illustrate the close interaction between practice, theory and change by showing how the framework of critical reflection and development of agency, drawn out of theory reviewed in Chapter 2, were applied in practice. Analysis of the findings in relation to my original research questions are introduced in Chapter 4 and further developed in Chapter 5, where apprenticeship learning is explored through a new lens. A view that accepts that affordances are constructed by the clinical workplace and are opportunistic, that student-doctors need to learn to access these affordances by participating in routine activity and that development of student-doctors' agency can support development of the learner identity. The study's contribution to medical education is discussed in relation to policy, theory and practice. In the sixth chapter I highlight the key results, consider the study's rigour and limitations and make recommendations for future research and changes to educational practice.

2 Personal Agency and Workplace Participatory Practices

2.1 Introduction

Chapter 1 set out how learning and apprenticeship are understood in medical education and specifically in the CW, and depicted the challenges that exist within medical apprenticeship. This chapter will move from practice to consider the theoretical framework and conceptual understanding of learning that shaped both the intervention and its outcome. If educational interventions are to advance knowledge, enhance practice and respond to the challenges of learning in the CW, they need to be based on and underpinned by theory (Dornan, 2005; Kaufman and Mann, 2010). Theories of learning help us articulate the kind of learning that is taking place and how it is occurring, enabling us to see how conceptual understandings change over time. In the last twenty years, a shift in the conceptual understanding of learning is evident. This paradigmatic shift in learning is captured in Sfard's metaphors of acquisition and participation (1998).

In contemporary learning theories, several scholars have argued against the traditionally held presupposition that learning is a passive individual process involving acquisition of knowledge. This views learning primarily as a conceptual development, understanding growth of knowledge as acquisition and refinement of concepts to form increasingly complex structures (Sfard, 1998). They propose an alternative view where learning is an active process involving participation; students learn and come to know through participating with others in social practices, and the dialogic nature of the interaction is central to this (Brown, Collins and Duguid, 1989). Equally, the activity and the context are never separated; a context which is rich, multi-factorial, super-complex, situated, culturally embedded and mediated (Barnett and Hallam, 1999; Brown, Collins and Duguid, 1989; Lave and Wenger, 1991).

Sfard proposes that both metaphors are needed to understand learning. Indeed recent writing by Billett (2001b) suggests that processes of knowledge construction are shaped by people's prior experiences, reflections, knowledge, and by professional values, beliefs, and identities. One of the aims of the following discussion is to show how work-based learning has been understood within this study and to make explicit assumptions about the nature of knowledge and of learning in the complex world of the CW. To frame this selective review of learning, I first consider learning in terms of a socio-cognitive and goal-directed process. I will then move from this largely cognitive, individualistic model towards a proposal that learning is better

understood as a socially and culturally dependent, and finally, to a suggestion that perhaps a model that supports both personal agency and workplace participatory practices is needed. These formulations of learning are selected because they seem particularly helpful in the context of learning in the CW in 2012. I will briefly describe the key theoretical ideas, highlighting their major relevant constructs and implications for learning in the CW. Having outlined my understanding of learning, I will then discuss how Mezirow's model of critical reflection (Mezirow, 1990) enables change by acknowledging that theory and practice inform each other, challenging assumptions and making it possible to reformulate the way in which learning in the CW is viewed.

2.2 Social-cognitive theory

Albert Bandura is a leading psychologist of the twenty-first century who is recognized as the main proponent of social cognitive theory (Teunissen and Wilkinson, 2010). Social cognitive theory seeks to explain how people acquire certain behavioural patterns and are able to develop interventions to support change in behaviour. To understand learning, the theory blends behaviourist theory, accentuating the influence of the environment on our actions, and cognitive theory, which focuses on the importance of cognition in moderating our learning (Bandura, 1993).

2.2.1 Relevant constructs of social-cognitive theory

This complex theory has multiple concepts and the following discussion will be limited to exploring Bandura's assertion that humans are inherently self-directed. Three concepts will be briefly discussed: the triadic interaction, agency and reflection. The theory's presumption is that learning is the outcome of an active, reciprocal interaction between three factors: personal (prior experience, attitudes, values and goals); environmental (social and physical factors that influence achievement of goals) and behavioural (personal actions) (Bandura, 2001; Kaufman and Mann, 2010). Bandura emphasises the dependence of these determinants on each other, noting that behaviour, rather than being an outcome of personal and environmental determinants, is itself an interacting factor in the process (Bandura, 1986). Furthermore, the relative emphasis applied to each of the factors will alter and be dependent on different individuals, circumstances and tasks (Bandura, 1993; Bandura, 2001). For example, the perceived super complexity of the ward-round environment may determine a student's choice not to interact. Equally if feeling pressured to perform they may find themselves unable to answer questions. However, if students have tasked themselves with

achieving a goal, personal factors may exert a stronger influence and they may prioritise interacting with the team.

Agency, that is the ability to act intentionally (Bandura, 2001, p. 6), is divided by Bandura into three types: collective, proxy and personal agency. Collective agency involves people sharing beliefs in their collective ability to produce change by socially co-ordinating their knowledge, skills and goals. Proxy agency acknowledges that people do not have control over the institutional practices that affect their lives and so they may rely on others to wield influence or act on their behalf. Personal agency is the individuals' belief and confidence in their self-efficacy (Bandura, 1993), that is the capacity to exercise control over their functioning and environmental events. Without the belief that by exercising some degree of control over their own actions and the environment they can produce desired results, learners have little incentive to persevere in the face of difficulty. Bandura suggests this belief or judgement about self-efficacy can be generated through three main types of experience: mastery, social modelling and verbal persuasion (Bandura, 2001). Mastery is most likely to increase self-efficacy and relates to success in performance of a task. Social modelling involves witnessing others complete a task, raising the belief in learners that they too may possess the capabilities; this modelling may be in the form of direct observation or the sharing of experiences. Verbal persuasion seeks to convince learners that they possess the ability to succeed; whilst least effective, it can be influential in increasing self-efficacy, especially in deciding the degree of effort a learner may give to the task (Bandura, 1982).

Response to personal performance is a key source of efficacy. One learning strategy designed to support and develop self-efficacy is goal setting. Bandura suggests we use forethought to consider the likely outcomes of our actions and to plan goals which are likely to maximise the chance of achieving them.

People set goals for themselves, anticipate the likely consequences of prospective actions, and select and create courses of action likely to produce desired outcomes and avoid detrimental ones (Bandura, 2001, p. 7).

If learners set themselves a goal and succeed, efficacy is raised; alternatively, failure will lower efficacy, particularly if it occurs early in the learning experience. Goal setting alone, however, is not sufficient. Reflection on the goal setting process and evaluating it against our personal standards is vital. This evaluation of goal setting is affected by the characteristics of goals, namely, their specificity, degree of difficulty and temporal proximity. Challenging goals

stimulate strong engagement; conversely, goals that are general or set too far in the distance may not effectively guide present action (Bandura, 2001).

Finally, the way people examine their own actions involves reflection; people are both agents of action and self-examiners of their functioning. This meta-cognitive capability to reflect upon and analyse our experiences and the adequacy of our thoughts involves judgement. This judgement considers the suitability or correctness of our planned actions against the outcomes, the effect that others' actions had, what is deduced from established knowledge and what has been learnt (Bandura, 1993).

2.2.2 Relevance of key concepts of social cognitive theory to study

By understanding the key concepts of Bandura's work (ongoing triadic, dynamic interactions, self-efficacy and reflection), we can begin to consider how this allows us to plan a pedagogic intervention to maximize students' ability to participate in the CW. Firstly, any pedagogical activity will need to consider the reciprocal interaction between personal, behavioural and environmental factors. Secondly, it appears that a clear goal or vision of the desired outcome supports learning by stimulating the development of strategies to meet the goal and providing a means of monitoring and directing action appropriately. Thirdly, learners need space to reflect, to consider the approach taken, explore new strategies needed for goal achievement and link this to prior knowledge and experiences (Kaufman and Mann, 2010). Finally, development of personal agency may be supported by sharing of experiences and goal-setting activities within a group setting.

Social cognitive theories of learning alone may pay insufficient attention to social interaction and learning as a group process which are key features of learning in the CW. They prioritise a view of learning as an individualistic cognitive process that focuses on acquisition of knowledge, skills, attitudes and understanding, "a thing located in individual minds" (Hager, 2011, p. 24) This does not adequately account for learning that Schön depicts as knowledge in practice (1987) that is knowledge grounded in complex professional activity and situated across people and settings (Lave and Wenger, 1991). Furthermore, whilst they describe different forms of agency and illuminate the process of goal setting, they gloss over the relational nature of workplace practices. Indeed the notions of power and control cannot be properly understood unless we consider the students' role within and access to the team. In summary, the significance of how cultural, contextual and social factors interact with how people learn is underestimated (Hager, 2011; Kaufman and Mann, 2010).

2.3 Socio-cultural learning theory

In response to these challenges, researchers in medical education (Dornan *et al*, 2007; Jaye *et al*, 2009; Lyon, 2004; Van Der Zwet *et al*, 2011) have increasingly turned to socio-cultural theories of learning, attending particularly to the work of Lave and Wenger, who conceptualise learning as “an integral and inseparable aspect of social practice” (Lave and Wenger, 1991, p. 31). Thus socio-cultural theories of learning emphasise the importance of social interaction and learning as a group process. Knowledge, rather than being a fixed entity that is acquired, is discursively constructed between participants in specific situated activities (Dornan, Mann and Teunissen, 2010). Furthermore, rather than focusing on the acquisition of content, they acknowledge the centrality of learning as a process; learning occurs through participation in routine workplace activities. Finally, they argue that learning and context are bound together and the social, cultural, contextual and organisational factors shape the affordances and constraints of learning. Four key concepts identified by Lave and Wenger (communities of practice (COP); legitimate peripheral participation; identity and boundary crossing) have particular resonance for this study and will now be considered in more detail.

2.3.1 Relevant constructs of socio-cultural theory

COP are groups of people who develop, negotiate and share overlapping theories and ways of understanding the world, expertise, history, sets of beliefs and experiences focused on a common practice or mutual enterprise (Wenger, 1998). These communities share cultural practices that reflect their collective learning. By engaging with a COP, participants come to understand and develop an awareness of language, roles, artifacts, as well as underlying values and assumptions (Handley *et al*, 2006; Kaufman and Mann, 2010; Wenger, 2000). They also learn to adapt their own practices to match the COP. Wenger (1998, pp. 125-126) proposes several criteria that suggest a COP has formed. These include identifiable practice styles unique to the COP, absence of introductory preambles, accepted ways of rapidly communicating, sharing information and engaging in activities, and a shared repertoire, where participants engage together through talk, locally produced reference points, and artifacts. If COP are then characterised by shared repertoire and mutual engagement, it follows that being included in a COP is a requirement for engagement. They are also engaged in a joint enterprise which gives rise to mutual accountability.

These relations of accountability include what matters and what does not, what is important, what to do and not to do, what to pay attention to and what to ignore, what to talk about and what to leave unsaid (Wenger, 1998, p. 81)

In this way, the community determines the conditions for learning and the most transformative learning involves participation within the COP (ibid p6).

Central to Lave and Wenger's analysis of learning is the second concept, legitimate peripheral participation. Participants actively participate "in *the practices* of social communities and construct *identities* in relation to these communities" (ibid, p. 4; emphasis in original). Thus participation conveys action (engaging in and contributing to the practices of the community) as well as connection (being part of the community) (ibid p. 55). Whilst it offers the 'possibility of mutual recognition' and the ability to negotiate meaning, it does not necessarily involve equality or respect (ibid, p. 56) (Handley *et al*, 2006.) According to Lave and Wenger, legitimate peripheral participation is fundamental to understanding how learners develop within a community. Paying particular attention to the relations between novices and experts, they posit that when newcomers work alongside more experienced members, sharing existing professional practices, they come to know and understand the particular knowledge of the community and there is a negotiation of meaning between members (Lave and Wenger, 1991). Furthermore, as participants move from peripheral participation to full participation, there is a sense of belonging or fitting in (Wenger, 1998). For this to occur, participants have to feel legitimate, allowed to be there and to participate; the degree of participation may be dependent on their sense of legitimacy. The emphasis is on the role of social interaction in promoting learning and the formation of the learners' identity (Van Der Zwet *et al*, 2011). The suggestion is that as learners participate in the communities' activities, they transform their understanding of roles and responsibilities (Kaufman and Mann, 2010; Lave and Wenger, 1991) and shape their identity.

One of the most influential, early reflections on the nature of identity development and of 'identity work' was developed by Herbert Mead (1934). This work formed the background of what came to be known as symbolic interactionism (Blumer, 1986). Identity is formed through the cognitive and social processes through which we make sense of the world. Jenkins (2008) argues that developing an identity is accomplished through a process of identification; a two way internal and external process. How we define ourselves (who I perceive I am) and how we are concurrently defined by others (how I think you perceive me) is mediated through talk, cues and symbolic artefacts. Such cues could include dress, language, responses to questions and incidental disclosure of information. Identity is then part of language and interaction; changing and emerging. People are "guided to act by the structural and cultural relationships in which they are embedded" (Somers, 1994, p. 624). Furthermore, identity is also multidimensional and relates to our classification of our place in the world, both individually

and within groups. This self-categorisation occurs within a social milieu in which the context of the institution and the relationships within it are key (Monrouxe, 2010). Seminal works by Becker (1977) Sudnow (1967) and Goffman (1981) have all shown how social interaction within medical culture shapes identity.

By focusing on identity, Wenger makes it possible to explore issues of both participation and non-participation and of exclusion and inclusion. He acknowledges that “we produce our identities through the practices we engage in, but we also define ourselves through practices we do not engage in” (Wenger, 1998, p. 164). Equally, we define ourselves in terms of our lived experience of participation within a COP, what we think and say about ourselves, the responses of members of the COP to us, and through our history and future plans – our learning trajectory. Identity is then a:

Layering of events of participation and reification by which our experience and its social interpretation inform each other. As we encounter our effects on the world and develop our relations with others, these layers build upon each other to produce our identity. (Wenger, 1998, p. 151)

Wenger suggests that when participants enter a new COP, the boundaries of the community may appear to them as a lack of competence. They may be unable to mutually engage because they are unclear about how to interact and work together; their lack of professional identity arises because they do not know the rules of engagement. They are not competent to be accountable for the activity because their professional identity is not formed and they do not know the COP's ways of interpreting practices or the value attached to experiences. Finally, they cannot access and negotiate the repertoire of the COP because they do not know its history, language actions and artifacts and thus do not have the shared reference points of other members of the COP (Wenger, 1998). Alternatively the student-doctor's sense of identity as a learner and professional may be enhanced by offering opportunities to participate. Thus, if knowing is part of belonging, then identity is central to how we know (Wenger, 2000). Identity is important to social learning for three reasons. Firstly, by combining competence and experience it develops our way of knowing; that is, it informs our thinking about who we identify with, what matters, who to share information with, why, and who to trust. Secondly, to deal effectively with boundaries, we need to both be aware of and suspend our identities in order to be able to consider alternative perspectives. Finally, a healthy identity will involve multiple membership of COP and will cross boundaries, identifying with wider communities beyond direct participation (Wenger, 2000).

Wenger notes that the term 'COP' implies the existence of boundaries between communities and that boundaries are not necessarily negative. Boundaries arise from different enterprises, histories, ways of communicating and making sense of activities. Whilst acknowledging that they can create misunderstanding, he focuses on them because they are unavoidable; learners will need to cross boundaries to connect different communities and boundaries offer learning opportunities themselves. These learning opportunities may challenge existing understandings of competence and experience and propose new ideas, resulting in new understandings; if this is so, the RLS may offer an opportunity for boundary crossing. Learning at boundaries can be maximised when there is shared interest, honest engagement with discussion of differences and a willingness to consider alternative perspectives. One way boundary processes become possible, is through the use of boundary objects, that is artefacts and discourses that support connection between different practices and allow people to communicate and negotiate meanings across perspectives (Wenger, 2000).

2.3.2 Relevance of key concepts of socio-cultural theory to study

Wenger (1998) contests that the workplace is a learning environment. His theory of socio-cultural learning attends to the process of learning to become a doctor and allows for the unexpected, incongruence between the curriculum and the reality of health care delivery (Jaye, Egan and Smith-Han, 2010; Swanwick, 2010). The COP would be the ward-round team who meet at the bedside to address patient care. The way student-doctors learn on the ward-round is dependent on the nature of their experiences and interactions and the meaning they and other team members attach to those experiences (Kaufman and Mann, 2010; Mann, 2011). In addressing the learning that occurs through participation, Wenger allows for the perceived super complexity of clinical practice; in doing so, he points to the need to acknowledge that the context, in this case the ward-round, and learning cannot be separated. Lave (1996) suggests that whenever you encounter practice you identify learning. This suggests that the process of thinking and acting within the context of the ward-round, the participants, the activities and the interactions, offer rich resources for students to learn about medical practice. Through participation in the ward-rounds and RLS, the students will re-visit and generate new forms of knowledge and understandings about medical practice, culture and their identity as practitioners and learners. It is vital that attention is paid to the micro features that emerge when engaged in ward-round activities, to the complexity of this

medical practice, to the way the physical and social environment shape learning and to the students' responses.

The nature of the student-doctors' membership of the COP is transient. They are only attached to the team for five weeks, join the team for short periods of their day and whilst their participation may be legitimised by the curriculum, they may not feel they belong and this may limit their ability to move from the extreme periphery towards the centre. Remaining as a peripheral participant may not be problematic; the emphasis is on the way social interaction and participation in activities promotes learning and develops the learner's identity. Peripheral participation is legitimate in itself (Lave and Wenger, 1991; Van Der Zwet et al, 2011). Whilst Lave and Wenger studied tailors in Liberia, their notion of legitimate peripheral participation can be applied to student-doctors. The suggestion would be that they learn by taking part, moving from simple to more complex activities and learning from observing other team members. In this context, opportunities offered or created to participate on the ward-round, the type of activities in which student-doctors are permitted to participate and the guidance received, become key to understanding and evaluating how and what they are learning on ward-rounds. Furthermore, if student-doctors do not have a sense of belonging to the team or if they feel unwanted or a burden, this lack of professional identity may impact on their learning. Thus the learning process is both shaped by and will shape the emerging students' identities.

Boundary objects may offer a pedagogical tool for helping students to explore these issues. Audio-diaries, which reflect on ward-round interactions, are portable and accessible and may provide insight into three connecting worlds: the classroom, the RLS and the CW. Making sense of them requires meaningful negotiation between the students and facilitator and involves using the objects to explore types of knowledge, modes of participation, sense of identity and the meaning of what they are learning.

However, whilst Lave and Wenger's concepts of legitimate peripheral participation, COP, identity and boundaries are helpful, they do not seem to fully explain engagement in learning in clinical practice in the twenty-first century. By privileging socio-cultural aspects of learning, they risk ignoring the relational interdependence between social, cultural and individuals' contribution to learning and obscuring the role of personal agency and power within the workplace (Billett, 2011; Evans *et al*, 2006). I will interrogate this further in the next section.

2.4 Workplace learning theory

Billett acknowledges, as do Lave and Wenger, that engagement or participation is a fundamental pre-requisite for learning; however he considers it as one of two foundational components within a workplace pedagogy (Billett, 2004). For Billett, engagement cannot be separated from the context; the workplace affordances that invite and guide individuals' engagement. He seeks to develop a theory of workplace learning that acknowledges the relational interdependence between individual and social agency, between the engagement of the learner and the workplace affordances (Hager, 2011). This theory provides a means to understand the duality between the affordances of the workplace and how the learner chooses to participate in those activities – workplace participatory practices (Billett, 2011). Two key concepts, workplace affordances and personal agency, will be used to explore how Billett suggests practitioners learn through engagement (Billett, 2001a).

2.4.1 Relevant constructs of workplace learning theory

Workplace affordances constitute the extent to which students are invited to take part in and learn through routine workplace activities. The types of activities students are afforded through the CW emerge from the routine daily practices. These socially and culturally derived practices that students witness are further shaped by organisational and physical factors and local negotiations (Sheehan, Wilkinson and Billett, 2005). Billett emphasises that such engagement in workplace activities is never benign. The way people are invited or expected to engage will include an expectation that they contribute in ways that maintain or uphold the position of individuals in the workplace. In short, distribution of workplace activities are influenced by hierarchy, workplace team dynamics and cultural practices and reflect power relationships (Billett, 2001b). The ways in which opportunities to participate can be contested or negotiated are central concerns of this study.

Affordances have a dynamic quality. Opportunities for learning in the workplace are constantly changing, whether it is the participants, tasks or goals. Equally, the situation and local negotiations that comprise the workplace practices are also changing. This dynamic quality is what leads Billett to contest the importance of the “on-going negotiated relations between individuals and their social practice” (2011, p. 67). These negotiations are a key focus of workplace participatory practices, being equally important for both realising workplace continuity and individuals' learning (Billett, Barker and Hennon-Tinning, 2004). The other central factor that Billett suggests determines the quality of the learning experience is personal agency; how individuals choose to engage with workplace activities and guidance.

Individuals' engagement in the workplace, the way individuals exercise their personal agency in deciding how they perceive, interpret and engage with workplace affordances, constitutes the other aspect of workplace participatory practices. "Ultimately, individuals determine what constitutes the invitational qualities of the workplace" (Billett, 2002, p. 58). Thus both Bandura and Billett see agency in terms of a choice to act. However, Billett acknowledges that this choice is constituted through workplace participatory practices which are distributed in ways that affect power relationships. Thus individuals are permitted to, and in turn elect to, engage in workplace practices (Billett, Barker and Hernon-Tinning, 2004). Billett (2011) also alerts us to the fact that agency is shaped by personal histories and constituted in the form of subjectivities and identities which result in particular ways of knowing, understanding and interacting with the world. How people think about themselves, their views of their peers and their identity are tightly linked to how they engage with activity (Billett and Somerville, 2004). These subjectivities also result in individuals not participating in practices equally. The quality of engagement will be influenced by their values, beliefs and socio-cultural background. This suggests that even a tightly structured learning experience can only shape individuals' learning and its influence will, at best, be partial (Billett, 2002; Billett, 2011). So, despite emphasising the importance of participation in social practice to learning, individuals' learning is neither solely derived from socialisation nor enculturation; learning is equally aligned to personal and social (Billett, 2002; Billett, 2004). There is then a relational interdependence between the affordances available to individuals through participation in practice, and how they choose to engage with and to construct the affordances of their participation; this interdependence is relationally shaped through subjectivities and agency (Billett, 2011).

2.4.2 Relevance of key concepts of workplace learning theory to study

This theory seems to suggest that to understand learning in the often contested relations in the CW, it is vital to consider both the opportunities for participation and the way opportunities to participate are distributed. Equally, to understand how learners learn within the CW, it is necessary to understand the choices they make about whether and how to participate within routine activities in the CW, the support and guidance that workplaces afford them and what they learn.

The kind of opportunities for participation that individuals are afforded will have consequences for learning. Feeling accepted and participating within a team have outcomes for individuals that go beyond positive working relationships and effective patient care (Sheehan, Wilkinson and Billett, 2005). An important outcome of effectively working and

communicating together is the development of inter-subjectivity or shared understandings (Billett, 2011; Teunissen and Wilkinson, 2010). Inter-subjectivity occurs “when all members of a health care team understand each-others’ preferences and idiosyncrasies and where working together can occur without the need for constant negotiation” (Sheehan, Wilkinson and Billett, 2005, p. 302). The idea of inter-subjectivity and its effect on affordances seems particularly important to novices entering a team they do not know. Lacking insider knowledge of the team’s culture or way of working will make any attempt to negotiate learning needs challenging; learners’ development could be impeded simply by lacking access to important information. If learners feel excluded or unsupported, their learning opportunities may be limited. The resulting lack of inter-subjectivity may result in novices at best perceiving the CW as somewhere that offers few affordances and at worst a daunting and alienating environment. Moreover, they may learn that workplaces are unsupportive and learn to adjust their behaviour in an attempt to align themselves to, and mirror, those who they perceive as powerful (Billett, 2011; Sheehan, Wilkinson and Billett, 2005).

On their own, the presence of strong invitational qualities or an environment where the affordances are weak cannot guarantee the nature of learning outcomes. Learners’ participation within the CW is an active and questioning process. Their personal agency can positively offset apparently weak affordances within an environment or influence outcomes negatively, by choosing not to engage where the affordances of the workplace appear to support learning. Individual participation involves a choice about whether to participate actively in goal-directed activities and to engage in learning knowledge that is made visible and accessible to them (Evans *et al*, 2006). Part of what will influence this choice is whether learners find meaning within the task, value the activity that is afforded to them and the knowledge they may learn. Understanding the choices learners make about what tasks to participate in and how their behaviour inhibits or creates learning opportunities, will be central to helping them discuss, plan and implement goals to support their learning. As Billett suggests, whether or not these affordances are developmental or unhelpful is determined through a process of negotiation between the individuals’ and the workplace affordances (2002; 2011).

In summary, when considering how to guide and support learners, the way learning is understood directly influences the choices made. For this study, rather than learning being viewed as either situated within and emerging from a social context or as an individual process, agency and sociality will be viewed as relational and interactive. That is the study acknowledges that learning is located within COPs, and accepts the central importance of

participation and the way in which communities may control access to that participation. It also understands that the individual learner interacts with that social context, has agency and makes choices about when and how to learn. Learning is then defined as an “interaction between an agentic individual’s mind and a socially constructed community of practice” (Cairns and Malloch, 2011, p. 9). Whilst Bandura sees the ability to reflect upon one’s thoughts and actions as central to agency, (Bandura, 2001) and Billett and Somerville (2004) discuss how critical reflection on workplace practices can be a means of exercising agency and engaging in transformational learning; neither explore how this should be achieved.

2.5 Use of critical reflection to support development of learning

In this section I move to consider what is understood by critical reflection and how its use may support the above understanding of learning and produce a permanent or semi-permanent change in attitudes, practices and personal agency. This is an approach that both offers a way of making sense of the complexities of practice and the dilemmas and choices faced within it, as well as a means of exploring the uncertainty that generates a sense of powerlessness and lack of personal responsibility (Fook and Gardner, 2007); an uncertainty that as Billett (2011) suggests may be linked to lacking shared understandings or subjectivities and to competing and conflicting understanding about knowledge.

There is a recognised lack of consensus about the concept of critical reflection. Like many other aspects of reflection, it is a concept that has a range of meanings (Tate and Sills, 2004). The literature on critical reflection shows that this term has widely divergent usages, spanning many different academic boundaries, including education, professional and organisational learning and disciplines (Fook and Gardner, 2007). This discussion begins with a brief overview to show how both reflection and critical reflection are understood in this study and to distinguish critical reflection from the extensive literature on reflective practice.

Reflection in modern times emanated from the work of the educational philosopher John Dewey, who spoke about the importance of enhancing practice by learning from experience. Writing extensively about reflective thought, Dewey highlighted that the ability of individuals to reflect is initiated only after they have identified a problem and recognised and accepted the uncertainty this generates (Tate and Sills, 2004). Dewey (1933) focused specifically on the importance of systematically examining and questioning thinking for its underlying foundations and implications in order to search for possible explanations. Dewey, and more recently Mezirow, have since extended this understanding to include emotions and the

meaning-making of the experience (Askeland and Fook, 2009; Mann, Gordon and MacLeod, 2009).

Through his work with teacher education, Donald Schön presented the idea of the reflective practitioner (1991): someone who used reflection both to learn knowledge from experience and to resolve the complex and obscure problems of professional practice. Similarly, he identified that reflective learning included the handling of experience in different ways, reflecting both in and on action. Reflection in action refers to stopping, thinking and problem solving in the midst of activity - to a process of knowing *in* action. Alternatively, reflection on action is reserved for those non-routine situations where the professional's reflection in action is inadequate to frame the problem; knowing *through* action (Schön, 1991). In such situations professionals explore their understanding of their actions and experience, and the impact of these on themselves and others after the experience (Mann, Gordon and MacLeod, 2009). Schön (1991) further added to our understanding of professional knowing and learning by categorising knowledge into two types: technical rationality and professional artistry. Technical rationality refers to the dominant scientific paradigm produced by research and 'knowing that' (the facts). Professional artistry is gleaned from tacit knowledge largely emerging from professional practice and described as 'knowing how'. Tate suggests that it is professional artistry that is developed through critical reflection (Tate and Sills, 2004).

Whilst there is debate about what makes reflection critical, three definitions will be used to illustrate the nature of this activity and the way it is being conceptualised within this study. Johns begins to signify the difference between reflection and critical reflection in his definition of critical reflection, which highlights both the complexity and difficulty that can be involved and the importance of personal experience being the object of reflection:

A window through which the practitioner can view and focus self within the context of her own lived experiences in ways that enable her to confront, understand and work towards resolving the contradictions within her practice between what is desirable and actual practice (Johns, 2000, p. 34).

Fook and Gardener acknowledge that individual experience cannot be divorced from the social context. Thus, they articulate critical reflection as:

a process of unsettling individual assumptions to bring about social changes. The assumptions may be individually held...but will involve some assumptions about social influences on personal lives (Fook and Gardner, 2007, p. 16)

This definition prioritises the connection with critical social theory and the importance of analysing the power dynamics at work that frame the field of practice (Lyons, 2009).

Mezirow signals the importance of reflection being at a deep level, which explores and evaluates hidden assumptions. He considers how such assumptions may be limiting ability to cope with diversity and uncertainty and to confront multiplicity within meaning making. He also points to the need for action to be taken in the light of the new understandings, when he describes critical reflection as:

The process of becoming critically aware of how and why our presuppositions have come to constrain the way we perceive, understand and feel about our world; of reformulating these assumptions to permit a more inclusive, discriminating, permeable and integrative perspective; and of making decisions or otherwise acting on those new understandings (Mezirow, 1990, p. 14).

Whilst the definitions are not necessarily mutually exclusive, my increased understanding of the importance of attending to assumptions was key to the design and subsequent analysis of the pedagogical intervention used in this study and will now be examined in more depth.

Mezirow believes that education should be empowering and knowledge constructed through interpreting new experiences (Mezirow, 1981; Tate and Sills, 2004). Use of this new interpretation to guide decision-making transforms meaning-making into learning (Mezirow, 1990). Thus, he views reflection as a cognitive, rational higher order thought process (Mezirow, 1981).

Emphasising that a critical dimension of learning involves recognising and reassessing the structure of assumptions and expectations that frame our thinking, feeling and acting (Mezirow, 2006), he describes these as a frame of reference. Frames of reference can be transformed through critical reflection on the assumptions upon which our interpretations, beliefs, and habits of mind or points of view are based. According to Mezirow, such assumptions may be epistemic, socio-cultural, or psychic (Mezirow, 1990). Epistemic relates to understanding about the nature and use of knowledge. In expanding socio-cultural, Mezirow describes how understanding is linked to language and “will be enabled and constrained by the historical knowledge and power networks in which it is embedded” (Mezirow, 2000, p. p7). The understanding being, that the assumptions of these networks and their associated ideologies need to be explored as part of critical reflection. Finally, psychic refers to the way individuals view themselves and may involve exploring the autobiographical context of a belief (Mezirow, 1997). These concepts were helpful when listening to audio-diaries and posing questions within the RLS (see 3.1.6).

Through these concepts Mezirow identifies reflection as more than thinking and problem solving about what is already known; rather reflection involves critically questioning the content, process and premise on which the learner has defined a problem in order to make meaning or better understand the experience (Mezirow, 1990). Whilst acknowledging that all three components of reflection (content, process and premise) will result in changes in behaviour that reflect more fundamental changes in attitudes and beliefs, it is premise reflection that is the most challenging. Analysis of content addresses analysis of the problem or situation. Process reflection involves analysing a range of potential strategies, exploring their suitability to address the situation and identifying alternative strategies that might be useable. Because premise reflection requires the analysis of assumption (that is, the taken-for-granted beliefs that people hold), the process is not easy to achieve. Questioning these assumptions may involve querying why a problem exists, critically examining the justification for one's beliefs and recognising how personal assumptions impact on choices and decision-making and on our understanding and meaning-making about our own identity (Mezirow, 1990; Mezirow, 1997).

The educator's role is to facilitate the learners to become aware of their own and others' assumptions. This requires practice in recognising the significance of frames of reference and creatively exploring and viewing problems from different viewpoints. Key to this process is the ability to participate effectively in discourse. Discourse enables learners to validate what and how they understand something; in this way discourse is central to making meaning and learning (Mezirow, 2006).

Critical reflection within medical education would then involve a process of examining assumptions and beliefs about professional practice, including power dynamics and values and beliefs about learning and will always be bound up in the context in which it is being used. Based on the way critical reflection is understood by Schön, Fook and Gardener and Mezirow, I identified the following steps as being potentially important to critical reflection:

1. Identifying and articulating an unsettling situation
2. Acknowledging and exploring emotions, such as fear, anger etc.
3. Identifying and critically assessing epistemic, socio-cultural and psychic assumptions
 - Attending to connections between the personal experience and social or cultural influences

- Exploring contextual awareness of one's own position, by articulating the impact of one's own behaviour and background
 - Considering other perspectives and what alternate views are missing from the account
4. Exploring new roles, and possible actions
 5. Planning new course of action
 6. Provisionally testing out plans

This framework was reflected in the design of the pedagogical intervention and assisted me in the analytical process of identifying how audio-diaries and RLS impacted on the students' understanding of the ward-round as a learning experience.

The preceding analysis suggests that socio-cognitive, socio-cultural, workplace learning theories and critical reflection all offer significant insight and have a part to play in understanding and analysing learning in the CW. This discussion has endeavoured to illustrate how learning in the CW is understood and to explore how pedagogical strategies that support development of critical reflection will support this understanding. In conclusion, synthesis of the discussion shows that the study was built on a number of premises:

1. The majority of learning on the ward-round occurs as part of routine workplace activities and relies on learning from others, rehearsing the tasks of the role (Doran *et al*, 2007; Wenger, 1998) and reflecting on the experience (Schön, 1991).
2. Learners can learn by being present, observing and listening to others and from participating in the ward-round event (Bandura, 2001; Billett, 2011; Lave and Wenger, 1991).
3. Learning is part of the social exchange in which the relational factor is an important influence on learning. Opportunities for participation are not equally distributed and are shaped by social, organisational and cultural factors (Billett, 2011).
4. Individuals have agency and make choices about when and how to participate (Bandura, 2001; Billett, 2011; Mezirow, 1997)
5. Knowledge is discursively constructed, dialogue and sharing of experiences supports learning (Mezirow, 1997; Mezirow, 2000).
6. Empowering students to take control over their learning will result in increased opportunities for learning and reflection (Bandura, 2001; Zimmerman, 2000).

7. Critical reflective thinking is something that can be developed and is not a stable personality trait (Mann, Gordon and MacLeod, 2009).
8. Engaging in critical reflection will enable students to be creative in their approach to learning and at the same time engage them in development of new meanings and identities (Mezirow, 1990).

To address the three research questions identified in 1.1, an action research study was designed to enable student-doctors to learn through participation in the super complex environment of ward-rounds. Drawing upon the key concepts discussed within this analysis, a pedagogical intervention involving audio-diaries and RLS, was developed which drew upon students' actual experiences and used these as learning resources to help student-doctors explore how they could plan and implement change to improve their learning experience. Critical reflection was used to address the dual focus of developing the students' ability to identify learning opportunities and electing to engage with those opportunities. Such an approach was deemed crucial to the development of the learners' ward-round experience because it sought to challenge the students' current understanding of knowledge and learning opportunities, actively engage the students in trying to participate in the ward-round activities and challenge the students' current role as passive learners. Whilst this research focuses on fourth year student doctors, the learning being discussed is foundational, in that it is anticipated that the skills learnt will be applied throughout their medical careers and in many different learning contexts.

3 An Action Research Study

If medical education research is to respond to the super-complexity described by Barnett (2000) and discussed in Chapter 1, we need a better understanding of learning in the CW. The knowledge generated needs to be relevant to the student-doctors and clinicians struggling to apply the accepted framework of apprenticeship and produce an alternative approach. Action research is an approach to social research incorporating participation and action, central to which is the idea that research can achieve change.

Whilst the purpose of engaging in action research is to produce change, describing the impact is equally important. Understanding what was learnt from the process of trying to change practice and how that adds to our understanding of learning in clinical practice will be essential for future developments. For this reason this action research study will address the following questions:

- What factors influence student-doctors' understanding of learning on ward-rounds?
- What is the nature of student-doctors' participation on ward-rounds?
- How might reflective learning sessions and audio-diaries better support student-doctors' developing understanding of the ward-round as a learning experience?

This chapter will discuss the research methodology. This will address how action research is interpreted within this study; how action research is congruent with the chosen methods and how the approach taken is cognisant with my own understandings of knowledge and reality. It will also discuss the research design, ethics and justify decisions made in relation to planning, implementation and analysis. It will conclude by considering how academic rigour is addressed.

3.1 Research methodology

3.1.1 Action research

Action research is not easily defined; it is an approach to research rather than a method (Reason and Bradbury, 2001). The term is widely referenced and has developed over time and within a broad range of fields. Whilst consideration of these perspectives is outside the scope of this chapter, it is important to acknowledge the theoretical roots of action research, including ideas from a number of different philosophical traditions, intellectual disciplines and

research contexts (Herr and Anderson, 2005). These include pragmatic philosophy, (Dewey) Lewin's social psychology, organisational change, Friere's critical pedagogy, and more recently Fals Borda working with the oppressed (Brydon-Miller, Greenwood and Maguire, 2003; Dewey, 1933; Freire and Ramos, 1970; Reason and Bradbury, 2001).

As disparate as these traditions are, what links them is a focus on co-generating knowledge that is both valid and useful to individuals, communities and for the promotion of social change (Brydon-Miller, Greenwood and Maguire, 2003). As John Elliott says, action research is "the study of a social situation with a view to improving the quality of action within it" (1991, p. 69). Reason and Bradbury offer the following working definition of action research:

"a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview which we believe is emerging at this historical moment. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities". (2001, p. 1)

The approach is concerned with working with people to identify problems in practice, to implement solutions and to analyse the processes and outcomes of change (Meyer, 2000). Knowledge is constructed by uniting theory and practice through cycles of reflection and action. The action research model is iterative in nature and involves several cycles. The first cycle follows the steps of planning, action, observation and reflection, which are subsequently used to revise the process in the next cycle (Altrichter, Posch and Somekh, 2005). Through experimentation, context-specific action is taken, which is purposeful and intended to create specific outcomes that are defined through the research process. These are then evaluated by the participants, according to their success in producing the outcomes (Altrichter, Posch and Somekh, 2005; Reason and Bradbury, 2001).

The action researcher's primary commitment is to effect social change, which it is believed can be achieved. The knowledge creation process is based on the researcher's and the participants' interests, beliefs and values. Whilst critics might argue that responding directly to the researcher's values and actions fails to produce valid knowledge, they are asked to consider Dewey's notions of warranted assertions. This suggests that if participants, whose personal interests are at risk, have enough belief in the knowledge they have co-created to be willing to experiment and act upon it, meaningful claims to validity can be made (Levin and Greenwood, 2001). Applying this to this study, I am suggesting that if the student-doctors are convinced of the value of participation in ward rounds, or in their ability to try out strategies devised by the group, they will be more likely to attend ward-rounds, produce audio-diaries,

participate in RLS and focus groups and experiment with goal setting. The claims to validity are then made in the light of the participants' willingness to participate and experiment and their evaluation of the intervention.

Whilst it is difficult to give a brief answer to the question, 'What is action research?' Levin and Greenwood describe core elements of what they call pragmatic action research which seem particularly resonant for this study:

- the research process is context bound and attends to complex real-life problems
- participants and researcher co-generate knowledge through collaborative dialogue in which all contributions are taken seriously
- diversity of experience and capacity within the group is seen as an opportunity to enrich the research process
- the meanings that are constructed lead to social action and reflections on action lead to construction of new meanings
- the credibility of the knowledge generated through inquiry is measured according to whether actions emerging from it successfully address problems and increase participants' control over their experience (2001, p. 105).

3.1.2 Study design

The chronology of events and research design including ethics, pilot study, recruitment and methods will now be explained and the decisions taken justified. Table 1 outlines the forty eight week chronology of the first cycle of the project. The exact nature of the second cycle of the project has not yet been determined.

Table 1: *Chronology of events*

19.01.2011	Research proposal accepted and ethical approval given
06.1.2011-06.02.2011	Pilot
14.2.2011	Focus group pre-intervention
21.2.2011	Reflective learning session 1
28.2.2011	Reflective learning session 2
7.3.2011	Reflective learning session 3
18.3.2011	Focus group 1 post intervention
20.7.2011	Presentation to Deanery Team
12.12.2011	Focus Group 2 post intervention

3.1.3 Ethics

Having confirmed that neither local NHS nor University approval was required, I applied and obtained ethical approval from the Institute of Education in January 2011. Evidence regarding issues of anonymity, confidentiality, the right to withdraw, explanation of research, data storage and voluntary informed consent are provided in appendices 1-3, along with the ethical review form. Two ethical issues were identified and responded to during the research. Firstly, the reality of informed consent within action research is problematic. The organic and emergent nature of action research means that the nature of proposed change is unknown. Change can be disturbing and participants who agree to participate may later change their minds (Meyer, 2000). Acknowledging the need for reflexivity and critique on the potential power relationship between lecturer and student, I was sensitive to the fact that the student-doctors may find it hard to drop out and tried, particularly with the quieter members, to give space, but not to pressurize them into contributing. Following the second focus group, I discussed the ethical dilemma and explained that I wanted participants to feel able to withdraw without feeling pressured. The researcher and participants agreed that anyone who did not respond to future requests related to the study would not be re-contacted, thus allowing anyone who wished to withdraw to do so.

Secondly, the role of the researcher and use of audio-diaries represented specific ethical challenges. The researcher is party both to information about clinical practice and to the student-doctor's role within it. A consequence of this is that the researcher has a heightened feeling of responsibility of care (Monrouxe, 2009). On one occasion, after reflecting on a student's diary, I sought their permission, as described in the student-doctors' information sheet, to discuss the issue raised with senior management. Prior to doing so, I discussed strategies to maintain confidentiality and agreed that the attachment director would send an email to all the teams concerned, outlining what had happened, expressing the view that it was unacceptable and that students would be encouraged to report further incidents.

The involvement of the students and the researcher's role in the study will be returned to in the conclusions.

3.1.4 The pilot study

Four students, with whom I had recently worked, were recruited to the pilot study, using the process discussed in 3.3, which involved them producing audio-diaries and attending one focus group. In addition to testing out the logistics and acceptability of use of audio-recordings, the pilot was used to test out the questions for the first focus group; specifically, establishing whether the questions were clear and eliciting discussion around the areas of interest (Barbour, 2005). Whilst the questions appeared suitable, the importance of an observer and the need to offer some student-doctors digital recorders was identified, as not all had smart phones. When analysing the data, I also considered the following issues related to the power dynamics and my position within the institution:

- Were the group comfortable to discuss the issues with me?
- Were they candid?
- Was I able to re-direct the discussion without appearing to take control?

The group's suggestions on the recruitment email and the timing and venue for the RLS were also solicited, along with their help in recruiting participants to the main study (see recruitment).

3.1.5 Recruitment

Fourth year student-doctors have four five-week clinical attachments, two in surgery and two in medicine. The students in this study were on their third attachment and attached to six different medical firms: respiratory; endocrinology; nephrology; gastroenterology; hepatology and acute and stroke medicine. The clinicians whose firms they were attached to were

unaware of the study. An invitation to participate was sent out via email with an information sheet (appendices 1 and 2) to the sixty-four fourth-year student-doctors based at nearby hospital between February and April 2011. Six students were recruited. Following this poor response, I sought advice from the pilot participants, who suggested they did a brief presentation to the cohort. Following their positive presentation of their own experience, six more students volunteered for the project, although one did not take part. The recruited student-doctors included six females and five males; not quite typical of the cohort which is approximately 60:40. Whilst the student-doctors who volunteered were clearly keen to be involved, they were not necessarily convinced of its outcome. Here SD 4 reflects on her decision to take part:

“Yes I know I was very, the first time we got the e-mail I was very resistant to the idea of getting involved I just because, I knew I didn't get as much out of ward rounds as I could do, but I wasn't convinced that this would help” (SD4 FG2)

3.1.6 Methods

This discussion now moves to consider how the research methods, audio-diaries, RLS and focus groups are congruent with an action research study to justify the decisions made and explain how the methods were implemented.

Audio diaries

Audio-diaries provide an opportunity to focus on observation of complex authentic clinical interactions. The problems reflect context bound real-life problems and reflect on people's experiences of interactions embedded in routine clinical practice. Complexity is made explicit through the questions that emerge about the real life situation related to relational aspects of learning. The background information that the student-doctors see and hear enables them to understand and relate to both the unpredictability and dynamic nature of ward-round learning. By using the students' own experiences, as recounted in their audio-diaries, the problems immediately appear more relevant to other group members and they can then relate what they are learning about to their own ward-round experiences.

Audio-diaries share some of the advantages and disadvantages of interviews and conventional surveys. As with questionnaires, anonymous diaries can foster frank disclosure that a participant might not want to make within the focus group (Robson, 2002). Whereas in an interview or questionnaire participants may rely on memory and be conscious of the politics of what can and cannot be said (Cohen, Manion and Morrison, 2007) these diaries are produced very shortly after the event and produced in and from the participants' local context. Revealing

information about the way they responded in a situation may invoke criticism of colleagues and may be easier to disclose/explore in a diary. Students can say as much or as little as they want about a situation. The challenge of audio-diaries for the researcher is that there is little control over their production and whereas interviews allow opportunity for probing of issues with individuals (Wooffitt and Widdicombe, 2006), it is hard to guide the data. Audio rather than written diaries were chosen as the pilot students felt they would be less onerous and avoid reliance on the writing skills of the participant. They also allow the students to make their diaries contemporaneously (Monrouxe, 2009). Still, this approach relies on participants' prior verbal skills and being comfortable with the medium of audio-recording.

The student-doctors recorded an audio-diary of a specific bedside interaction after attending the ward-round. Using a prompt guide (Appendix 6a), they were asked to report and reflect upon the context, their role and what they learnt from the experience. Where two student-doctors were attending the same ward-round they were asked where possible to focus on different interactions. I listened to them prior to the RLS. Just as Monrouxe (2009) experienced, participation in the recording of diary entries differed both within and amongst individuals (see Table 2). The recordings varied in length from 01:25 to longer discursive recordings up to 15:40 and averaging 6:23. Short recordings often highlighted problems the students were experiencing e.g. arriving after the ward round had already started and resultant frustration. Diaries were recorded on the student's mobile phone or a digital recorder and then uploaded to a secure section of the virtual learning environment. Whenever I received notice of a diary, I would acknowledge receipt by email, thanking them for uploading the recording and occasionally posing an additional question for them to consider before we met. I subsequently transcribed them.

Table 2: Number and frequency of audio-diaries

	Week 1	Week 2	Week 3	Week 4	Total
Student-Doctors					
SD 1	0	1	1	0	2
SD 2	Not available	1	2	0	3
SD 3	1	1	0	1	3
SD 4	1	1	1	1	4
SD 5	1	1	1	1	4
SD 6	1	1	1	1	4
SD 7	1	2	1	1	5
SD 8	1	1	0	0	2
SD 9	1	1	1	0	3
SD 10	1	1	0	1	3
SD 11	1	1	1	1	4
	9	12	9	7	37

Audio-diaries were made in a conversational manner and, on occasion, whilst the student-doctors were engaged in other activities. SD 4 commented that she liked the flexibility they offered and on one of the recordings she can clearly be heard cooking! The research diaries provided a way for the student-doctors to reflect and actively collaborate in the research process. From listening to the recordings, it became apparent that they began the process of reflection alone during the preparation and making of their audio-diaries. My impression is that the recordings appeared to serve several purposes. Firstly, it moved them into a state of readiness to engage in dialogue with others about their experiences, as they actively rehearsed their thoughts. Having time to reflect, appears to have made them more receptive to others' suggestions and perhaps less likely to accept what others were saying uncritically. Secondly, it provided clinical experiences with which they had engaged and this enabled them to make a valuable contribution to the group. It was often clear that by the time the students were discussing the experience in the group, they had already engaged in an internal dialogue and were questioning and challenging aspects of the medical/workplace culture. In this way the diaries foregrounded issues to which the students had not previously attended.

Whilst four students (SD1, 4, 6 and 7) expressed difficulty with making the recordings because they disliked their voice, this did not stop them making them, and others identified ways in which they were beneficial. They recognised their value as a learning tool and believed they were key to the intervention's success. As SD7 said, "The diaries forced us to reflect on what we did learn or what was particularly useful about our morning, thus cementing it in our minds." (Email April 2011). When asked specifically about how they felt about making audio-

diaries, the student-doctors also identified an unanticipated outcome, which was that making audio-diaries was a useful skill development as they would subsequently need to dictate letters etc.

The literature proposes that audio-diaries offer an immediacy in their reporting, allowing experiences to be recalled while they are fresh and in detail (Hislop *et al*, 2005). However, only one student did their reporting close to the ward round, most preferred to give themselves time to reflect, recording the diary later that day or several days later. Even so, the nature of the audio-diary was different from a written diary in a number of ways. The student-doctors described a sense of free flowing unguarded thinking, “that sort of stream of consciousness thing helps to dump all these ideas into a place” (SD2 FG 3). SD3 developed this further, emphasising that perhaps the audio-diaries accessed details that would not have been obtained in a written diary, “I was just able to get those ideas out. I couldn’t have sat down and written that stuff, I couldn’t have done that” (FG 3). This suggests that audio-diaries enabled students to discuss detail and issues that they may have found more difficult to articulate in writing. Equally, in both FGs two and three, the student-doctors described the lack of formality, “I felt we were just talking “(SD5 FG3), and how the fact that it was not crafted in any way was important and made it more honest and free-flowing than a written diary.

Reflective learning sessions

The pedagogical focus of the RLS was to build a community of learners who would engage in critical reflection, the purpose of which was the generation and evaluation of knowledge (Mezirow, 2006; Watkins and Mortimore, 1999). The first intention was to equip the students to understand what they were seeing (the subject matter) in a multi-dimensional and sophisticated way, so that in diverse settings they could view that content from the vantage points of different team members, including the patient. Secondly, to help the students accept and understand more fully the complexity of clinical practice and how that complexity influences their role as learners. Finally, to think about the learning process itself by reflecting on how they were organising, self-directing, and approaching their learning and thinking about the subject matter they were studying (Bruner, 1996; Watkins, 2001).

As I was concerned about the students’ perception of reflection, I planned to refer to them as “active learning sessions”. The RLS involved engaging in exercises and discussing the students’ audio-diaries of ward-round experiences. The discussions were intended to foster critical reflection and to provide students with pedagogical space to develop their own ideas and to make and explore their sense of clinical practice. This follows Brookfield (1998) who proposed

that the educator's role is to enable the learner to reflect on the manner in which values, beliefs and behaviours -previously deemed unchallengeable- can be critically analysed. Complex problems and critical moments arising in the workplace were explored through dialogue, and alternative approaches and explanations contemplated and evaluated. This involved more than the development of skills as it sought to engender the self-reliance needed to cope with the unpredictable and challenging world of clinical practice.

Thus, the RLS adopted a pedagogical approach, which construed learning primarily in terms of developing the students' ability to adapt, to cope with super complexity, 'conditions of radical and enduring uncertainty, unpredictability, challengeability, and contestability' (Barnett and Hallam, 1999, p. 142). To develop this adaptability, the student-doctors needed to recognise the 'super complexity' of clinical practice, where at any time they may be faced with a number of alternative frameworks of interpretation, through which to make sense of the world. For instance, the student-doctor observing the ward-round may see doctors attending to a patient's health, managing resources, acting as teachers; on occasion occupying all these roles within one brief interaction.

Exploration of a more sophisticated range of learning strategies also enabled experimentation with new approaches and monitoring and reviewing their learning. Meta-cognition involves developing self-awareness about processes that help prioritise, plan, implement and self-direct one's own learning (Bandura, 2001). Simple interventions alone, such as explaining about the complexity of the clinical context, are unlikely to have any lasting impact. A key component of meta-cognition involves developing learners' ability to monitor their own learning. Since the development being considered refers to learning (i.e. more than just thinking), the term 'meta-learning' seems more accurate (Watkins, 2001) to describe the goal setting process students engaged in.

Initial themes identified from the analysis of audio-diaries and the first focus group were used to develop the exercises for the first and second RLS. The exercises were designed by the researcher to help the students distance themselves from their experiences so that they could re-consider the problems they were struggling with and re-define and challenge their responses (Altrichter, Posch and Somekh, 2005). They were designed as creative, shared learning tasks that required self and group reflection on different types of knowledge, on ways to participate and on the learning process itself. For example, one exercise required them to identify all the ways they could increase their participation prior to, during and after a ward-round. The rationale was that if they could step back and consider their current approach,

explore why they were behaving in a particular way and consider alternative approaches, it might be possible to make visible other types of knowledge embedded in routine activities (Evans *et al*, 2006), to search and challenge mistaken assumptions and to re-formulate thinking about learning.

The use of collaborative dialogue ensured all students were heard; the aim was that their ideas and opinions would be sought and valued and the participants would respect each-others' contributions. The hope was that students would be engaged and interested in learning. The role of the researcher/teacher was to facilitate or guide learning and not to interfere or control the learning process as with didactic teaching (Hodgson and Kambouri, 1999, p. 182). In this way, knowledge generated within discussion and exercises was actively co-constructed; each participant, including the facilitator, had an opportunity to share and make explicit their own knowledge and question and explore their understanding. An observer was present to look for any areas where the researcher unduly influenced or directed the discussion (see focus groups).

Thus, there was an explicit pedagogical focus on the learning process. The intention was to explore and develop the learners' conception of learning in clinical practice, improve the quality of the ward-round learning experience and increase the likelihood of the students seeing themselves as having greater control over their learning. This approach was built on the premise that the group of students would become a learning and sometimes the focus would be on learning itself (Watkins and Mortimore, 1999). It required sophisticated skills of facilitation, key to which would be reflexivity (see 3.1.8).

In total, three-hour long RLS were held at weekly intervals. Excluding two pre-booked appointments (SD7 and 11), all students attended, although some needed to arrive late or leave early. The RLS and focus groups were set up in a seminar room away from the workplace setting. This was intentional as it was felt to be a safe and familiar learning environment. They were held over lunch time, in the students' own time, and they brought their lunch to eat during the discussion, which helped to create a relaxed atmosphere. This was important as the students needed a protected setting where they felt safe to explore the workplace culture and the challenges to ward round learning. We sat around a large table and on occasion, for example when goal setting, everyone would be asked in turn to contribute. This ensured that quieter group members were enabled to contribute and everyone had an opportunity to think about and set a goal. Each week exercises were completed (see Appendix 7a) and students were invited to discuss their recorded experiences; if appropriate, I might also invite a specific

student to discuss their experience. In this way, students constructed knowledge whilst in dialogue with other students, the facilitator and themselves. Through this process they exchanged ideas, experiences, and explored new ways of thinking in order to re-frame their understanding of clinical practice and how to engage with it. Furthermore, as they gained confidence they became increasingly willing to take risks. An excerpt from RLS2 is shown in Appendix 7b. The outcomes of the discussions are discussed in Chapters 4 and 5 and show how the student-doctors engaged in complex discussions around issues of participation, identity and understanding of knowledge.

During both the RLS and focus groups knowledge was being constructed, however, within the RLS attention was focused on sharing and making sense of experiences, as described in the audio-diaries, and identifying and reviewing the goals set. In contrast, within the focus groups emphasis was on exploring how the participants' understanding of learning and perception of the ward round, and their role within it, changed during the project.

Focus groups

Focus groups are best described as a type of group interview that places particular emphasis on group interaction between participants (Kitzinger and Barbour, 1999). They are designed to provide an opportunity to probe into, and ask carefully selected individuals to share and compare experiences of a specific topic and explore the extent to which they agree or disagree with each other within a non-threatening environment. The group size should be small enough for everyone to feel able to participate and large enough to share diverse opinion across the group. The discussion is based on a topic guide and the researcher acts as the moderator for the group, asking questions, encouraging participants to question each other's responses, eliciting clarification, facilitating and re-focusing the discussion as needed (Wilkinson, 2006). They are useful for exploring knowledge, experiences and workplace cultures and discovering how knowledge operates within a specific context (Kitzinger, 1995). They are frequently used in medical education research (Murdoch-Eaton and Sargeant, 2012; Schaub-de Jong *et al*, 2011; Tallentire *et al*, 2011).

The group process enables participants to listen, respond to discourse and explore and clarify their views about learning in clinical practice. Whilst sole use of questionnaires or surveys would have been less reflective of my epistemological stance, focus groups were chosen rather than interviews for three reasons. Firstly, I believed that the group interaction would produce data and insights, stimulated by other group members, that might not emerge in one-to-one interviews (Krueger and Casey, 2009). The students, at this stage, did not know me well and

might have viewed me as in a position of authority. Secondly, it gave the group an opportunity to come together before the RLS and allowed me an opportunity to observe group dynamics. Thirdly, there were pragmatic issues of time relative to individual interviews; the group were only locally based for a total of five weeks.

It is not the intention for the moderator to participate directly in the evolving discussion. Focus group moderation requires excellent group facilitation skills (Krueger and Casey, 2009). There are requirements to listen actively, respond effectively to dominant and quiet group members, keep the group on task and establish and maintain a supportive environment. Any interjections have four purposes: to pose initial questions; to probe for more details; to clarify and to ask if everyone agrees with specific points.

Critiques of focus groups point to a number of difficulties. These include the public nature of discourse inhibiting some speakers, the difficulty of exploring individuals' stories in depth, the need to ensure equal participation and ensure everyone is heard, requiring the moderator to cover the same issue several times, and, in comparison to interviews, the limitations on the number of topics that can be covered (Barbour, 2005; Krueger and Casey, 2009; Stewart, Rook and Shamdasani, 2006). The researcher needs to be alert to each of these difficulties in the planning, implementation and analysis of the study. When planning the focus groups, I included strategies such as rounds to try to ensure everyone had an opportunity to be heard, whilst at the same time remaining alert to the fact that repeated discussion of issues might limit the range of discussion and become repetitive. The third focus group was run by R2 again in an attempt to encourage participants to feel able to discuss issues more openly.

Three focus groups were held (see appendices 4 and 5) lasting on average 75 minutes; their purpose was to explore how the student-doctors' understanding of learning on the ward round, and their role within it, changed during the intervention. The first and second were attended by all eleven participants and an observer and occurred the week prior to and after the first and third RLS (see Figure 1). Whilst I (R1) ran the first two, the third was run by a junior registrar (R2,) who acted as observer for the RLS and the first two focus groups. R2 was chosen as she approached me expressing an interest in being involved in the study; she was keen to learn more about both the research method and the student-doctors' approach to learning. As the observer she was tasked with making notes about the person speaking, significant non-verbal behaviour and expressed or non-verbal agreement and disagreement. This was then discussed immediately afterwards as part of the initial analysis.

We met immediately after each of the three focus groups. During these de-brief sessions the recording was checked and issues that might affect the analysis were discussed. This included feedback on the moderator, dominant and quiet group members, thoughts on what had been successful or otherwise and the reasons for this. Whilst R2 did not have an observer, we met immediately after to reflect on these issues.

The third focus group sought the students' views about the study's outcomes eight months after the study. The students were aware that this study formed part of my doctoral work and knew therefore of its importance to me. Whilst R2 was familiar with the study and the students, her personal investment in the project was minimal and it was hoped that the students might feel able to be more candid if I was not present. Only five of the eleven students attended, although three others sent unsolicited emails outlining how they had benefitted from the project. Figure 1 illustrates the first cycle of the project which spanned 48 weeks and included three RLS, three focus groups and a presentation by the student-doctors to the deanery team.

Figure 1: *Research Cycle*

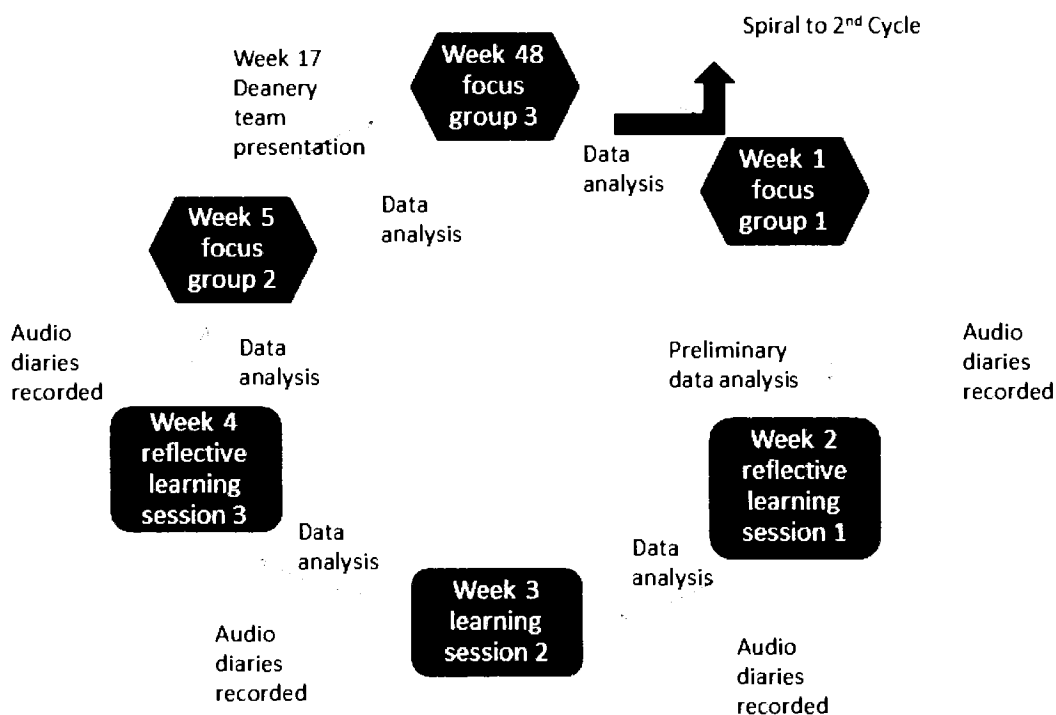


Table 3 gives details of the participants and who attended which activities.

	Gender	Age	FG 1	RLS 1	RLS 2	RLS 3	FG 2	FG3
SD 1	F	22	√	√	√	√	√	x
SD 2	M	22	√	√	√	√	√	√
SD 3	M	22	√	√	√	√	√	√
SD 4	F	22	√	√	√	√	√	√
SD 5	M	22	√	√	√	√	√	√
SD 6	F	22	√	√	√	√	√	√
SD 7	F	22	√	x	√	√	√	X*
SD 8	M	23	√	√	√	√	√	x
SD 9	F	22	√	√	√	√	√	Email
SD 10	M	22	√	√	√	√	√	Email
SD 11	F	22	√	√	√	x	√	Email*

*Have subsequently helped prepare and co-present presentations (see 6.1.1).

Table3: *Details of participants and their attendance*

The methods and the choice of action research reflect my epistemological understanding that social reality is constructed, sustained and reproduced through engagement with the world in a continuing process (Crotty, 1998). There are therefore multiple realities which are collectively generated over time. The learning experience on the ward-round is therefore not an objective reality; it is fashioned and constructed by its participants who are part of its history and the social context on which they depend. The social world of the researcher and its participants is not value free. The participants themselves, including the researcher, will "accumulate, organise and use complex knowledge in everyday life" (Greenwood and Levin,

2007, p. 4) and will have the knowledge, experience and ability to understand and address the issues confronting them (Brydon-Miller, Greenwood and Maguire, 2003).

Having explored and analysed the coherence of my epistemological stance, methodology and methods with the research question, this discussion will now address data analysis and how reflexivity on the researcher's role was attended to. Finally, the criteria used to judge the quality of the research will be explained.

3.1.7 Data analysis and interpretation

Thematic analysis will be used this is "a method for identifying, analysing and reporting patterns (themes) within the data" (Braun and Clarke, 2006, p. 6). It potentially offers a rich, detailed and yet complex account of the data. Thematic analysis is not a passive process; the researcher takes an active role and identifies themes by selecting those of interest and reporting them to the reader (Kitzinger, 1995). This process involves making decisions about the focus of the analysis; what makes a theme significant; whether to focus analysis on specific data sets or to provide a description across the data sets and whether to be driven by a theoretical or more inductive approach to data analysis (Braun and Clarke, 2006). With an inductive approach, the themes are strongly related to the data themselves, whereas with a theoretical approach, the researcher uses a pre-existing coding frame driven by the researcher's theoretical interests and/or analytic preconceptions (Joffe and Yardley, 2003).

The data corpus was made up of audio recordings and transcriptions of three focus groups, three RLS, thirty-seven audio-diaries my researcher diary and student emails. The focus of the analysis was on how student-doctors made sense of both their learning experience on the ward round and their experience of participation. It then considered how the broader social context impinged on those experiences and whether the intervention better supported their understanding of the ward-round as a learning experience. Thus, themes were identified, as proposed by Braun and Clarke (2006), if they seemed to capture something of importance to the research questions. Therefore, whilst frequency and prevalence of issues within the data were considered, they were not key determinants. As this was an under-researched area, the intention was to produce a rich thematic description across and from each data source to enable the reader to see predominant themes. An inductive approach was used for analysis of the first and third research question. For the second research question on the nature of participation a more theoretical approach was adopted using Dornan and colleagues' (2007) sub categories of participation (see 1.8 and Appendix 8d) to provide an initial coding framework.

Using an adapted version of Braun and Clarke's thematic analysis framework, five steps were followed as shown in Table 4.

Familiarise yourself with the data	<p>Repeatedly listened to recordings</p> <p>Audio-diaries</p> <p>Focus groups</p> <p>RLS</p> <p>Produced transcripts</p> <p>Re-read transcripts to search for patterns</p> <p>Marked initial ideas</p>
Search for sub themes	<p>See Appendix 8b</p> <p>Collated all relevant data within sub theme</p> <p>Related emerging themes back to original transcripts</p>
Identify main themes and sub themes and all data relevant to them	<p>Identified 6 themes, 3 related to process and 3 to outcomes.</p> <p>Outcome</p> <p>Changing understanding of knowledge</p> <p>Changing nature of participation</p> <p>Developing learner identity</p> <p>Process</p> <p>Facilitating critical reflection</p> <p>Goal setting</p> <p>Sharing and affirming experiences</p>
<p>Review themes</p> <p>Verify them against the data</p> <p>Question if they are explicit?</p>	<p>Questions I asked (Altrichter, Posch and Somekh, 2005)</p> <p>Have the data selected focused on central issues?</p> <p>Does the interpretation explain the data satisfactorily?</p> <p>Have I searched for evidence to refute these claims?</p>
Define and name themes	<p>Describe the content and scope of a theme in a couple of sentences</p>

Table 4: Analytic framework used for thematic analysis adapted from Braun and Clarke (2006)

Evidence for some of the stages is identified below.

1. Familiarise yourself with the data

Appendix 5 shows a transcript of focus group 1 with initial ideas marked

2. Identify sub-themes

Identity as learner and relevant collated data is shown in Appendix 8c

3. Main themes and sub themes are shown in Appendix 8a.

Although presented as a linear, successive procedure, the research analysis was an iterative and reflexive process with data collection and analysis stages undertaken concurrently.

Students were involved in the analysis in three ways. Firstly, each week the students worked on an exercise within the RLS. I would amalgamate their flip charts to produce a mind map that encompassed everyone's contribution (see Figure 2 and 3). These would then be discussed and amended at the start of the next RLS. Secondly, students were sent copies of their transcripts and asked to comment on the data (see end of email to students, Appendix 10). Finally students were sent draft power point presentations prior to conference presentations and asked for their comments. Whilst I was alert to power relationships and the fact that any agreement might be fragile or temporary (Altrichter, Posch and Somekh, 2005), those who did reply were in agreement with the analysis; however I cannot assume that those who did not reply might not have wanted to express differences.

When considering how RLS facilitated critical reflection, there was one additional step to this process. As this was about my facilitation, I wanted an additional perspective. Having initially identified the themes within the three RLS, I asked R2 to analyse RLS 2 independently. We then discussed areas of disagreement to reach consensus. Discussion of broad areas of agreement helped us to enrich the analysis through jointly defining emerging strategies.

Practically, this process was initially begun within NVivo (Richards, 1999). I felt that using NVivo would make the analysis more visible and more transparent. Whilst NVivo facilitated closeness to contextual information about the data, I felt the coding process became mechanical, even boring, and that I did not engage conceptually with the data. One example being that although I knew the tree of nodes was not hierarchical I began to perceive it as such. I also found the software too constraining, placing too much focus on prevalence and frequency of nodes. After analysing the audio-diaries and first two RLS, I reverted to large flipcharts and cutting and sticking sections of the transcript. This allowed me to move codes around, to engage in synthesis and abstraction, whilst being able to see the whole picture and was thus generally more efficient. Whilst feeling old fashioned, this allowed me to be both

close to the data and to achieve analytical distance (Gilbert, 2002). Having since read the excellent article by Auld et al (2007), in which they highlight the importance of training, I believe my experience was related to a small data set and lack of training in the capabilities of the software.

The identified themes have been used to structure the findings and discussion and the analytic process is evidenced in appendices 8a-8f. A key part of this analytic process was my researcher diary.

3.1.8 Researcher's diary

I used my audio-diaries as a historical record of the project, recording diaries after each RLS and focus group and other key moments such as supervisions and research presentations. By audio-recording the diary, I was attempting to mirror the students' own experiences. This helped me understand not only that it was time efficient, but also that I too was not always sufficiently disciplined to do it immediately after the sessions.

My diary was used as a means of collecting data for recording the analytic process and it became a companion to the research process itself (Koshy, 2005). Drawing upon Finlay's (2002) eloquent exposition on the opportunities and challenges in reflexivity, I identified four guises of reflective thinking within my handwritten notes and audio-diaries. Firstly, inter-subjective reflection; these included my beliefs about ward- round learning, my thoughts about complex relationship dynamics, and the context and conditions of the RLS. In this I commented on and analysed the groups interactions, the degree to which participants were talking to each other and whether they felt able to debate ideas and offer opinions. Secondly, notes on the participative relationship, such things as unexpected interactions (for instance conversation with SD7 at the foot of the stairs about to what extent I had shaped their responses). Recording unplanned events was vital to further understanding. Thirdly, by tracing the analytic memos, I could see reflexivity as social critique. I explored how our views about power, both mine and the student-doctors', shaped our identity and the choices we made about participation. Fourthly, notes on my perceptions and developing insights across the research process, the contradictions and debates about methodological processes and the researcher's role, and the complexity of the project itself, highlighted my development as a researcher. In this way my diary was part of both reflection and analysis (excerpts are shown in Appendix 9).

3.1.9 Quality of research

Reason and Bradbury (2001) suggest that in seeking to evidence quality of research, the action researcher needs to ask questions and articulate discussion around five choice points. The first is related to the quality of participation and addresses issues of interdependence and empowerment. The second concerns the practical outcome – did this make a difference? Whilst accepting the complexity of defining utility or helpfulness, they refer to the need to distinguish between technical, practical and emancipatory outcomes and between single- and double-loop learning. The third considers whether different ways of knowing have been integrated, and whether methods are congruent with action research. The fourth choice relates to the value of the work – is this work important? Finally, they challenge the researcher to consider the sustainability of the project into the future and whether it will influence related work.

Within this discussion, I have endeavoured to open up the different aspects of the research design to scrutiny, in order to demonstrate both the academic rigour which underpinned the design and implementation of the research process and the manner in which the study was undertaken. Whilst I have endeavoured to address issues of participation and to show how the methods are congruent with action research, the outcomes will be addressed in Chapters 4 and 5, along with further evidence for how different ways of knowing have been integrated. The value and sustainability of the project will be considered in Chapter 5 and the conclusion of the study.

4 The Story of the Reflective Learning Sessions

Within case-based and experiential learning, student-doctors are expected to plan and self-direct their learning. However, research is suggesting that they feel uncertain about how to transfer these skills in clinical practice (Daelmans *et al*, 2004; Dornan *et al*, 2007). The following discussion is intended to portray the rich contextual detail of what occurred in the RLS, the themes that emerged and to explore the complexities and contradictions of interaction, so that readers can consider the relevance of the findings to their own specific context (Altrichter, Posch and Somekh, 2005).

The first RLS focused on complexity of ward-round interactions, learning affordances and additional dimensions of learning. RLS two focused on how the student-doctors as learners could access learning affordances. Finally, RLS three responded to the student-doctors' diaries, often only identifying one or two from several potential learning points and sought to highlight specific learning and further develop goal setting.

Initial analysis of the types of issues raised by the student-doctors within their audio-diaries was helpful, both in pointing to the factors that influenced their understanding of knowledge, teaching and learning and in considering how to explore further the nature of the student-doctors' participation on ward-rounds during the RLS. They are ranked in order of frequency mentioned:

- Medical knowledge (18)
- Confidence in their role as learner(13)
- Complexity in ward-round learning (12)
- Doctor-patient relationships (4)
- The impact of context, power and emotional response to professional communication (4)
- Team-working (4)
- Emerging role as a professional (4)

The emphasis on lack of confidence, the complexity of ward-round learning and its effect on negotiating access to the ward-round that emerged in the early audio-diaries, surprised me. This then defined the starting point for the RLS which became to explore the learning

opportunities on the ward-round, factors that created barriers to their access and possible solutions.

Data from the focus groups, audio-diaries and RLS sought to address questions which considered how the student-doctors understanding of knowledge, learning, and their role had changed. The audio-diaries explored what the student chose to focus on, the nature of their role and whether it changed. The RLS specifically considered both whether there had been a change from when they had produced the audio-diary and by analysing their goal setting whether they were changing their level of participation. Analysis of the focus of the audio-diaries (Appendix 6b), RLS and focus groups identified three overriding themes that enabled the student-doctors to learn through participation on ward-rounds: changing understanding of knowledge in professional practice; changing nature of participation and developing identity. This discussion will now illustrate how these themes were explored by presenting an account of the RLS. It will then use examples to illustrate the process themes: facilitation of critical reflection in action; goal setting and sharing and affirming experiences.

4.1 Changing understanding of knowledge in professional practice

The student-doctors explored how knowledge was distributed within the ward-round and specifically how communication with the patient and team and the rules of engagement were part of what was being learnt.

At the start of the project, the student-doctors had minimal expectations of the ward-round, attending because they felt it was a requirement and not because they felt they would learn from it. This negative and fatalistic perception of the situation seemed to both emphasise their low self-efficacy (Bandura, 2001), their belief that they had no control over the situation and that they were in some way being failed by the organisation:

SD4: Do you turn up to a ward-round knowing you're going to learn something or

SD1: Oh no no (several nod in agreement)

SD3: To be honest I don't ...which is why I didn't turn up to many because I go there knowing I'd get very little out of it

SD8: I think sometimes I go just so that the consultant can see I've turned up (FG1)

For some, such as SD 8, ward-round attendance was about attending to the discourse of performance (Watkins, 2001); he believed that his attendance was part of how his performance would be assessed and that if he did not attend he might be compared less favourably with colleagues. The choices student-doctors make about their learning are rooted

in their prior experiences of learning, their educational trajectory and their understandings of the institution's expectations (Bandura, 2001; Billett, 2011; Evans, Waite and Kersh, 2010).

Few of the students appeared to have questioned whether they were learning effectively or whether they should try alternate approaches to learning on the ward-round. Their focus was on adding to their accumulation of codified professional scientific knowledge (Eraut, 1994) or medical facts that could be assessed, rather than enriching their understanding of medical practice:

We're being examined, examined on the OSCE⁴, and the pathology and whatever, so that's what we need to know for three years (SD10 RLS1)

Medical culture and medical education have been transformed over time and their problems and possibilities need to be understood in the context of their history (Mezirow, 2000). I wanted the student-doctors to consider where their challenges had emerged from; how the structure of medical teams had changed; how perhaps procedures employed previously no longer worked as effectively and how this had challenged the apprenticeship model of learning. For this reason, I began the first RLS with a brief discussion about what they understood about apprenticeship and how the changes in team working and patient population were challenging this traditional approach. Within this, we also briefly discussed how ward-rounds themselves had changed and how the traditional teaching round, that was the model of practice they were expecting, rarely occurred (see Appendix 5 for data describing absence of teaching on ward-rounds).

This five minute discussion was immediately followed by an exploration of one of the student's audio-diaries, described by him as a boring ward-round during which he had learnt nothing. I had asked him to think about what he had learnt about management from observing the round. In this way the group began to create and recreate meanings about their ward-round learning (Dewing, 2010):

R1: Can you can you just say a bit about what you did record?

SD10: Ok so essentially I was on a, an SpR⁵ led ward-round with a FY2, an F1⁶, a nurse, and then me and another stage 1 student, and the SpR, the ward-round was

⁴ OSCE objective structured clinical examination. An exam using patients or role players to test students' examination and communication skills.

⁵ A Specialist Registrar (SpR) is a senior doctor undertaking advanced training in a specialist field in order to become a consultant.

⁶ A Foundation Doctor (FY1 or FY2) is a junior doctor undertaking the Foundation Programme - a two-year, general postgraduate medical training programme which forms the bridge between medical school and specialist/general practice training.

going very, very slowly because the SpR would see the patients for a few minutes and then want to do all the tasks herself. ...the F1 and the F2 were basically irrelevant...not doing very much and, and that's why the whole ward-round was taking so long...I mean in an hour and a half I was there I saw maybe 5 or 6 patients, and yeah you could speed it up without losing any sort of any, any decency in the quality of care by delegating. So it was more understanding for me how to be a, a team leader in that respect and delegate. (RLS1)

In this interaction SD10 identified forms of knowledge related to the doctor's role as manager and teacher. He recognised that the registrar's management failure to delegate was inefficient. I extended this further by suggesting that this is also relevant to knowledge about the role of the teacher, pointing out that she may have demotivated her team and limited the other team members' opportunities for learning by denying them the chance to participate in practice:

R1: Actually that you learnt something about the fact that how disengaged her juniors became

SD 10: Yeah

R1: was stopping them from learning because they weren't actually doing the kind of roles

SD 10: Yeah that's true (RLS1)

By taking an apparently routine and mundane interaction and exploring the implicit knowledge, the group questioned the relation between what the registrar did, what happened as a consequence and what could be learnt from this interaction. We also discussed how the registrar's behaviour impacted on the other team members and what roles as a doctor she did not appear to be addressing.

Whilst the propositional or formal knowledge is important, it is only one form of knowledge available to be learnt. The students were also learning about role performance: prioritisation, delegation; supporting others' learning and the supervisory role (Eraut, 2000). From this, we began to explore what other kinds of knowledge were being learnt on ward-rounds, recognising that medicine is more than academic knowledge; when medicine is understood as practice, knowledge cannot be separated from the practical tasks and contexts in which it is used:

R1: Clearly there's the academic knowledge what other kinds of knowledge can you learn from ward-rounds? (RLS 1)

This question triggered a group activity. For thirty five minutes the student-doctors worked in three groups discussing anything they could possibly learn about on a ward-round and documenting this on flip charts. Between RLS 1 & 2 R1 amalgamated all their ideas into a mind map (see Figure 2). This activity served a number of purposes. Firstly, it continued the

construction of knowledge, begun in focus group 1, about the need to engage in the ward-round to learn about medical practice. There was acknowledgement about the value of seeing real patients both to apply knowledge, to see specific signs and symptoms and to identify patients to return to. Secondly, it highlighted how knowledge is far less about core medical science than anticipated and is embedded within routine management of patient care. Furthermore, it acknowledged the power of the clinicians in shaping what they attend to. Doctors too may be basing their assessment of what the ward-round offers on their own belief systems about types of knowledge and teaching, beliefs which traditionally in medicine have prioritised core medical science and assessment. This will be re-visited in Chapter 5.

SD4: There's not very much about the sort of pre-clinical science stuff that we've spent the last three years doing now, it doesn't seem to be most of what we learn on the ward-rounds

SD2: They think you should be on a ward-round so that you can, you know, learn bits of science and follow patients and so on, actually, you know that's just a small corner of what we've got here (RLS1)

Thirdly, it began to point to aspects of medical culture: the nature of medical communication; the team hierarchy; the rules of engagement and the possibilities for student-doctors' participation. Through discussion about the ward-round, the students were seen to begin to explore what they had previously taken for granted and to question aspects of medical practice.

Dialogue was used to explore the relevance of learning from day-to-day interactions on their future role as doctors and to connect more fully with, or rediscover, existing knowledge. In this way the student-doctors began to recognise that by considering they attended the ward-round to learn only core medical knowledge, they were significantly limiting their opportunities to learn. Knowledge was distributed within each member of the team, within the tasks they undertook and what and how they communicated. Furthermore, the importance of tools for learning such as the drug chart and the medical notes were also highlighted. Thus Lave and Wengers' (1991) seminal concepts of COP and legitimate peripheral participation have immediate relevance for this study. This more complex and multidimensional understanding of knowledge distribution, being both within the activities and the team members on the ward-round, was continued with discussion about teams.

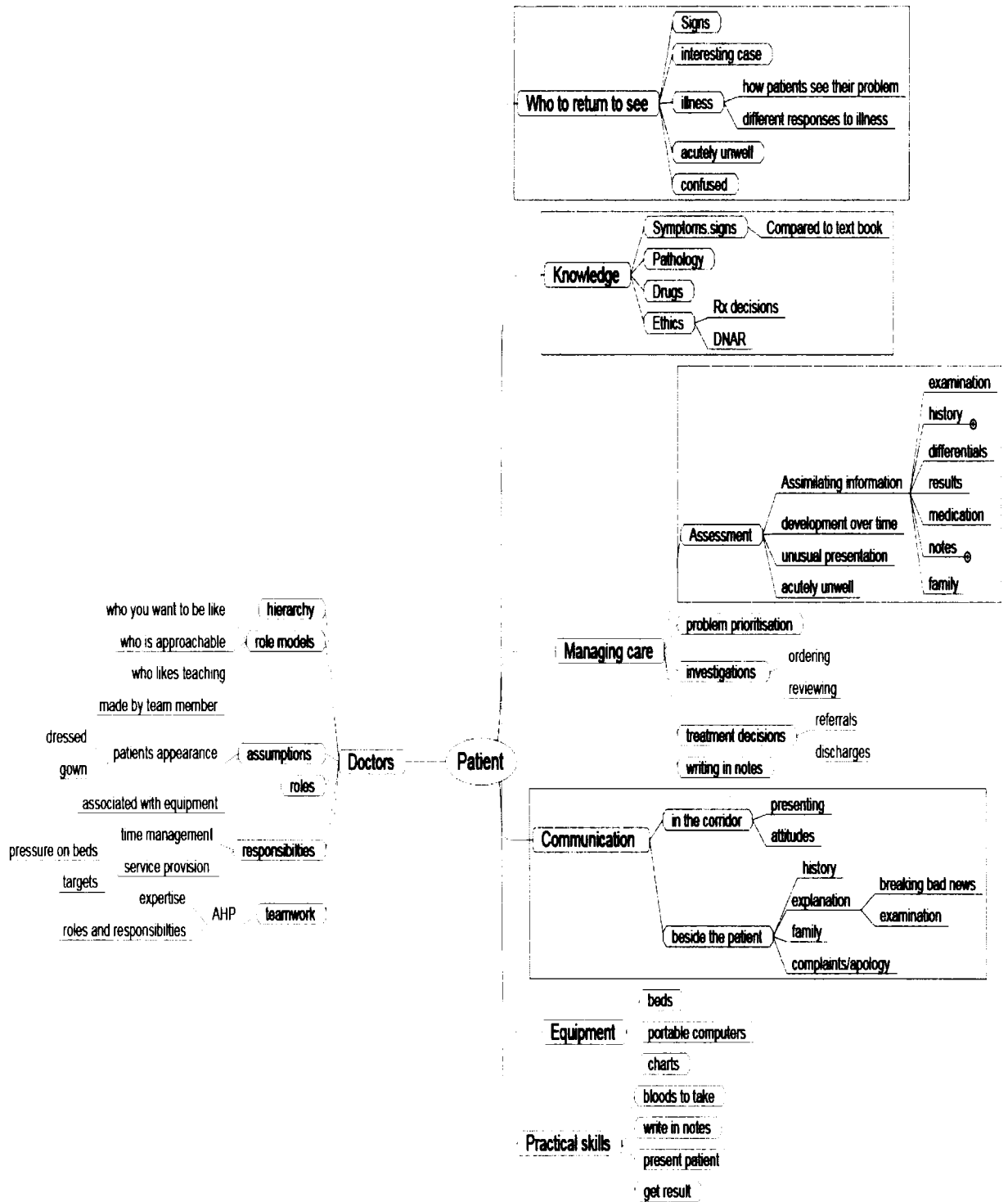


Figure 2: Outcome of RLS 1. A mind map amalgamating all the student-doctors' ideas about what could be learnt on a ward round.

Within any team or COP there are always multiple points of view, traditions and interests. The different roles team members occupy mean they will attend to different things and this attention will also be influenced by their own socio-cultural history (Wenger, 1998). Within the team itself and the culture of the medical profession, there are certain rules and conventions of which not all team members will be aware. This makes for a very complex learning environment in which many activities require translation and negotiation. Enabling the student-doctors to consider how knowledge was distributed within the ward-round, involved considering the experiences from the vantage points of the patient and the interdisciplinary team.

4.1.1 The effect of context and power in medical communication

Here SD4 feeds back on the activity in Figure 3 and reflects on how she has noticed that the doctor/patient interaction can sometimes position the patient as a bystander, and questions what purpose, if any, the ward-round serves for the patient:

We've also got sort of how the doctors communicate with patients and how they let the patients talk back or whether the patients are actually involved at all. ... yes all the doctors are sort of stood round the patient's bed but they could just as easily have the conversation they're having in an office because the patient isn't saying anything (SD4 RLS 1)

This discussion highlights the student's acknowledgement that assumptions are being made both about the patients' and doctors' positions. The context, several doctors and students standing around patients' beds discussing them as though they were not present, functions in powerful ways to foster and maintain unequal power relations (Fook, 2002). This issue of unequal power relationships will be returned to in Chapter 5.

The students also described observed role models who showed they cared about patients, communicated effectively and considered the patient holistically. Discussions related to breaking bad news and lifestyle changes, in patients whose health problems were viewed as 'self-inflicted' and were acknowledged as often complex and difficult:

It was difficult communicating with her. She was quite anxious, she didn't seem like the patient to talk but she did keep asking about having this liver transplant. I think she recognised that a new liver was her only way out to recover from this but the doctor was pointing out quite firmly but in a very fair way how this wouldn't happen if she was still drinking alcohol. (SD3 AD Week2)

Students questioned whether it was possible to learn from poor role models and this questioning continued when discussion moved to the subject of corridor conversations and

what could be overheard. These discussions differed drastically from the students taught, often idealistic, imperatives of confidentiality and created a feeling of unease and tension within the individual students who experienced these conversations:

You know you've got a patient who is an alcoholic walking down the corridor 'oh my God we'll send him home and he'll be back drunk again. (SD 5 RLS 1)

In this way the discussion highlighted the culture of healthcare, questioned whether this was acceptable and pointed to the complexity of medical communication. Reflecting further on the differences between what was said in the corridor among the doctors and what was then said to the patient, the student-doctors began to realize that the doctors' own medical culture, (where they positioned themselves, what was said, the phrasing of the interaction and the conflicting content between corridor and bedside), were all part of what they were learning:

You know they were having a joke about ...one of these patients who you know, he's not stopped drinking but they were saying "Oh yeah he's gone from four bottles of spirits a week to one that's good isn't it. You know in a very ...sarcastic manner. Then at the bedside of course you just kind of talk about what you can do for the patient so I think it's quite controversial (SD2 RLS1)

In this statement, SD2 shows a sense of unease with the practice he has observed, pointing to the way these experiences are also shaping the student-doctors' own professional identity; this will be returned to in 5.3.1. For the student-doctors, there is no discussion during the round about what has occurred or why; the RLS offered an opportunity to voice and explore these complex interactional events and acknowledge new forms of knowledge. Further moments of discomfort were described which related to team-work.

4.1.2 Team-work

Working as part of an interdisciplinary team is a central requirement of medicine and one which can be observed within ward-round interactions. Central to interdisciplinary collaboration is the notion of effectively working together, cooperatively and harmoniously for the benefit of the patient. This does not eliminate conflict but does focus on consensus (Easen, Atkins and Dyson, 2000). The students remarked several times on difficult moments with nursing staff:

The consultant was ...asking the nurse "why is he on this, what's going on, why would you give her that?" ...In a kind of quite an accusatory way, when it presumably it's not going to be her that put her on that and then kind of after he read a bit more he was like "Oh, actually maybe it would have, maybe that was the right thing to do" and he didn't sort of say sorry (SD5 RLS1)

You can have an awful moment ...with the consultant who just goes 'Where's my nurse? Why aren't they here now?' ...just lacks the respect (SD4 RLS1)

The first example shows classical reasons for a breakdown in communication between the nurse and doctor and points to the centrality of working effectively with others (Wenger, 1998). Here language and assumptions about roles and responsibilities were not shared. There was a difference of view over the nature of the intervention required and who was responsible for it. The prescription would have been made by a doctor and yet the nurse appeared to be being blamed for the action again showing a lack of respect, this time towards the nurse. Within RLS 1, I encouraged SD5 to think what might have been the impact of this interaction on the nurse and on patient care by asking him to consider how the consultant's response may have affected her and her ability to perform her role. In this way we discussed how they needed to critique what they were seeing, consider the impact of failure to communicate effectively and question the value of such an approach. Amongst these complex interactions, student-doctors are also learning about the culture of medicine and its unwritten but significant rules.

4.1.3 Learning the rules of engagement

The ward-round represents a ritualistic practice and by attending to and reflecting on their experiences, the students articulated a number of rules for engagement. They have learnt that as student-doctors they are expected to attend ward-rounds. Through attending this activity they learn that even though team members may not know each other, they understand the routine, know their roles and responsibilities and who is in charge. This relates not just to roles but also to who can speak to whom, when it is permissible to speak and the importance of understanding these things. It is interesting that this was actually the first type of learning the students identified when reporting on the first group activity:

The hierarchy within the team and you learn sort of about responsibilities of the team of what they can say and what they can't say to different people. And, you know, when do you bother the registrar to come and do something, when we get in trouble for doing that sort of thing, which is it, is not relevant to sort of the actual treatment of the patient but is relevant to how you get on with your team and can have a substantial effect on, on, on your life. (SD2 RLS1)

There are unwritten laws about the ward-round there are things you don't do. You know you don't interrupt the consultant and all that sort of thing (SD3 FG2)

With regard to roles and team work, they became aware that if a team member is absent then everyone below them moves up one position. Here SD 3 discusses a time when there was no junior doctor and so he was expected to take on his role:

Physically writing in the notes, which I haven't done before, and it was a challenge because it was just the SpR and I was having to write down what I thought he wanted me to write down (SD3 RLS3)

This exemplifies one of Wenger's (1998) identifiable styles unique to the COP; there was an expectation that the student-doctor would know, with very little discussion, to take on the role. That engagement in the task not only gave rise to joint accountability, but also enabled the student-doctor to engage legitimately in and contribute to the routine activity. In this way they rehearsed the role of the doctor, temporarily became part of the COP and through participation transformed their understanding of their role and responsibility.

They learnt that with regard to teaching and learning, every team member has responsibilities and can be expected to ask or answer a question or examine the patient at any time. In this way they are aware they should be engaging in dialogue as part of the learning process. They accept that although they may be ignored, they are visible, may be asked to perform at any moment and will be held to account. They learn that this sense of uncertainty is part of medical practice and learning to cope with this is a necessary requisite in their role as a doctor.

Such complex interactions are difficult to respond to within the speed of the ward-round and yet are key moments of clinical interaction that will begin to shape the student-doctors' sense of identity. Opportunity to explore their feelings and reactions, to explore alternate perspectives and to discuss these experiences with others, enables students to use these feelings and reactions to decide how they might act (Fook and Gardner, 2007). Without such opportunities, these significant learning moments may be lost. As educators we need a better understanding of how these uncomfortable moments in clinical practice contribute to the student-doctors' sense of identity and to their understanding of professional practices (Monrouxe, 2010); this may be a potential focus for the second cycle of the research.

Feedback from the student-doctors highlighted both their increased awareness and understanding of the different types of knowledge that now informed their learning. They demonstrated that they had become more aware of other forms of knowledge including: ethical, communication, teamwork issues, roles of the doctor, medical culture, in addition to the more explicit sources of knowledge such as core medical science. Understanding these forms of knowledge as relevant learning within professional practice seemed to have a

significant impact and gave direction to the student-doctors' attempts to participate in the ward-round:

I think the audio-diary ...has been quite useful I went on a ward-round this week which initially I wouldn't have said was a particularly good ward-round but actually I was thinking that one of the patients I saw was quite an interesting ethical case which I've given a bit of thought to now which I probably wouldn't have done (SD9 FG2)

If the students are to become doctors, they need to be socialized into how doctors think and learning the rules of engagement is a key part of this (Mezirow, 1997). These rules, applied in subtly different ways and in different contexts, will remain relevant to most ward-rounds they attend. Understanding these rules is central to helping the student-doctors shift from being passive to active participants on the ward-round. This will be returned to in Chapter 5.

4.2 Changing nature of participation

Having reflected on the complexity of clinical practice in RLS 1, the student-doctors then moved on to consider how that complexity influenced their role as learners. Within the second RLS, the discussion moved from exploring the possibilities for learning to considering how they could access them. Working again in three groups they undertook a similar focused group activity. This time I asked, "What are all the things you can do to get more involved before, during and after the ward-round?" Their documented ideas were once again amalgamated into a mind map (see figure 3). The result was that students began discussing amongst themselves the sorts of opportunities and strategies that supported participation and how they might actively participate.

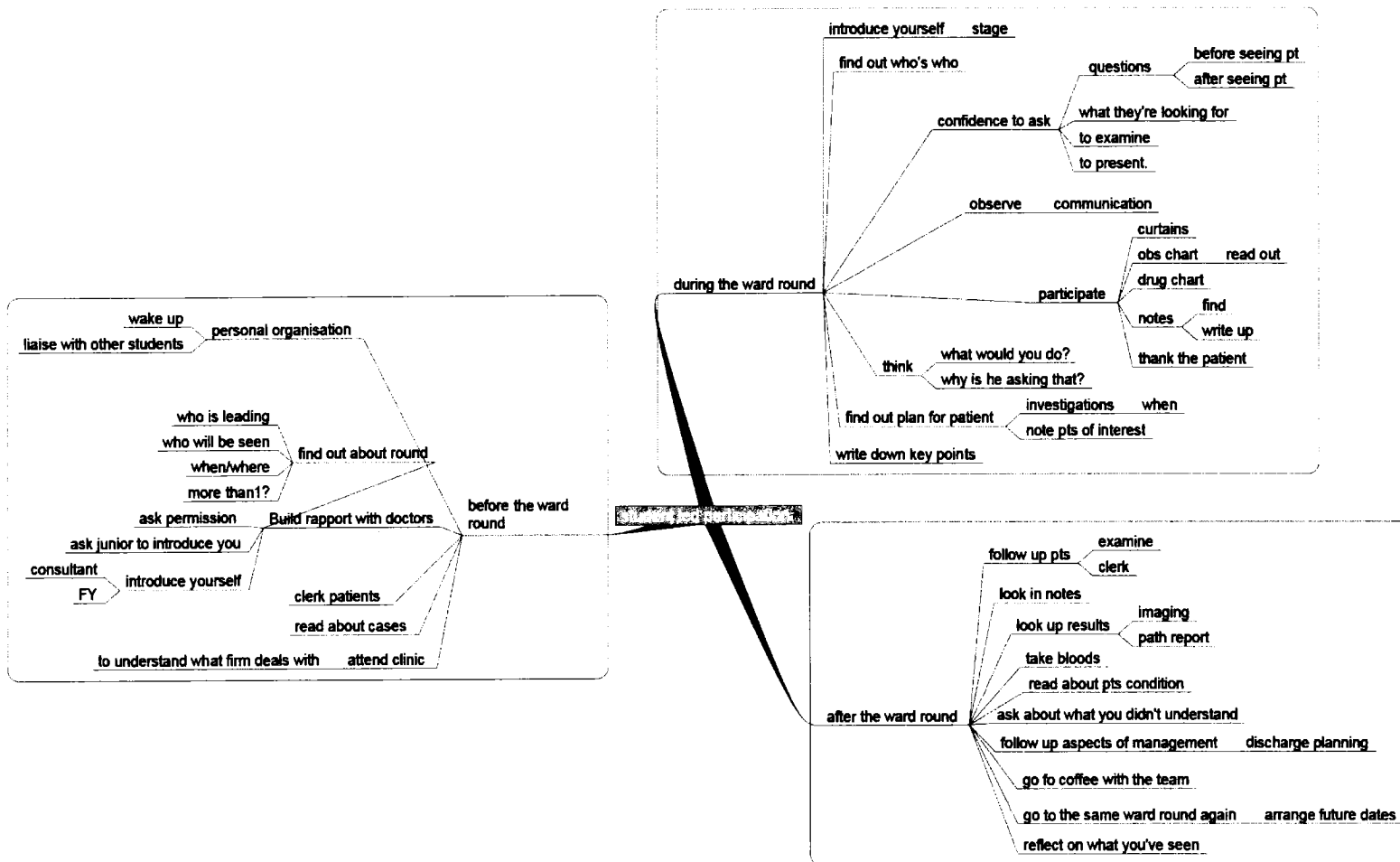


Figure 3: Outcome of RLS 2. A mind map amalgamating all the student-doctors' ideas about how they could become more involved on the ward-round.

At the outset of the project the student-doctors were uncertain how to access the ward-round, to position themselves in ways to make a useful contribution and how to self- direct their learning. Dornan et al (2007) identify participation as the root of learning in the CW. Using Dornan's three way classification of participation (passive observer, active observer rehearsing the role of the doctor), I encouraged the student-doctors after each ward-round to consider what role they had undertaken:

SD5: but you might just be standing watching.

R1:.... but you are engaged, you are thinking about what you're seeing as you're watching, you're asking yourself questions you're making notes.

SD2: I suppose the problem is it just doesn't feel like being active. Sure you might be writing things down but you don't feeling engaged even if you are a bit. What feels good is having something to do being able to contribute. (RLS2)

4.2.1 Forms of participation

Whilst Dornan et al's roles are not defined in detail, they suggest that passive observer takes no active part and active observer includes interaction e.g. surgeon discussing the case with a student and actor in rehearsal involves replicating the actions of a doctor purely for learning. The student-doctors were encouraged both to think about how they interpreted these definitions and the role they undertook. Here we are debating what makes for passive and active observers.

This process itself seemed to trigger the student-doctors to think more carefully about their role:

It forced me to think about what was going on ...it's a case of you've got to turn yourself on, pick out the bits that you need to know, because I was passively just watching the ward-round, thinking this is boring, when's lunch (SD10 FG2)

We concluded that passive observer was defined both by the students' and teams' actions. The students would feel they lacked purpose, might be mindlessly following the round unable to see the patient and not focused on learning. Equally, the team may be ignoring them or remove a task the student-doctor had been given without explanation:

It's a useless ward-round because no-one is interacting with you and you stand at the back and can't see anything. There's 15 people on this ward-round and then you can't get away you spend three hours wandering, following the back of someone else not really learning anything (SD1 FG1)

Active observer was divided into two, cognitive challenges and minimal participation, both of which gave the student-doctors a sense of purpose. Cognitive challenges were valued by two students and included asking questions of themselves whilst observing, “You’re active in that you’re thinking ...why that works” SD1 RLS3. Below SD10 describes an example of the type of cognitive challenge he has begun to set himself:

Sometimes it can be a reverse puzzle as it were, if you don’t know the patient you pick up the drugs chart and see the drugs, and work out what they have got (SD10 RLS1)

Whilst the students recognised that just observing felt passive and they wanted to feel more active, some were cautious about setting themselves cognitive challenges tempering the benefits of learning in this way against the discourse of performance. SD 7 expressed concern that the doctors would not see her learning and SD 11 discussed the lack of confidence she felt and concern that she might drop the drug chart or be perceived by those assessing her as failing to be attentive.

Minimal participation included being briefed about patients, asking and answering questions, observing examinations, helping position the patient and passing charts. It could also include being directed to patients to be seen again and points to follow up in the patients’ notes. In order to observe actively, the student-doctors needed to feel they were legitimate members of the team by helping the team peripherally. These tasks, though small, were valued and served to orientate the learners to the case and maintain their attention:

Just carrying around the ...ICU obs charts ...meant I could engage more with what was going on...then I had something to show the doctor, which made me feel, even though it was a tiny thing, made me feel I was being of use (SD2 AD Week2)

Rehearsing the role of the doctor involved feeling accepted by the team, “got us involved” and allowed the learners to engage with routine ward-round activities. These included performing part of the junior doctor’s role: taking a patient’s history, undertaking an examination, presenting patients and writing in the patients’ notes. In addition to feeling accepted as a team member, the student-doctors noted additional learning beyond the activity itself:

Today I was writing in the notes... as soon as you write down a plan numbered in the order in which they want to do it in ... that gives you a really good idea of what priorities in care are” (SD1 RLS2)

4.2.2 Effect of participation

Using this classification to analyse the student-doctors' diaries, a visible shift can be seen. In total there are eight occasions when they describe themselves undertaking a passive role; seven in weeks one and two and one in week three. There are eighteen occasions where the student-doctors are defined as active observers, five in week one, eight in week two, two in week three and three in week four. Finally, with regard to rehearsing the role of the doctor, this is described eight times, six occurring in weeks three and four. One student SD8 remained a passive observer throughout the study. However, three moved from passive to active roles (SD6, 9 and 11), two from passive to re-rehearsal (SD4 and 7) and three from active observer to rehearsal SD2, SD3 and SD5). SD1 had two experiences both of re-rehearsal. Clearly, the type of round and willingness of team to interact will also have had an impact; even so there does appear to be a shift towards participating within the ward-round.

The student-doctors initially perceived their role on the ward-round as passive bystanders and therefore lacking purpose. Exploration of the possibilities for participation helped to engage the student-doctors in learning through participation and seemed to be something they had not previously had the chance to explore. The impact of the research activities and the role of the researcher will be addressed in the discussion and Chapter 5. The difficulty for the student-doctors was not in knowing how to participate, but rather in developing the confidence to do so.

4.3 Developing Identity

If the student-doctors were to feel able to project themselves and their learning needs within the uncertain and complex ward-round learning experience, they needed to develop their self-efficacy (Bandura, 1993) and determination to engage in the messiness of ward-round interaction with a clear purpose. This belief and confidence was developed by encouraging them to reflect on their approach to learning, on what was being learnt and on ways in which they could self-direct their learning.

4.3.1 Prior experiences of learning

Acknowledging Billet's (2011) attention to personal histories and the way subjectivities result in particular ways of knowing, the first focus group was designed to explore the student-doctors' prior learning experiences, their thoughts about learning in clinical practice and specifically their views about the ward-round as a learning experience. By encouraging them to discuss their prior experiences, we were already beginning the process of critical reflection by

making explicit our beliefs, assumptions and preconceptions about knowledge and learning so that these could be challenged. Brookfield (2005) reminds us that the learners' autobiography represents one of the most important insights into practice that they possess. Mezirow notes that to be able to reflect critically, learners need to "challenge the validity of presuppositions in prior learning" (1990, p. 4).

With regard to their prior learning experience, SD9's comment is typical of the majority of the group's thoughts; she points to the individual nature of their prior learning experience, the desire to acquire information and the frustration when this is not forthcoming:

And you know if you went to a lecture you would gain something some information. You didn't feel like you might waste three hours of your life. (SD9 FG1)

Nine of the eleven students spoke about how their prior learning experiences offered clarity about what was meant to be learnt:

We had more of a curriculum and there was always like learning objectives ...it seems like it's not very structured or standardized (SD6. FG1)

Furthermore, they were frustrated about not being taught or given information:

I did try and ask questions where I could of the doctors but if they're not particularly forthcoming with their information then it's difficult to start a discussion (SD10 RLS1)

The students were dissatisfied with the ward-round learning experience and this dissatisfaction was a result of checking their current situation against their prior learning. New experiences are assimilated, transformed and interpreted in the light of past experiences (Mezirow, 1990). They used their experiences of prior learning to check how they should solve what they perceived as a problem – failure to be taught information on a ward-round. The student-doctors' initial perception of the ward-round, based on their prior experience, was of the round as a teaching experience. Thus, if there was an absence of didactic teaching, they believed they could not learn or could learn very little. This was premised on a transmission model of learning (Sfard, 1998) or, as Friere (1972) described it, a 'banking model' of education. The belief is that knowledge is reified and objective and exists in the teachers' (clinicians') heads. Their understanding was that the teachers' job was to transmit their reified knowledge directly to them so that they could deposit the knowledge in their memory bank. This model also served to emphasise the teachers' superiority, suggesting that they were in complete control and that the student-doctors had no control over their learning experience.

4.3.2 Role of learner in the clinical workplace

The quote by SD1 used to illustrate a passive learner (see 4.2.1) described how she felt compelled to stay with a ward-round even if she was learning nothing. This quote captured the expectation that people should engage with the student and the lack of purpose and control the student-doctors described.

Throughout the discussions, there is a sense of lack of confidence, as students express concerns about annoying the doctors, needing their approval and feeling scared. In RLS 1, I name this and express surprise that it seems to be evident in one of the most confident group members. SD3 has been discussing the fact that although he turned up for the ward-round and asked to attend, his request was declined:

When I was listening to that, I was thinking, SD3 you're probably one of the more confident people, I would have thought, in the room, and if you can't do it [laughter], you know that, that raises some questions for me. (R1 RLS 1)

He was not alone; other students who were extremely confident and who held senior positions within the student body and outside the university, also felt this lack of confidence, when placed in specific ward-round situations. What is interesting is that the students later explore this in terms of this being a different kind of self-confidence—what I suggest is a professional confidence:

I agree it's a pretty unique sort of confidence issue really that you don't experience in any other situation (SD2 FG2)

Here the students seem to be exploring the difference between the personal and the professional and are perhaps beginning to realise the need to develop a professional persona; if they appear unconfident, clinicians will respond to that and therefore they need a sense of purpose. This growing realization of the need for a clear purpose connected with an acknowledgement that the accomplishment of small goals also resulted in a growth in confidence. As SD11, one of the quieter group members shows:

SD11: so asking an FY1...if we can take a couple of tasks on
R1: mmm hmm. Any thoughts on what those tasks might be?
SD11: So one of the things that I was sent to do...I had to go and get a BNF and look up a drug and saying to myself 'Oh I know how to do this!' (RLS1)

Nevertheless, some student-doctors were focused on the discourse of learning, believing that they have some responsibility for their learning and that effort on their part could enhance

their learning. They were thus acknowledging that the ward-round could be valuable, if only they knew how to access the learning:

I know there are bits that I could get more out of the ward-round and it's just that I'm not doing something to get the most out of the doctors and it would be nice to recognize what we can do to help the doctors because they are ridiculously busy (SD4 FG1)

Here SD4 seems to suggest that although on occasion the success of a ward-round may be linked to confidence, it may also relate to attitude and to the student-doctors decision to engage (Billett, 2011):

It sort of depends what attitude you put into it. If you're prepared to go and talk to them and try and show that you're interested, then you get a lot more out of it (SD4 FG1)

Equally, SD2 acknowledges that beliefs about learning may have been constraining them and that perhaps the learner is part of the problem and solution. He and SD4 describe how they have begun to develop their personal agency and take control over their own learning and realise that they do not necessarily have to rely on others to learn:

I think I'm going to be more active about asking people if they can delegate things to me, rather than just standing and waiting for something to be given to me (SD2 RLS1)

In this comment, SD2 appears to be recognizing the importance of agency; in describing Bandura's (2001) proxy agency, he acknowledges that he cannot necessarily control the ward-round but can exercise his agency by trying to get others to wield their influence on his behalf.

In RLS 3, I comment that in their audio-diary there is a change and they "were really trying to think, 'OK I've only got this short time, what can I do?'" and SD1 2 and 7 suggest they now accept it is up to them to maximize their learning:

Even as soon as you start thinking what can I get from this you start learning (SD1 RLS3)

I knew I only had such a short space of time I tried to pick up on what you were saying last week about finding out what's common and what isn't (SD7 RLS 3)

Thinking what else could I be doing you are sort of balancing whether what you're doing on the ward-round is worth it and that makes you more active in finding things to do (SD2 RLS3)

SD7 and SD 10 show how this change in perception has altered their approach to the ward-round. They now plan their ward-round experience, including factoring in how long they have and what they want to focus on. In this way they too show they are now accepting responsibility for maximizing their learning. They have developed their self-efficacy and have a clearer sense of their personal agency.

SD7 describes how she now approaches the ward-round with an action plan. Whereas previously she might not have attended because she could not stay for long, she now weighs up whether, even in a short time period, she could achieve a specific aim, and still have an effective learning experience. Her diary in week three and four shows how she now feels able to negotiate to attend ward-rounds, leave for teaching and then return and re-join the round in a way she would not have done previously. She also highlights the value of expert knowledge, noting how she has been made aware that as a learner she has a right to consider how she wants to use her time:

R1: What I think I'm hearing you saying is that you were expecting to be taught and now you realise that some of it is actually much more down to you

SD7: I really liked having someone tell me that actually my time was valuable too...I am one of those people who would stay to the end of the ward-round because I feel I should...having an aim for what you want to learn...made me feel I could go on a ward-round for just an hour and see what I can get out of that (FG2)

Bandura (2001) suggests that to develop the cognitive self-regulatory and control factors within an individual, you need to consider both factors that develop self-efficacy and ways in which people develop self-agency. We can see in the above quotation that SD7 has partly developed her self-efficacy by being encouraged to reflect on her purpose and by challenging her socio-cultural and personal assumptions (Mezirow, 1990) related to the clinician's expectations of the student-doctor, and that she has no choice. She hints at a suggestion of feeling empowered with the words, "see what I can get out of it". It would appear that as a student-doctor she had not considered how, although junior, she too can and does have the power to make choices (this will be returned to in 5.3.2.). As a consequence, she began to develop her self-agency using the goal-setting process to develop her intentions and plan of action for subsequent ward-rounds, self-regulate her behaviour during the ward-round and reflect on her achievement. The goal setting alone, however, may not have produced this outcome. Bandura's approach is potentially limited both by its primary focus on the individual and by the fact that goals may be set that potentially reinforce the status quo, because they do not necessarily challenge ideas or assumptions. I suggest it was the challenge to think about

her own rights as a learner, to recognize, as Billett discusses, the “relational interdependence between social and individual agency” (2006, p. 53) and to explore the socio-cultural and personal assumptions about her role as a learner, that facilitated this change in SD7’s understanding of her learner role.

Here, SD4 describes how some of the group has shifted from an acquisition to a participatory model of learning. They no longer viewed the ward-round as a place where teaching should but did not happen:

We used to go on ward-rounds and expect that you’d be taught at some point...that’s not the way it works at all and it’s as much about shifting your perceptions on what the ward-round is, that has made more of a difference than anything else (SD4FG2)

Through this discussion, the students began to be aware of the self-confirming cycle. By uncritically accepting the assumptions underpinning their prior learning experience, they were acting in particular ways and those actions served to confirm the truth of those assumptions (Brookfield 2005). Their prior learning experience had focused almost entirely on learning the medical facts and the learning outcomes related to these were made very explicit. They therefore approached ward-rounds passively, standing waiting to ‘be fed’ these facts and became frustrated when their expectations of the round were not met. This left them confused and unclear about how and what they should learn.

These four students all suggest that an outcome of reflecting on the learning process itself has been a change in the way they approach and think about their learning and their role as learner. They have developed their personal agency. They recognize that the ward-round experience involved them being proactive and actively making choices about what preparation to make; how to approach the round; whether and how to participate and their learning agenda. By following these choices, they are acting differently on the ward-round and in this way the learning has been enacted in practice.

Participation in the round appeared to be linked to learners’ professional confidence and understanding complexity in ward-round learning. The student-doctors initially had difficulty negotiating access to the ward-round. By developing a clearer sense of their rights and responsibilities as learners, all but one, SD8, began to learn by becoming a more active participant in the ward-round. They moved from adopting a predominantly passive approach to a position where they actively sought opportunities to become involved in routine ward-

round activities. Engaging in this process also began to further form their identity as learners and professionals. The reasons why SD8's experience was different will be returned to in 4.7.

The discussion that follows considers the process of engaging the student-doctors in critical reflection. A specific example will be used to show how the framework identified in Chapter 2 was implemented and to show more explicitly the links between the dialogue in the RLS and the changing attitudes and understanding. Finally, the processes of goal setting and sharing experiences will be considered in more detail as these appeared key to the intervention's success.

4.4 Facilitating critical reflection

Although I knew ultimately that I wanted to develop student-led learning on the ward-round, I did not know, or want to decide, what the student doctors should do or how they should go about this. I felt responsible for developing their capability to deal with the complex world of clinical practice and to build shared mental models. I acknowledged that I needed to feel able to share my own expertise and yet recognised that I needed them to feel responsible for their learning; this would require a range of facilitative strategies that modelled a new approach to learning and enabled critical reflection. Analysis of the RLS identified three key roles that I adopted as facilitator: establishing and maintaining a safe and trusting environment; challenging epistemic, socio-cultural and psychic assumptions and developing the student-doctors' confidence to self-direct their learning on ward-rounds. Examples of these are shown in Table 5 and Appendix 8f. Each of these will now be considered, whilst also showing how, through engagement in critical reflection, the students were supported to explore ways to approach problems and consider possibilities for change.

4.4.1 Creating a safe and trusting environment

I recognised the importance of modelling my vision of learning for the students (Davis, 2001) through the way I engaged in the discussions. I tried to value each student's comment, to be explicit about the fact that I did not have many answers and to show that by listening and learning from each other we could learn far more than in traditional teacher-directed learning. My focus was on facilitating debate, and encouraging and validating contributions. Whenever I gave feedback, my intention was to hold up a mirror, act as a critical friend and another set of eyes (White, Fook and Gardner, 2006). Feedback focused on what was described in the audio-diaries and was specific and descriptive (Kurtz, Silverman and Draper, 2005). It was intended to be caring, affirm contributions and to highlight and challenge assumptions.

4.4.2 Challenging assumptions

Brookfield (1998) suggests that facilitators need to engage students in critical conversations that make them aware of the assumptions under which they are operating, investigate whether those assumptions are well founded, consider practice from alternate perspectives and consider the implications of the conversation for future practice. The following dialogue draws upon the framework outlined in 2.5 and is illustrative of how the facilitative process supported the development of critical reflection.

The discussion was from RLS 2. Having heard the difficulties the student-doctors were having in accessing the ward-round, my intention was to challenge them to think of ways in which they could engage on the ward-round that perhaps they previously had not thought of or tried. By referring to the recordings and explaining that there was a theme about people feeling ignored, I made the group aware that I had listened carefully and had identified a recurring, unsettling situation. I used the apparently simple question about introducing themselves to engage the students in considering the assumptions which underpinned their decision not to introduce themselves. By inviting question and dialogue, I encouraged the students to discuss their feelings and thoughts about their position within the medical hierarchy and to explore why, when they were normally quite confident, they felt so unconfident during the ward rounds. Were their assumptions about being perceived as a nuisance correct? On what were they based? What was the impact for them of not introducing themselves? I developed this discussion further by inviting them to think of the consequence of this action from other clinicians' perspectives, thus encouraging them to explore issues of practice from alternative perspectives. Subsequently, it encouraged students to share what they had tried and to consider the relevance of the question as to why it was important for them to introduce themselves and say what stage they were. Finally, by stating that I was "just trying to think of small things", I was encouraging them to consider new roles and actions and making clear that even small changes may have an impact. This also points to the role of the facilitator within the dialogue process, in both occasionally sharing expertise and creating an interactive discussion:

R1: Can I ask do you all introduce yourselves and say what stage you are?

SD1: Depends on the ward-round because if it is a huge ward-round with a consultant that doesn't even look you in the face, I wouldn't introduce myself ever because I would be too terrified. And that's saying something because I'm quite a confident person.

SD3: I'd ask the more junior people on the ward-round, I asked the F1 and he went on to ask the research fellow. This is x is it ok

R1: Talking to a consultant this week, he actually said that it is absolutely vital to him that he knows what stage the students are at.... he was trying to give me I

think, a bit of insight into what it felt like from his side, we were talking about the very short time that you have available to go on rounds he said to have some students turn up who you've really never seen before...and not have any idea who these people are, he was saying the students didn't introduce themselves in his experience that that had been the case and that to sort of invest anything, in this unknown person unknown stage.

SD1: But also you know if you're waiting for a ward-round with all the juniors and the nurses and stuff right waiting in the middle of the ward the consultant marches up and says, "Right off we go" you don't have the chance half the time to introduce yourself. Who is I mean do you say oh sorry stop one second I'm x I'm a stage 1.

SD2: Hold the patients (laughter) I'm more important....

R1: I don't want you to think that I think it's easy, because I'm not under any illusion, it's **very** hard but I'm just trying to think of what

SD1: Different ways of finding some way

R1: Yes small things which might make people take notice because there was a theme in your recordings for some of you of just being ignored really ...There were some others of you that seemed to have had really good experiences (RLS 2)

4.4.3 Confidence to self-direct their learning on ward rounds

By asking them if they could do things themselves, I was drawing their attention to their need to self-direct their learning - "How can you make it?" -making it clear that they were accountable for their learning and needed to make choices, whilst also building their confidence in their ability. I was also highlighting that I wanted them to engage even more in the discussion and did this by speaking directly to some members who had been rather quiet. In this way I was specifically directing who spoke about what and also challenging them to disagree, "Are you thinking there's just no way?" The role of the facilitator in bringing about change will be returned to in Chapter 5.

I mean I absolutely get that's what in an ideal world you would want and that's what I'd be aiming for when I eventually speak to the consultants, but am also sort of thinking about what are the possibilities really, how can you make it so that you're not feeling totally disengaged? I think that's the difference isn't it. What about you guys at the bottom are you thinking there's just no way? (R1 RLS 2)

This discussion represented the first few steps in getting them to reflect critically on how they perceived their role on the ward-round, how they behaved and whether that influenced their learning. The students' sense and beliefs about their inferiority were verbalised and by questioning their practice they were enabled to begin questioning whether assumptions they took for granted about their role within the team were correct. They also began to see that they may be creating a self-fulfilling prophesy. By believing that they were unimportant, they developed a lack of confidence. This lack of confidence made them fearful of the consequences of introducing themselves and they therefore often had minimal interaction

with the team. Equally, the lack of interaction made it difficult for the clinicians to understand their role and less inclined to engage with them and this limited the students' learning. This in turn contributed to the students' belief that the ward-round was a poor learning experience. Later in RLS 2, when setting goals, we can see that SD11 and SD2 have now reached a point where they were questioning whether their initial assumptions were correct. SD2 appeared to have recognised that perhaps their lack of interaction affected their learning:

Perhaps we should stop being so worried about what other people think and start being worried about what we're actually getting from every half hour. (SD2 RLS2)

SD11 took this further by pointing out that stating that they can only stay for a certain time period may not be frowned upon, as people coming and going during the round is normal medical practice:

I wouldn't envisage anyone saying they have a problem with that, given that their own team do that anyway (SD11 RLS 2)

Through this facilitated process of critical reflection, they began to question their approach to medical hierarchy, acknowledge the norms of medical practice and prioritise their learning. My own analysis of SD2's first statement is that it was only possible to challenge assumptions when the participants felt safe and valued. He also highlighted the importance of the facilitator guiding the discussion:

She seemed to take everything that we said, both in the discussions and on the recordings, very seriously and very genuinely. There were things that we might just say offhand and then she'd really ask us some quite detailed questions about them. (SD2 FG3)

Sort of nudge strategy, gently nudging us, not in the right direction, because there is no right direction, but nudging us to keep us on track and focused and come up with some productive solutions. (SD2 FG3)

The facilitation of the RLS will be critiqued further within the discussion section. Understanding the facilitative approach that contributed to this change, will be central to planning for the roll-out of this intervention in the second cycle of the project:

This discussion will now move to the goal setting process which was where the facilitator's role of building confidence, self-awareness and approach to learning was most evident.

Table 5: *Examples of facilitative strategies*

<p>Establishing and maintaining a supportive and non-judgmental environment</p>	<p>Empathy</p> <p>it's a really difficult thing to do I know I appreciate that RLS 1</p> <p>Inclusion</p> <p>R1: What do the rest of you think? RLS1</p> <p>R1: Because I'm going to ask each of you to think about one thing you could try this week RLS 1</p> <p>Validating contributions</p> <p>R1: from your diaries I've picked up some really useful ideas RLS 1</p>
<p>Challenging epistemic, socio-cultural and psychic assumptions</p>	<p>Epistemic</p> <p>R1: Did he get no teaching? RLS 3</p> <p>Socio-cultural</p> <p>R1: Do you think they're [knowing where forms are and when to use them] not important? So you were saying that, sort of, petty RLS 1</p> <p>Psychic</p> <p>R1: Do you introduce yourselves? RLS 1</p>
<p>Building confidence to self-direct their learning</p>	<p>Exploring possibilities</p> <p>R1: Are you thinking about how people prioritise problems and things like that? RLS2</p> <p>Focusing on learners responsibility</p> <p>R1: Something that you could do that would help you to get more out of the ward-round RLS 1</p>

4.5 Goal setting

R1: So what kinds of things do you want to learn from ward-rounds?

SD1: Everything. The whole point is that one day we're going to be doctors and this is going to be our job, to go on ward-rounds and assess patients and think about their management and what jobs need doing (FG1)

Here SD1 unwittingly articulates several key learning points for the group: that clinical practice is unpredictable, cannot be easily controlled or understood, and that working out where to focus and how to learn is complex. At the end of the first RLS, I introduced the idea of goal setting.

The following discussion will review the goal setting process and its outcome. In total, the student-doctors set themselves thirty goals (Appendix 8e), eighteen of which they fully or partially positively evaluated and this success seemed to increase their confidence and sense of purpose. Examples of goals set are shown in Table 6. Five goals were not achieved, but even then for two of the three students involved, there was evidence that the process of goal setting had focused their attention and helped them make small changes. Of the nine goals set in RLS 3, four were documented in students' audio-diaries and the remaining five were not followed up as this was our last meeting. Initially goals focused around accessing the ward-round but in RLS 2 most student-doctors' goals moved to finding ways to increase their participation.

Table 6: *Goals set and Outcomes*

	Week 1		Week 2		Week 3	
SD	Task	Outcome	Task	Outcome	Task	Outcome
SD5	Ask a question about each patient	Made more of an effort and did ask questions but felt over ambitious	Same ward-round and present patient	Same round didn't present	Try and remember one point about each patient	Presented patient (revisited week 2 goal)
SD3	Get on ward-round	Negotiated with registrar and attended	Introduce explain time limits	Yes achieved	Find patients to go back to	Not evaluated

The goal setting process, as discussed in Chapter 2, is identified as having a series of steps. These include: choosing between possible goals, planning the specifics of the goal chosen, initiating actions and evaluating outcomes (Bandura, 2001). Discussion in RLS 1, which followed the first focused group activity, enabled the students to consider a range of possible strategies that they could choose from to increase their engagement on ward-rounds:

What other kinds of ideas do you have about things that perhaps could help you to be more involved? (RLS1)

Ideas suggested included asking for tasks to be delegated, getting a junior to introduce them and asking questions (proxy agency Bandura 2001). Although they were not specifically asked to use these ideas, they were evident within the students' goals set in week 1. Equally in RLS 2, a discussion about whether it was feasible to explain the students' time constraints and/or specific learning aim saw the students testing out ideas and possible outcomes:

So if you just say "is it alright if I only stay this long?" I wouldn't envisage anyone saying they have a problem with that. (SD11 RLS2)

This was very difficult for some students because of the traditional hierarchy in medicine, as SD2 explained, "We don't think we're important enough" (RLS 2). However, having tested it out in discussion with SD11, SD3 set a goal related to introductions and explaining time constraints. With regard to planning the goals, the process of verbalising what they would do attended to the specific, i.e. the where, what and how of their goal. Here we can see that for SD6, being asked by the facilitator to set herself a goal related to increasing her participation on the ward-round made her aware that one action alone would not be enough – again highlighting to the group both the need to prepare and the complexity of the situation:

The consultant said yesterday, go before the ward-round and clerk patients...the problem is I don't know if they start centrally or with outliers...we've got a new F1...so find out who the F1 is what order they do the round in and then hopefully clerk a patient who they will see in the two hours I don't have teaching. (SD6 RLS1)

This illustrates Bandura's (2001) process of forethought where learners anticipate the potential outcomes of their actions and then adjust the goal accordingly. The types of goals chosen were important and can be seen to change as the study progressed. In week one, ten of the eleven student-doctors set themselves goals to try and achieve in the next ward-round. Four of these related to prior difficulties accessing the round. They included finding out details about: who to speak to (frequent changes of junior doctors made this complex), timing and order of rounds and why clinicians were not keen for them to attend ward -rounds. Other

goals involved being more active and addressed knowledge by reading up on specialism, engagement through asking questions and requesting task delegation and focusing on specific aspects of interactions (see Appendix 8e). Although the students engaged in the progress, some were a bit sceptical about the time constraints:

I think in the large amount of time I have between my patients I'm going to try and think about ...a management plan ...and then compare it to ...what's actually happened (SD10 RLS1)

In week two only two students' goals focused on accessing the round and the remaining eight were now structured around finding different ways to participate. Strategies included presenting patients, asking questions and asking for jobs, looking at charts and planning their own management plan. In RLS 3, I specifically targeted drilling down to specific learning and the goals reflected this. They included planning aims for ward-rounds, targeting observations, identifying patients to return to and to present, as well as ways to remember specific learning points. These goals not only focused on increasing engagement, but also the specifics of the planning needed. It was also interesting to note that the goals set are not easy and that those students who gained confidence in their ability to achieve their goals began to raise the difficulty of the goals they set themselves. For example, in week one SD4's goal was to try and get on the ward-round but when she evaluated her success, she had developed the goal to include introducing herself and having an aim. However, not all students made this shift; SD6 and 8 continue to focus on "looking for good consultants" rather than actions they could do themselves.

Some students' approach to goal setting appeared to become more sophisticated. On occasion they experienced difficulties achieving their goal because of lack of opportunities, although they still often achieved something new. This was because they were strategically thinking ahead, producing 'what if' plans and exploring factors that might mitigate against goal achievement. They were prepared for the unexpected and began to select the most appropriate from several goals. In this way they approached their learning flexibly":

I think you had to change what you're doing if it wasn't relevant...so I think having two or three separate things...then you can pick...one (SD11 FG2)

However, on occasion the students changed their goals and this may reflect SD9's concern that she didn't have sufficient time to think:

I didn't always do it sometimes because when I'd decided what I wanted to do, I felt a bit put on the spot and I just went for something that wasn't necessarily perhaps the most helpful thing (SD9 FG2)

In evaluating their goals, students reflected on whether the goal set had been achievable or over ambitious as well as other factors that may have influenced their achievement and the outcome of their action. In this way they both reflected on and shared their successes and explored degrees to which goals had been achieved and the reasons why. In the quotations below SD 1, 2 and 10 reflect on how even small changes, such as being less hesitant, could make a difference to their understanding of the situation; relationships with the team; ability to focus and sense of purpose. SD2 is describing the effect of being willing to chase missing information:

I'd go and find out It is a good way of staying in touch with what's going on and ... of building your relationship with the doctor and feeling you're being of use. (SD2 RLS 2)

It [setting yourself a task] makes you pay attention to the specific things at each point of the consultation (SD10 RLS 2)

Mine was...make sure I went to the same ward-round as I went to last week so there was a bit of regularity...and it worked, I was brilliantly involved I got to present...and...did all the notes for the ward-round. (SD1 RLS 2)

In the case of SD5 (see Table 6) evaluating his goal helped him identify small changes that had been made, and to reflect on the importance of goals being achievable.

Equally SD5, 6 and 7 showed that even when goals were not achieved or were more difficult than anticipated, reflecting on the process of enacting the goal and analysing why it was unsuccessful helped them to make sense of what happened and to plan further goals, conscious of what the difficulties were:

I think in hindsight we could probably have approached him [the consultant] and said 'Oh we're the medical students can we join the ward-round?' but it wasn't clear he was in charge. (SD6 RLS 2)

And I think this is something I want to take away with me for my next ward-round; not to be as hesitant and, even if the information was out of date, just to ask if I could present (SD7 AD Week4)

There were also occasions when group observation was important because learning situations were so complex that the student-doctors were not always alert to everything they had achieved and occasionally seemed to dismiss their experience as unsuccessful quite cursorily.

Here SD1 appears to use persuasive agency (Bandura 2001) and focuses attention on what was accomplished by SD6:

On the plus side, do you not feel that even though you didn't go on the ward-round you did still clerk a patient and ...make some communication with your F1? (SD1 RLS 2)

Whilst surprised at how successful the goal setting process was, my explanations for this success can only be tentative and several aspects appear important. Firstly, the students set their goals in the presence of the group and knew that they would be reviewed at the next RLS. In this way goals that were unclear could be clarified or refined and members of the group often offered each other encouragement. Secondly, it was through the goal setting that people began to take risks and others heard these discussions, which may have encouraged and motivated them further. Thirdly, because the students developed their own goals, this appeared to be a way of securing learners' commitment and ownership to the activities they were going to try and experiment with. These activities related to personal challenges with which the student had previously struggled, and in this way the students both identified their own learning needs and tailored the goal to their specific learning experience. Fourthly, when goals were reviewed and successes recounted, this appeared to develop confidence further not just for the person who owned the goal but also for others who had hitherto been less successful. Even when someone had not been successful, group members drew attention to small achievements. Finally, these four points lead me to suggest that audio-diaries, reflection and discussion about practice without the goal setting and opportunity to experiment and try things out in practice, may not have been as effective. The goal setting process itself actively encouraged the students to explore ways to participate in the ward-round experience and was central to the students identifying their own self-concept as more powerful participants in their own learning. This is explored further in Chapter 5. The other key activity within the RLS that the student-doctors suggested and which was pivotal to the project's success was learning from each other.

4.6 Sharing and affirming experiences

4.6.1 Struggles

The student-doctors felt strongly that the RLS provided an opportunity for problem solving, hearing each-others' experiences and sharing strategies to develop participation. Recognising

that they were not alone in some of the struggles and that some people were having positive experiences was seen as key:

Hearing that other people have had really positive experiences makes you feel more determined that you could have one too (SD11 FG2)

Realize that both the people who you consider less and more confident than yourself are having exactly the same issue (SD2 FG 2)

As previously identified, one of the major obstacles for the students at the outset of the project was about feeling ignored on the ward-round, unwanted and sometimes unable to gain access. Brookfield (1998) reminds us of the power of peer support in learning and transition processes. As students shared their difficulties, others echoed and offered parallels or similar events:

I got up to the ward for 9 o'clock because that's when I was told the ward-round would happen and I got up there and they had kind of already done it (SD4 RLS1)

I mean I had an opposite experience in that I turned up for a ward-round and stood there for twenty minutes waiting for them to start (SD10 RLS1)

Equally, we could see how as the RLS progressed, students started exploring the complexity of engaging in the ward-round interaction. Here they were discussing the difficulties surrounding not knowing the team and how perhaps, when they left the round for teaching, there was a problem with the team not being aware of when or why they disappeared:

I think having the confidence to ask is quite difficult ...It's always hard to ask a question of someone you don't know and that means about anything. Asking if you can come on the ward-round, asking a question about a patient it's just difficult (SD1 RLS3)

I wonder if some of the doctors think we're just slacking off (SD6 RLS 3)

Rather than viewing this discussion purely from the student-doctor's perspective, SD6 was questioning how not explaining who they were and how long they could stay may actually contribute to misunderstandings between the students and clinicians and limit their participation. Throughout this dialogue the student-doctors were also attending to their understanding of medical culture.

4.6.2 Successes

Whilst sharing stories was initially about struggles in RLS 2 and 3, it shifted to discussing successes and the group could be seen to be sharing strategies and learning from each other. This was initiated by asking the student-doctors to discuss their ward-round experience each week:

SD4: As soon as you introduced yourself and said what level you are, the consultant ...said "Okay right we've got lots of teaching opportunities."

SD1: Right, so actually the doctors getting to know you is a learning opportunity in itself. (RLS2)

Yes I ... had a really good experience going off with the consultant seeing the patients he hadn't seen yet, it was again Monday morning, and it was almost watching him clerk each patient in on the ward-round (SD4 RLS3)

I had a really good experience this week because I tried to go on a consultant ward-round on Thursday and the consultant was late so I just went with the F2 and we saw some patients. (SD9 RLS3)

Bandura suggests mastery and social modelling are two key concepts that are central to building self- efficacy. SD4 has successfully mastered the goal she set herself and we can see the positive response she received has built her belief in this action. Furthermore, SD1's response to the account suggests that by witnessing SD4's successful outcome (social modelling) she now has more confidence in her own capability to use this strategy.

SD11 highlighted the importance of engaging with junior staff and how this may make negotiating a role within the team easier. Whilst Bandura would describe this as proxy agency, this seems to point to the importance of hierarchy and to the relational interdependence of social and individual agency that Billet describes (2006). It suggests that whilst social practices may make learning affordances weak or difficult to access, focusing on developing the student-doctors as active participants can potentially bring about small changes in social practices. Through dialogue, the students discussed possibilities, tried ideas out on each other and explored suggestions which they could see were relevant, but perhaps had not previously considered:

I think it's actually probably more useful to kind of ask the less senior staff if they can delegate things to you, ... so maybe asking an FY1 or an FY2 if we can take a couple of tasks on, that might be useful.(SD11 RLS1)

4.6.3 Sharing strategies

The importance of this sharing of strategies was highlighted by SD3 in the second focus group:

Knowing that other people have done that, and then you try it and it does seem to help you, that was a key point as well in starting your learning...having those techniques to get things going(SD3 FG2)

Through the support of the group, some students became willing to tackle poorly defined, complex authentic problems. In this way, a process that would not normally have been visible was articulated for the group to hear and share. Here we see SD2 discussing how he planned to ask for opportunities to participate. By being prepared to share his experience of taking risks, SD2 may well have given confidence to other group members. Here he talked about his intention to ask questions:

You know so being brave and just, and just saying, you know, can I do such and such, because ... to be frank you could risk the chance that someone might be slightly annoyed or you could get something out of the ward round (SD2 RLS1)

In RLS 3, he reflected further on the effect of his willingness to take risks. He was no longer worried about negotiating access to the ward-round. Indeed he had a plan and seemed to be taking his opportunities to get involved:

I thought that was quite effective, just by pushing yourself when you've got something you might ask a question about ... normally you think "no no I won't bother" but ... if you mentally sort of force yourself ... it really improved things. And I went on the ward-round ... just took some of the things ... about being more interactive, listening to chests when I had the opportunity. I find it much more useful (SD2 RLS3)

By the second focus group, it appeared that some of the group had gained confidence and were much less worried about annoying other team members:

Firstly, I've never come across anyone saying "no that's not acceptable". I think we just maybe initially have a fear that they are going to say something like that, but no-one is ever going to say that (SD2 FG2)

I think I would have the confidence, if I really felt that I wanted to go on it to say 'actually I do think I can get something from it even if you're not specifically teaching me, that's fine'. (SD1 FG2)

4.6.4 Value of sharing

By pooling their experiences, students were exposed to many more ideas than they would have generated alone. The experience of sharing as a group appeared to enable the student-

doctors to develop confidence, take risks and empower them. The suggestion from the students that this was different to other debriefing experiences, perhaps pointed to the importance of ensuring that the educational context made this type of discussion possible. Helping the students explore, recognise and respond to the competing demands enabled them to learn in a meaningful way through dialogue about practice.

I think that every week we did something that was useful ...I certainly took away something from every group I came to, ...whenever you discuss something you're never going to think of all the things other people bring up. And whether that is related to the learning opportunities, or the processes from before and after, or the communication skills of introducing yourself and confidence, I think it's all useful (SD1 FG2)

4.7 Outcome of intervention

So far this chapter has endeavoured to portray in rich detail the story of the RLS. Learning about clinical medicine on the ward-round involved being flexible and coping with conflicting and competing demands. For nine of the student-doctors the outcome of participating in the project, as evidenced in focus group two, was that they felt confident and able to learn through participation in routine ward-round activity. Through engaging in critical reflection, they appeared to have identified the importance of standing back to identify their own learning needs and the affordances within the clinical context and then responded flexibly to the clinical context. This compliments the findings of Woods, Mylopoulos, and Brydges (2011) who, when evaluating student learning strategies on a surgical rotation, found that students who actively created learning opportunities used similar approaches.

One methodological limitation of this study was that I did not follow up the two participants who did not participate a great deal within the discussions. Both were quieter group members who may not have been entirely comfortable with the large group and the focus on participation. SD 8 in particular described problems accessing ward-rounds and people not wanting to teach. Looking at the data when they spoke, both focused primarily on acquisition of medical facts and SD8, who spoke very little, appeared to emphasise the need to prioritise assessment. Future research could explore alternative approaches to follow up participants who did not respond to identify possible obstacles to their participation. I cannot make any claims about their experience and this is a limitation of group discussions when compared to interviews (Stewart, Rook and Shamdasani, 2006).

However, eight student-doctors sustained their learning beyond six months and transferred it to other clinical areas. This was seen in focus group 3 and subsequent emails from three

students who could not attend and who were asked to comment on the transcript. Whilst we cannot claim this was entirely due to the project, the student-doctors felt it had had an impact. Referring back to Reason and Bradbury's five choice points (see 6.2), this outcome showed that the student-doctors found the project made a difference to their practice and they acted differently as a result of participating in the study:

I've found it actually applies to other situations as well. Just this morning I went to clinic but I had a meeting somewhere else at 11 and so I needed to leave by quarter to. And just going in there and starting off by saying "I'm X a junior medical student do you mind if I join you? I'm afraid I've only got this much time is that still alright?" (SD7 FG2)

Reading through the transcripts was interesting, as it made me realise how much I've changed in my attitude towards ward-rounds.... I think as a product of being encouraged to go on ward-rounds, combined with a year of being a clinical student, I have far more confidence in finding learning opportunities and getting involved. I guess the changes will have been subtle as I went along, but looking back to this point a year ago there is definitely a stark difference, and I'm enjoying the clinical aspects much more, as I'm less afraid! (SD11 email 9.9.11)

At that point I expected to be spoon-fed a fair amount and that you'd go along and someone would go here's this fantastic patient, go and take a history and then I'll tell you all about the condition. Whereas now it's more a case that you turn up, you've got to make the call on who is worth going to see and who's not....it's far less reliant on other people now (SD4 FG3)

I guess it's like when you realise that because of the project we tried things, like SD 3 was saying,...I've taken on board, so like you said, in other settings more confident about saying ...I'm only going to be in your clinic for a hour, is that OK? Just having the knowledge that they won't shout at you if you say that, has been quite useful. (SD5 FG3)

The intent of this study was to extend understanding of learning in the CW, to explore the nature of student-doctors' participation and to consider how audio-diaries and RLS support student-doctors' developing participation. This discussion will now consider each question in turn, synthesising what has been learnt so far and what requires further analysis.

4.8 RQ1: What factors influence student-doctors' understanding of learning in the clinical workplace?

Past experiences of learning, combined with emphasis on the discourse of performance and the doctor as scientist, have resulted in the students-doctors' framework for understanding apprenticeship leaving them confused and unclear about their purpose on the ward-round. For some, part of their drive to attend related either to their need to be seen or to their end of

attachment assessment and attended much less to the focus of apprenticeship, which considered learning by participating in authentic clinical situations. This approach viewed learning and the ward-round interaction as separate entities and reflected a surface and de-contextualized approach to learning (Entwhistle, 2005). Fundamental to the idea of surface and deep approaches to learning, is the notion that how we experience and understand the world cannot be separated from what we experience and understand (Marton, 1988). Surface learning does not suggest that the learning has no meaning but rather that the learning is alien to the learner (Barnett and Hallam, 1999). An example would be the students attending the ward-round because they felt they should and not because they recognised its value as a learning experience.

The student-doctors' initial approach to knowledge was to view it as content, that is knowledge that could be reified and codified in accordance with specific disciplines, schools of thought and practices (Wenger, 1998). Whilst Wenger's work does not focus on educational contexts, Schön (1987) is helpful because he is focused on professional practice. Schön refers to two types of knowledge, technical rationality and professional artistry. Technical rationality embodies scientific knowledge generated by research and refers to the "knowing that" or facts. The students' assumption was that their role on the ward-round was to learn, memorise and be questioned about medical facts. This narrow understanding of knowledge directly impacted on the students' learning experience, as they viewed knowledge in isolation and not as part of the clinical context. In contrast, professional artistry relates to "knowing how;" this is intuitive knowledge derived from individual experiences which is embedded in skills and individual and communities' expertise.

The value of professional artistry was highlighted through the use of critical reflection. By engaging the student-doctors in meaningful dialogue about experiences in which they had participated, they came to see that knowledge was embedded in seemingly routine activities, in the interactions and in the culture of health care. Knowledge in this context was different from the factual knowledge that the students recognised, as it related to context, power and social and human practices. This immediately drew attention to the tensions that are inherent in learning in the CW and to the complex learning outcomes they were addressing. They also began to develop their professional identity by identifying practices they would wish to change and role models they would want to emulate.

This process led them to deconstruct their understanding of the learner's role in clinical practice, by analysing their individual underlying beliefs and assumptions about the nature and

spheres of knowledge and negotiating ideas and meaning. This followed Dewey's advice that reflective thinking requires the continual evaluation of beliefs, assumptions and hypotheses against existing information and other possible interpretations of the data. By accessing these different forms of knowledge within the clinical context, the students were challenged to engage with the "swampy lowlands" of clinical practice (Schön, 1987). Far from the clearly delineated codified knowledge the students were used to, this involved addressing relevant issues that encompass the uncertainty, flux, change and lack of answers that underpin medical practice.

4.9 RQ2: What is the nature of student-doctors' participation on ward-rounds?

The students began to understand that learning within clinical practice could not be separated from the context. They learnt that constraints and affordances within the ward-round shaped both what and how they learnt (Rogoff, 2008) and learning was situated within social practice (Lave and Wenger 1991). Furthermore, they became aware that learning is primarily achieved by negotiating access within the COP. Lave and Wenger (1991) contend that learners inevitably participate in a COP. This was not the student experience, where they described occasions when they felt excluded from the COP; however, they also came to recognise that access could be gained to some rounds by actively participating in the ward-round activities. Whilst Dornan et al (2007) suggest that the student-doctors' goal of participation is to make a difference to patients, this was not seen in this study. Whilst the student-doctors were very keen to find ways to participate actively, their goal was to engage with and be acknowledged as a legitimate team member, however peripheral. What was valued was having a sense of purpose; whether this was achieved by setting themselves a cognitive challenge or minimal participation, it validated their role as learner within that team. A further key difference with Dornan et al's work is that the move to active observer or actor in re-rehearsal did not need to be initiated by the clinician. The student-doctors recognised the need to develop their persona- agency, to take responsibility and that they did not need to wait to be invited to participate. Participation of this nature resulted in learning that was significant both for the students' emerging sense of identity and their understanding of how to function within the medical COP. The students became aware that both individual and social learning are important. They came to understand that although experience is a platform for learning, the outcome of that learning is at least in part dependent on the students themselves and their approach to learning in clinical practice. Studying the relational and task-based interactions

was enhanced through a process of individual planning and goal setting. Billett (2001) emphasises the importance of considering both the cognitive psychology perspective of agency and socio-cultural theories of learning:

“The inter-psychological processes for developing expertise are held to be constituted reciprocally between the affordances of the social practice and how individuals act and come to know in the social practice” (2001a, p. 432)

4.10 RQ3: How might reflective learning sessions and audio-diaries better support student-doctors developing understanding of the ward-round as a learning experience?

The study also seeks to explore how RLS and audio-diaries support student-doctors’ understanding of the ward-round as a learning experience. Through dialogue, sharing information and engaging in activities together, the student-doctors became a new COP (Wenger, 1998) and learning both in the RLS and on the ward-round was socially constructed by the group. Each participant, including the facilitator, was afforded an opportunity to share and make explicit their own knowledge and question and explore their understanding. As SD3 said, “I think one of the most useful things we discussed was what it’s like on the ward-round from the consultants’ or doctors’ point of view”. By observing and assessing professional norms, they began to incorporate these norms and to construct their emerging professional role and identity. For example, students discussed role models they would or would not want to emulate, challenged each other about their understanding of specific events and developed confidence in their role as learners. In this way they were enabled to learn through becoming legitimate members of a COP. They worked with the expertise, the knowledge and skills that were within the group and, through the process of participating in the ward-round and subsequent RLS, re-negotiated previously accepted meanings. Through dialogue they explored their new approach to learning and how this learning was changing the way they viewed themselves. As SD3 said in focus group 2, “You’ve got to seek it (learning) and also learn the ways in which you can facilitate that”. In this way, knowledge was actively co-constructed. There was a sense that the requirement to engage actively in the RLS mirrored and supported their perception of themselves as legitimate peripheral participants in the COP:

I didn’t think we’d really be doing the analysis...our personal strengths and weaknesses and what should happen to make that a good ward-round and how we could change that. I thought it was going to be much more passive rather than getting us to actually think about what was going on. (SD2 FG3)

Furthermore, we can see how the process moved the student-doctors through different stages of the reflective process (Mezirow, 1990). Starting with content reflection involving initial analysis of the perceived problem - why there is a lack of learning opportunities-, they moved through process reflection, considering how they might recognise available learning opportunities, respond to those, analyse problem solving strategies and consider the efficacy of the strategies chosen and finally premise reflection. This is identified as an ability to explore and understand alternative perspectives, increased confidence and understanding of how to participate legitimately as a learner and an ability to direct their own clinical learning.

Three aspects of the RLS were reported by the student-doctors as key to the success of this project. Firstly, focussing on authentic clinical experiences from which the students could generate new understandings of knowledge and which allowed for experimentation. Secondly, by creating a safe environment, encouraging goal setting and supporting students' self- insight, the facilitator's role in guiding critical reflection seems pivotal. Thirdly, the RLS were never labelled as such for the students. Students participated in "active learning discussions" and through this experience came to realise the value of the reflective process. Perhaps, the willingness of the students to engage in reflection was enhanced by taking them through the process of reflection without ever labelling it as such.

4.10.1 Limits of RLS

While the RLS appear to have been a powerful pedagogical approach, they are not a panacea. Four issues will be outlined and more detailed reflections can be found in Appendix 7c. Firstly, the length of sessions (only one hour) left insufficient time to de-construct and analyse issues in depth and develop goals prior to the next session. Secondly, the group was a mix of dominant and quiet members and not all students felt able to participate as much as they would have wanted to. Thirdly, students were given minimal opportunities to explore their emotional response to complex situations, such as uncomfortable bedside interactions, which, once voiced, were not further explored. This related partly to the time factor and to the final issue; the quality of facilitation. On occasion my lack of skills meant that I did not respond effectively resulting in my closing the discussion prematurely and being over directive.

When planning the second cycle of this study, I will try to ensure that faculty recognise that planning and allocating sufficient time is vital for the success of RLS. It is very easy to be over ambitious and to try and achieve too much. If the focus is on enacting change, priority should be given to exploring each of the learner's clinical experiences, including their emotional

responses and allowing sufficient time for reviewing and setting each student's goals. The qualities of the facilitator and the need for careful training cannot be underestimated.

4.11 Summary

Within a one month period, eleven student-doctors engaged in a reflective cyclical process which had four phases. Initially they identified a ward-round incident in which they had participated and which had generated feelings of discomfort or raised questions for them. Then using their audio-diaries they described this ward-round and related personal feelings and significant contextual factors. Subsequently, within the RLS, they engaged in a process of critical enquiry responding to group members' searching questions. These questions generated an internal dialogue and explored assumptions and expectations that may have been shaping personal meaning. Thirdly, they identified new perspectives and alternative explanations. Finally, through a process of goal setting, they converted these new perspectives into future actions. By exploring the different ways in which the student-doctors were enabled to reflect on their understanding of knowledge, processes of participation and the learning process itself, it does appear that the intervention was successful in enabling them to reflect critically on interactions which they had previously perceived as mundane or boring, thus enabling them to see some of the complexity of clinical practice. With reference to Reason and Bradbury's (2001) choice points, there is a practical outcome; nine of the eleven student-doctors felt enabled to learn through participation on ward rounds.

Through personal self-exploration, commitment to personal goals and sharing of experiences, they seemed to develop a greater, more critical, understanding of types of knowledge, opportunities for, and approaches to, learning. Their identity as learners in clinical practice and student-doctors was strengthened through their increased confidence in what and how to learn. Ultimately, in re-conceptualising their understanding of knowledge and learning, the students came to see that neither knowledge, nor the clinical context, nor they themselves can be isolated and that learning in clinical practice is most effective when these three components are integrated and critically reflected upon. This analysis suggests that issues of student-doctor identity and agency and their effect on participation were key factors that influenced the student-doctors' understanding of learning and require further analysis.

5 Seeing Apprenticeship Learning Through a New Lens

This analysis will further explore the first and third research questions. These relate to the factors that influenced understanding of learning on ward-rounds and how might the RLS and audio-diaries better support the student-doctors' developing understanding of the ward-round as a learning experience. Using a new lens to explore apprenticeship, it will begin by focusing on how individuals are invited to participate in learning in the CW and argue that the individual's ability to participate is predicated on three factors: the opportunities for learning, the learner choosing to engage with those opportunities and the negotiated relationship between these aspects. This draws upon Stephen Billett's exposition on "workplace affordances" (Billett, 2001b), Billett and Bandura's understanding of agency (Bandura, 2001; Billett, 2011) and Mezirow's (1997) conceptual understanding of transformative learning. This combining of a socio-cognitive, socio-cultural and workplace conceptualisation enables an understanding of learning in the CW which acknowledges the super complexity (Barnett and Hallam, 1999) student-doctors encounter in the CW.

In elaborating this case, this chapter is structured as follows. Firstly, in seeking to understand learning in clinical practice, it presents an analysis of how affordances are opportunistic, that is they are not random or aberrant, but rather are constructed by the CW and yet also constrained and contested within it. Specifically, when gaining access to the ward-round, this chapter asks what is afforded to whom and how this is directed to maintaining the students' status within the medical hierarchy and enculturating them into the medical culture. Secondly, it considers how CW affordances are negotiated. It will argue that negotiation of these affordances shapes the student-doctors' emerging identity as professionals and learners. Whilst participation and learning are inextricably bound up with the situation, students choose how to engage in the CW (Billett, 2004). The discussion will apply Billett and Somerville's (2004) work on individual agency to the CW by acknowledging that how student-doctors think about themselves, their superiors and their identity is closely connected with how they elect to engage in the CW. Finally, the discussion considers how this study has influenced and contributed to development of policy, theory and practice in medical education. As the ward-round represents a microcosm of clinical practice the discussion in the chapter will, where appropriate, be broadened to consider learning in the CW.

5.1 How affordances were constrained and contested within the CW

Rainbird et al (2004) suggest that grasping the nature and focus of strategic decisions and power relations is key to understanding the constraints and affordances in the workplace. Three levels of decisions were identified in this project. The first level decisions concern timetabling and objectives for attachments; such decisions, made by the School of Clinical Medicine, could ensure students are clear about what they are expected to learn and have non-timetabled time to attend ward-rounds. The second level decisions involve suitability of and access to ward-rounds, team members' receptiveness to students and clarity about team expectations. These first and second level decisions begin to explain the affordances and constraints and illuminate the significant structural constraints which emerge within the curriculum design, the team relationships and organisational structures. Although not addressed within this analysis, these issues were significant constraints on students' learning. However, I contend that the data in this study suggest that within undergraduate medical education, central to understanding the affordances and constraints in the CW are the third level decisions; these relate to the exercise of power and vested interests which shape the learner's identity as a student-doctor and professional.

The CW generates social practices; learning occurs through participation in those practices. The different types of knowledge to be learnt are predominantly social, which require engagement with the team who have the knowledge, or with the workplace equipment (stethoscope, notes, charts) which symbolise the knowledge to be learnt (Billett, Barker and Hernon-Tinning, 2004). In consequence, how the students negotiate access to and participate within the CW is fundamental to their learning and shapes their identity.

Doctors are imbued with several sources of power and can create or contest constraints and boundaries which enable or inhibit participation (Egan and Jaye, 2009). As a role model, they derive status from their expertise and experience of caring for patients. The hierarchy within medicine attributes status by distinguishing different levels of responsibility and accountability for patient care. Senior doctors are ultimately accountable and they have the autonomy to organise their work and the work of others as well as a formal role in teaching clinical medicine. These are the role models to whom the students aspire and whose roles they are beginning to learn. Perhaps part of why they do not challenge their position is because they are aware this is part of their learning experience about medical culture and that they will soon be on the next rung of the ladder. This may also serve to maintain the status quo within medical practice. With the senior doctor's power comes the ability to control access to a

variety of learning opportunities and to teaching. As intermediaries with the School of Medicine, they are responsible for enforcing standards and reporting on both attainment and attendance. These power dynamics can impact both on the students' willingness to engage in ward round activities and in their perception of their ability to do so. Any attempt by students to take control of their learning may be perceived as undermining the senior doctor's authority and impact negatively on their subsequent interactions. It is important that we acknowledge that personal attempts to take control are done in the context of this imbalance of power and with little ability to exert influence (Rainbird, Fuller and Munro, 2004, p. 302).

Furthermore, the COP - the ward round team - can be seen to be perpetuating previous understandings and practices. Whilst the GMC describes three identities of the doctor as scientist, practitioner and professional (General Medical Council., 2009), many role models' prior experience of learning and assessment has been of a transmission-focused pedagogy that prioritised development of the scientific identity. The time- pressured nature of the ward-round offers little opportunity for teaching or development of the scientific identity and rich learning affordances related to the practitioner and professional are sometimes contested or not recognised by clinicians. The way in which workplace practices can deliberately restrict participation is exemplified in the different ways students are dissuaded from attending the ward-rounds by their seniors (see 4.3.2). Descriptions of the round as routine, or suggestions that there is nothing interesting to learn, objectify patients as interesting phenomena with signs and symptoms present a restricted model of learning; the nature of human interactions means we can never know what will occur in a ward-round. This understanding of knowledge as core medical science ignores the many other forms of knowledge that can be learnt and the opportunistic nature of apprenticeship learning.

The ward-round is extremely complex, learning affordances are rarely explicit and mainly opportunistic (Dewhurst, 2010; Quilligan, 2010; Sheehan, Wilkinson and Billett, 2005); if this is not understood, it is easy to see how the ward-rounds' affordances could be dismissed. Stating that students cannot attend the round because pressure to meet demands of patient management mean there is no time to teach, suggests quality of care may be impacted and positions the student as at best an inconvenience and at worst a burden. It also perpetuates an understanding that if there is no teaching there is no opportunity to learn. These practices reinforce the power of the doctors as the knowledge experts, the student's passive identity, expectations of transmission focused pedagogy and the status quo. Affordances are opportunistic "socially sourced and situationally constituted" (Billett, 2004, p. 112) and it is the

COP that determines the conditions for learning. Student-doctors need to be invited to participate if they are to learn through apprenticeship.

The significance of unequal power relationships, therefore, in the COP is important and needs further exploration, particularly in training environments where understanding of hierarchical relations and power structures are a necessary part of learning. Lave and Wenger (1991) propose that the outcome of participation in a COP will be learning. Whilst not disputing this, the working environments which they have considered - craft apprenticeship with tailors in Liberia and claims processors - may not encompass the complexity of medical healthcare or the power dynamics associated with medical hierarchy and therefore may underplay the difficulty of initially negotiating access to participate at all, let alone becoming legitimate participants. Lave and Wenger describe an enduring, close knit and accommodating community, which is far from the ephemeral teams found today in health care. This echoes Fuller et al's (2005) findings with apprentice engineers and school teachers. Understanding and acknowledging the significance of power dynamics within the COP is the first step to equipping students to learn within the CW.

5.2 Identifying and negotiating affordances of the workplace

Participation within the ward-round involves learning the unwritten rules of the COP that relate to what is valued, learning to assume and replicate hierarchical positions, being unobtrusive and not questioning senior doctors' practices. Nevertheless, the student-doctors found that when they did actively participate in the routine ward-round activities, the response of the team was frequently to encourage and legitimise their participation. Through this participation, they moved from the edge of the COP inwards and this move was important to the student-doctors' identity as learners as they developed a clear sense of purpose.

Recognising that both they and the clinicians focus only on a small aspect of the available knowledge alerts them to many previously unseen CW affordances. In this way their epistemic assumptions about the nature of knowledge are questioned (Mezirow, 1990). Reflecting on how what they see as important and what is privileged by social practice, influences the way they understand learning and their agency. Even though students like SD10 still question whether learning about the role of the teacher is any more than common sense, most of the students now acknowledge the opportunistic nature of learning in the CW and identify several types of knowledge that can potentially be learnt on the ward-round.

Within the RLS an additional competing set of rules was beginning to be understood which related to the importance of learning through participation, of needing to have the confidence to negotiate learning experiences and about the responsibilities of the student-doctor. This second set of rules challenged the status quo and, it will be argued, was achieved through boundary crossing. Boundary crossing is challenging, multi-voiced and poly-contextual and characterised by encountering difference and competing discourses (Wenger, 1998; Wenger, McDermott and Snyder, 2002). It is suggested that the student-doctors moved and crossed boundaries between two COP, medical education and the ward round team. Medical educators attempt to relate theory to practice and to highlight 'gold standard' practice, whereas clinicians on ward-rounds show student-doctors what 'real medicine' involves. The students are trying to inhabit both places at once; needing to make sense of the contradictions including different norms and guidelines for practice they are observing. Yet, their position means that they can inhabit neither space entirely. The use of the audio-diaries, the boundary object, ensured that the problems and possibilities for learning discussed within the RLS reflected authentic problems and enabled focus on the disturbing and problematic aspects of the CW. It was because of the significance of these problems that the student-doctors were willing to consider another set of rules.

Rather than seeing the theory-practice gap and student-doctors' experience of exclusion as negative, the discussion paid very careful attention to the detail of what they were experiencing. Crossing boundaries within the RLS enabled the student-doctors to step back and take a fresh look at the medical COP's assumptions and practices. Rather than staying within the boundary of their profession, they worked with the group and therefore engaged with a further COP which perhaps they were able to fully inhabit. By moving between three parallel contexts, medical education, the ward round team and the study cohort, they were enabled to understand complex inter-relationships that in classroom teaching or clinical practice might have been separated, unseen or disregarded. This process enabled them to expand their perspectives, identify gaps in their understanding and negotiate and integrate ideas from different contexts, resulting in them transforming tensions into new forms of learning. By engaging in dialogic problem solving, the student-doctors were enabled to see that both sets of rules had their place and that perhaps by becoming more aware of the second set of rules they realised that what was needed was a balance between the two. This new understanding produced change both within the group and possibly the clinicians, who the student-doctors felt responded differently to them, and became a deep source of learning.

Furthermore, we see the student-doctors sharing their new understanding with other student-doctors, which suggests the ripples of change may be continuing to spread:

I think I also learnt on this ward round that presenting a patient can really make a team warm to you because I hadn't been on this ward before and I felt like I became a part of the team quite easily. (SD5 AD Week4)

It's the things like people ...say "Oh I'm going to go to clinic and I'm a bit worried because it's going to go on forever", they're a bit shocked if I turn round and say "why not say you can only stay for a couple of hours. (SD4 FG3)

It may be that my role as a nurse enabled me to act as a boundary broker (Wenger, 1998, p. 109); someone who could make connections between the COPs of medical education and clinical practice because I belonged to neither. This may have enabled me to see things differently and also relate to some of the student-doctors' struggles. Reflecting on my background, not being a doctor may have enabled me to empathise with their feelings of being an outsider and within a hierarchy. In my early days as a lecturer in medical education, there were occasions when my perception of myself and my peers led to me behaving in ways which served to disempower me and this may have made it easier for me to recognise what was happening.

Bourdieu (1990) discusses introduction to professional apprenticeship as achieving 'a sense of the game', the 'game' being the habitus or sets of rules and customs of a cultural group to which one must ascribe to gain entry. By engaging in boundary crossing, the students came to a shared understanding about another set of rules that were not explicit, but related to taking responsibility for planning their attendance at ward-rounds, making their role explicit and being prepared to be more active. The students began to understand that learning within clinical practice could not be separated from the context. They learnt that constraints and affordances within the ward round shaped both what and how they learnt (Rogoff, 2008) and learning was situated within social practice (Lave and Wenger 1991). Furthermore, they became aware that learning is primarily achieved by negotiating access within the COP. Lave and Wenger (1991) contend that learners inevitably participate in a COP. Participation of this nature resulted in learning that was significant both for the students' emerging sense of identity and their understanding of how to function within the medical COP.

5.3 Identity

Acknowledging that thinking and acting are indistinguishable from learning (Billett and Somerville, 2004), part of what crossing boundaries and examining access to learning affordances achieved was exploration of the student-doctors' emerging learner and professional identity. Thus, within the CW, identities are constructed and co-constructed whilst the everyday activity is on-going, as we reflect on our experiences both individually and with others (Atkinson, 1995; Monrouxe, 2010; Monrouxe, Rees and Bradley, 2009) and as we recount events of our experiences to ourselves and others (Cave and Clandinin, 2007; Monrouxe, 2009). The findings of this study suggest that student-doctors develop and embrace identities both as professionals and learners and that these are closely linked to power relations.

5.3.1 Emerging identity as a professional

Students develop their professional identity and their sense of future self primarily by observing role models, questioning practices, engaging in a range of tasks, and recognising the power of the doctor. Whilst learning clinical skills and core medical knowledge, they also learn how to engage as a team member; this occurs through the disciplining and normalising influence of the community of clinical practice (Jaye *et al*, 2009). The student-doctors learn the rules of the ward-round, the expectations, values and behaviours of the community of clinical practice. This occurs through participating in ward-round duties and observing the ward team. The value of learning from positive role models is acknowledged by all the students. The clinicians they want to emulate portray compassion, communicate effectively with patients and team members and relate to patient and students as people. These positive role model characteristics are clearly identified within the literature (Paice, Heard and Moss, 2002). Some students, including SD2, initially question whether they can learn from negative role models. Dialogue within the RLS explores how these role models can demonstrate poor clinical communication and a lack of respect for patients and team members. Students describe how they use negative role models to identify what they do not want to be like or to clarify what they themselves value. For example, both SD4 and 10 discuss how their experiences shape their vision of their future role as teachers; DS emphasises the need for role model efficiency, the valuing and utilisation of all team members' skills and engagement with the team, whereas SD4 appears to be interested in the notion of collaborative learning:

I also found out quite a lot about the approaches to teaching and the style of teacher that I'd like to become, as in offering students the chance to look

at an x-ray and explain it as well as listening to signs on the patient if at all possible. (SD4 AD Week3)

Within this study, the student-doctors' professional identity was shaped through participation with three COP: medical education, the ward-round study cohort and the ward-round team. Through dialogue in RLS, the ward-round study cohort explicitly discussed team members' personal assumptions about their place within the team and the role of the doctor. They explored hierarchical positions and how team members were expected without discussion to step into each other's roles, identifying features of a COP (Wenger, 1998). By considering notions of collaborative learning, critical reflection and collective professional identity, some of the socio-cultural assumptions around hierarchy and power relations are challenged. Whilst in the RLS they engage in questions about the ritual nature of ward-rounds, the purpose of the ward-round, whose needs it serves and whether the way patients are treated by the medical team is appropriate. This questioning by the students of the patients' position within the ward-round, their lack of involvement during the interaction and whether or not their needs were met showed a growing understanding of the power of the doctor. Through participation on ward-rounds they identified the importance of being legitimate participants and the significance and complexity of many of the tasks; ways to develop self-agency were then explored further in the RLS.

Engagement in the RLS enabled the student-doctors to begin to see their own professional identity emerging. By thinking about the actions of role models both positive and negative, exploring their own responses and participating in discussion they began to think about whom they would want to emulate, how the team functioned and how to function within a COP. This was achieved through development of their individual agency.

5.3.2 Development of individual agency and learner identity

Whilst this study was designed because of a realisation that the CW was perceived by the student-doctors as super complex and difficult to negotiate access to and participate within, how student-doctors think about themselves, their position in the team and their seniors is closely linked to how they choose to participate in routine activities. The individual's engagement with CW can be more or less diligent, intentional and focused in specific ways. Part of what determines the way a student chooses to engage with these encounters will be shaped by their past experiences of both learning and clinical practice. Equally the way they engage with a particular affordance will be influenced by their interpretation of it, whether they are even aware of it and the degree to which they can exercise their intentionality (Billett,

2011). Whilst acknowledging that the CW exerts more or less power over access to the knowledge that emerges from the practices of the COP, the students also need to be willing to engage and develop their individual agency; decisions about whether to engage in CW are individual and not locally determined (Billett, 2011).

Activities that individuals engage in and from which they learn are not aberrant. They are sourced in historical and cultural practice and manifest in particular ways in social practices, which are then construed in particular ways by individuals... Therefore, the change or learning that occurs is shaped by social sources, inter-psychologically. (Billett, 2004, p. 112)

Individual engagement with the CW is then premised on “relational interdependence between the individual and the social world” (Billett and Somerville, 2004, p. 311) Furthermore, the processes of thinking, participating and learning cannot be separated (Rogoff, 2008). Thus individual identity is both shaped by and shapes and directs our intentions, monitors our responses to learning experiences and determines how individuals engage with the social situation they encounter in the CW.

Initially, the students identify themselves at the bottom of the pecking order within the medical hierarchy and consequently have little personal control over choices related to learning. “People act, or do not act according to how they understand their place” (Somers, 1994, p. 614). The student-doctors are aware of how the social practices of the ward-round serve to emphasise positions in the hierarchy and support inclusion or exclusion. Being ignored, remaining anonymous and feeling they are an unwanted burden portrays for some students their learner identity and impacts on their ability to gain access to the COP. By alerting the students to how those assumptions about power influence their engagement, they become aware of personal factors that may be shaping their responses.

Identity is not fixed or static; it affects activities, relationships and beliefs and in turn is affected by them (Monrouxe, 2010; Somers, 1994). From previous positive interactions within supportive teaching environments, the students acknowledge the value of participation but are struggling to negotiate access. Their restrictive assumptions of formal power as “being external to themselves and therefore outside their control” (Fook and Gardner, 2007, p. 107) limit their agency. Once they understand that believing they are at the bottom of the hierarchy impacts on the way they are behaving, for example by not introducing themselves, they begin to see possibilities for change. Recounting their experiences triggers questioning about whether they have rights.

By focusing on authentic clinical interactions that the students experience, attending to the minutiae and questioning the apparently mundane, the students are enabled to perceive the complexity of the CW and specifically are alerted to the socio-cultural assumptions related to power and social relationships (Mezirow, 1990) that make it so difficult for them to negotiate access to the COP. By acknowledging the challenge of the novice, they begin to see the importance of them sharing key information with the ward-round team in order to develop a shared understanding about their attendance at the ward-round. Furthermore, they are alerted to the importance of using their agency to maximise their learning even when affordances are low. They learn that the way they interpret and engage with CW affordances directly relates to their assumptions and that assuming the ward-round is a discrete entity, to which they can turn up unprepared, arrive expecting to be taught and accept very little responsibility for learning, shapes their intentionality and identity as learners and professionals.

Whereas previously they focussed on their lowly position in the hierarchy, they now consider their identity as learners in the CW and reflect on how their views of power may be limiting their engagement. Once these assumptions have been challenged, the students, acknowledging the complexities of the CW, then engage in individual cognitive goal-setting activities around increasing participation as a means of developing and using their own self agency (Bandura 2001). This process requires them to attend to their own actions, the social situation in which they occur and the outcomes. This self-monitoring is influenced both by the last ward-round experience, the previous group dialogue and the factors the students select as important. Some students grow more confident, acknowledging that they are legitimate participants, identifying more strongly with a learner who has both responsibilities to the team and rights to negotiate their learning. Through the process of clarifying their goals for the CW learning and the ways in which they may participate, they begin to re-define their identity as learners. The resulting professional self-confidence develops as their agency and ability to recognise and negotiate the ward round complexities increase. They learn about their own self-concept and identify themselves as participants in their own learning.

5.4 Relationship and relevance of theoretical framework to study outcomes

From the previous discussion it is clear that the theories identified in chapter 2 have collectively been helpful in understanding the student-doctors' ability to learn through participation on the ward-round, and the contribution made by both the individual and the

CW. This discussion will now review the use of social cognitive, socio-cultural, workplace learning theory and critical reflection to consider how the theories related to each other, what one contributed to another and what, if any, aspects were rejected.

Socio-cultural theory pointed to the importance of belonging to and becoming a legitimate peripheral participant within a COP (Wenger, 1998). COP share experiences, sets of beliefs and ways of understanding the world. This theory highlighted the importance of engaging in activities together and reinforced my belief that learning by participating, sharing information, interacting with the team and assuming mutual accountability was important. The data showed that the ward-round team were a COP: they held shared expertise and focused on a common enterprise. Cultural practices reflected a unique use of language, an understanding of roles, tools and values. However, the data also highlighted that, initially, the student-doctors did not feel as though they belonged to this COP. Data from focus group one shows that at the outset of the study the student-doctors, to a greater or lesser extent, viewed themselves as individuals attending the ward-round to be taught medical knowledge, and not as members of a group learning through, and practising interacting with others in, a COP. Lack of information about the patient contributed to them feeling as though they were not engaged in a common enterprise. Furthermore, their primary focus on knowledge acquisition resulted in them perceiving that they lacked expertise and therefore assuming they had little to contribute to the ward-round. Perhaps their understanding of a COP was more of a membership category, accessible only if they possessed the relevant expertise. The notion of legitimacy emphasised that access to the COP needed to be carefully negotiated, and it was clear at the outset the student-doctors did not feel legitimate participants. One way that clinicians could orientate student-doctors to the learning context and begin to make them part of a shared enterprise would be to ensure that someone in the team briefly presented the patient and/or to direct the student-doctors to ensure that they have seen the patient prior to the ward round.

It was through participation in routine ward-round activities that the student-doctors began to feel legitimate participants. Participation involved more than taking action. By undertaking activities, such as reading out the patient's observations, the students felt useful, legitimised their role and connected with other team members. Thus participation involved both action and connection, providing a sense of fulfilment and acceptance by the COP. Commonly, student-doctors referred to the outcome of participation as being rewarded with further learning opportunities, feeling valued by their colleagues and acknowledged as part of the team.

The student-doctors were enabled to participate through development of their agency. Billett's (2011) work points very strongly to personal agency and the choice to act. Agency was understood as an ability to exert control over and direct one's own learning; development of agency was intended to place responsibility for learning primarily with the student. Specific features of agency emerged from the data. Firstly, decision making and goal setting. This involved the student-doctors acknowledging that they could exert some influence over their learning and their future ward-round learning experiences. Decisions related to when to attend or leave the ward-round, choosing what to focus their learning on, being clear about why they were choosing to attend (or not attend) and planning how they were going to participate. This was in sharp contrast to the anticipated framework of apprenticeship, where the student-doctors' learning is directed and supervised by the clinician. Having made these decisions they could then identify their needs, explore alternatives, consider strategies and engage in goal setting. The process of goal setting enabled the student-doctors to participate, and they began to understand that rather than focusing on acquiring teaching, they needed to focus on the ward-round as part of medical practice. What they were learning related as much to the values, roles, communication and tasks of the COP as to the medical science (Wenger, 1998). Goals were set that reflected this new understanding of the need to navigate practice settings (Billett, 2004). Secondly, they enacted their goal. Whilst the decision making involved projecting into the future, enacting the goal involved flexibility, choosing from different options in light of the demands of the clinical context at that moment, and adjusting their action plan accordingly. Finally, they engaged in a process of self-evaluation. This involved monitoring and recording performance outcomes against the goals set, analysing the context and reflecting on prior experience in preparation for identifying a new goal. Agency could not have been built in this way without this meta-discussion about learning.

Development of the student-doctors self-efficacy (Bandura, 1993) was central to agency. The student-doctors made judgements about how well they could produce and regulate events on the ward-round, and these judgements influenced choices about whether to engage in activities. Once they had successfully accomplished a goal, their judgement of their self-efficacy was raised and they set more complex goals and persisted for longer in the face of obstacles or adverse experiences. Bandura's description of the different ways in which agency, and efficacy, might be developed, through mastery of task, social modelling and proxy agency (Bandura, 2001) can all be identified in the data. I suggest that both mastery of the task and proxy agency are central concepts which underpin learning for both undergraduates and post-graduates in the clinical context. To master a task you need to engage in a goal setting process.

The complex CW requires student-doctors to flexibly direct their learning and be able to negotiate access to learning affordances by recognising where others may be able to wield their influence when they feel unable to do so. This reflects power dynamics which will be returned to in the discussion of critical reflection.

Having a clearer sense of purpose and sense of legitimacy also gave most of the student-doctors a developed sense of identity; they became clearer about who they were. This was achieved both within reflection on their audio-diaries and subsequent discussion in the RLS. Agency builds upon past experiences and understandings of action. By exploring factors that modulated their identity they came to understand that their identity as a student-doctor was mediated through inter-subjectivities (Billett, 2011). For this study these related to past experiences of learning, views about performativity, perceptions of clinicians' expectations and prior ward-round experiences. Whilst the student-doctors may have begun the study with notions about learning and what made for a good ward-round learning experience, for most students, the identities related to these ideas were not fixed. Identity work involves "people being engaged in forming, repairing, maintaining, strengthening or revising the constructions that are productive of a sense of coherence and distinctiveness" (Sveningsson and Alvesson, 2003, p. 1165). For the student-doctors their identity work involved negotiating their prior understanding of the role of the learner, exploring the relational and social process of learning and considering the many forms of less tangible knowledge that could be learnt about medical practice by participating in the ward-round experience and as a member of the COP.

Participation in the study developed and modified their ideas. These modifications reflected identity shifts and were evident in their changed learning agendas, in their new approach to the ward-round and in the renewed sense of purpose they had when attending ward-rounds.

The discussion in 5.2 has already suggested that the boundary crossing referred to by Wenger et al. (2002) was facilitated through collaborative learning; enabling the student-doctors to explore and question different and competing discourses around knowledge, learning and identity by becoming a new COP. Equally, a significant part of what was shared was the knowledge that was being learnt from interacting and engaging with other participants (Wenger, 1998). In focus group three, the student-doctors pointed to a key learning point from this study: They had no other space to reflect on the learning process itself, so there is a need for a COP where, at times, learning itself becomes the focus of the discussion – a meta discussion. In this study this was important both for labelling the more subtle instances of learning and for providing a space to share successes and frustrations. This space to consider learning itself is something that is largely missing in the workplace. Whilst the concepts of

community of practice, legitimate participation and identity, agency and boundary crossing were all helpful in identifying what to focus on in the RLS and in the data analysis, they did not suggest how these issues could be approached when trying to implement change.

The process of goal setting, identified by Bandura (2001), was valuable in suggesting an approach to enable the student-doctors to plan, engage and review their attempts to participate. However, it was clear that without considering the perceived super-complexity of the ward-round interaction, goal setting alone would not necessarily have been effective in supporting participation. Critical reflection and the steps of content, process and premise reflection were vital to this process (Mezirow, 1990). In focus group one, the student-doctors engaged in content reflection; their analysis of the ward-round as a poor learning experience was that it was caused by teachers, and therefore the institutional structures needed to be changed. Evidence of process reflection can be seen in some of the students' goals, which related to them being more active by asking questions or asking if they could present a patient. However, the student-doctors' comments in focus group two suggest that if their requests had been declined they might not necessarily have gone on to explore why this had happened. Within the RLS, the student-doctors challenged their assumptions and considered how their inter-subjectivity, such as their past learning experiences and prior clinical experiences, shaped their construal of the ward-round as learning experience. They came to understand how these past experiences shaped not just what and how they learnt, but also in turn influenced their willingness to participate (Billett, 2011). By questioning the nature of the ward-round experience they also began to see that what is perceived as important, both by themselves and the clinicians, shapes what is seen and what is attended to. This process enabled them to see that gaining access to the COP required very careful attention and that simply attending a ward-round did not make them a legitimate participant. Billett (2011) suggests that sharing and drawing out experiences involves comparing commonalities and distinctiveness of practices. He draws attention to the need to consider the ward-round as an instance of social practice that the student-doctor navigates in light of their interests, identities and subjectivities. Part of what engaging in critical reflection with others achieved was a questioning of the degree of consonance between each of these factors, and how these related to goals and continuities of the ward-round. Central to this discussion was the issue of power and vested interests and how these shaped the students' identity. For the student-doctors, a key moment came for some when they recognised that how they were behaving - believing that being at the bottom of the hierarchy meant they had no rights - was shaping how clinicians responded to them, and that they could make a choice to behave differently.

This challenging of epistemic, socio-cultural and personal assumptions was achieved through premise reflection. Mezirow (1990) also points, within premise reflection, to the importance of the exploration of alternative perspectives. This also seemed to build personal agency; something that is perhaps not highlighted within the social cognitive, socio-cultural or workplace learning theories in chapter 2.

In summary, concepts from social cognitive, socio-cultural, workplace learning theory and critical reflection, as documented by Bandura, Wenger, Billett and Mezirow, have contributed to my understanding of the need to provide a space for a meta-learning discussion which explored the complexity of ward-round-learning. This space facilitated exploration of vested interests, identities and subjectivities and enabled most of the student-doctors to develop their agency and accept responsibility for their learning. Billet (2011) and Bandura (2001) pointed to the importance of agency. Bandura focused on using goal setting as a means of developing the individual's agency, whereas Billett attended to the way in which affordances were opportunistic, socially situated and existed within hierarchical, power structures, to the importance of how inter-subjectivities shaped the learning experience and to the negotiated relationship between these accounts. Both were important whilst Bandura identified a means of developing agency Billett's analysis pointed to the complexity of both the individual's engagement, and the CW and its relational interdependence. Wenger's emphasis on legitimacy of participation, negotiation of identity and boundary crossing also pointed to what this pedagogical space needed to address. Whilst recognising the importance of these issues, neither Billett, Bandura or Wenger suggest ways to engage in these discussions or consider whether this is feasible within the workplace. The framework of critical reflection (Mezirow, 1990) and goal setting provided a structure which practically facilitated supporting the student-doctors to develop their agency, and pivotal to its success was engaging the student-doctors in premise reflection.

The key question still to be explored is Reason and Bradbury's fourth choice point: 'Is this work important?' This will be addressed by considering what contribution this study can make to medical education.

5.5 Contribution of study to medical education.

Ideally medical education research should inform policy, theory and practice (Gill and Griffin, 2009); how this is achieved within this study and future potential for development in each area will now be discussed.

5.5.1 Policy

This study will be useful to policymakers because it describes the super-complex setting of the CW in which student-doctors are expected to learn and for which policies need to be designed; something that perhaps has not previously been captured. Furthermore, it re-affirms the rich learning opportunities that the CW affords and the importance of student-doctors being enabled to engage within it. When developing national guidance or local curricula, medical education needs to be more cognisant of this complexity; designing curricula that foster critical reflection and enable student-doctors to cross boundaries may be one way to approach this. Shifting the focus from development of teachers towards developing the student-doctors' self-agency may be another.

The question policy makers have already asked me is whether this approach can be rolled out across a whole cohort and curriculum. From September 2012, major curricular changes will be implemented which relate to the way professionalism is addressed within the Exe curriculum, one aspect of which is learning in the CW. Student-doctors will attend professional practice groups which are designed to allow students to reflect critically on authentic clinical experiences and which will be modelled on the RLS used in this research. Inevitably, implementation will involve compromises between the ideal of the original design and the new context. However, this will hopefully become the second cycle of this action research study and as evidence emerges, it will be imperative to show how the knowledge produced from this study has been used in practice.

Influencing future policy will not be easy. In questioning both the current understandings of why student-doctors are attached to clinical practice and how they may best learn, I am challenging power relationships and established practices. Coffield (2004) discusses relationships between researchers and policy makers and suggests researchers should not defer to power, nor avoid presenting difficult findings, for the sake of sustaining comfortable relationships. On occasion, when presenting these findings to clinicians, I have met with some resistance to the idea that student-doctors should be able to direct their own learning.

Proposals that student-doctors should not necessarily attend the whole ward-round, that time out should be taken to reflect on the complex interactions and that learning opportunities should be negotiated, challenge deeply held beliefs about apprenticeship. These beliefs relate to the ward-round as an institution; the students' role within it and the nature of learning and unquestioned assumptions may need to be discarded. There is a danger that the findings of this study may be perceived negatively particularly by those in the CW. The creation of antagonisms is not my intention. The world of medicine has changed beyond all recognition

and this study seeks to find new ways for learners to engage with it, whilst still recognising and valuing that medicine is a craft that needs to be learnt predominantly within the CW. I will endeavour to articulate the findings clearly, persuasively and to respond thoughtfully to critiques, thus keeping the topic on the medical education agenda. These proposals seek to stimulate debate, to provide alternatives and perhaps offer more radical visions of learning in the future. In an era where health care delivery is under huge pressure, embedding an approach which prioritises learning through participation may have far reaching consequences.

5.5.2 Theory

Consideration of what this study contributes to theory and how the study's findings may be further developed is vital. Eva and Lingard (2008) have invited medical education researchers to engage in "knowledge building" conversations.

This study takes as its precedent prior research on workplace learning (Billett, 2011; Evans *et al*, 2006; Wenger, 1998) audio-based studies exploring bedside teaching (Monrouxe, 2009), conceptual studies of apprenticeship learning (Dornan, 2006; Dornan *et al*, 2007) and studies of ward-round interactions (Dewhurst, 2010; Jaye, Egan and Smith-Han, 2010; Jaye *et al*, 2009; Walton and Steinert, 2010). Each of these contributes to understandings of participation, power and identity which this study has built upon. Two aspects of the study will be considered in relation to knowledge building. Firstly, this study has found that Wenger's concept of boundary crossing is applicable to learning within the CW. The concept was successfully applied to introduce change within the student-doctors' approach to learning in the CW. By crossing boundaries the student-doctors became aware of how their assumptions shaped their behaviour and impacted on their ability to participate within the CW. This resulted in them being able to consider ideas from different perspectives, develop new understandings and their personal agency. Secondly, this study, like the IFS, shows how the value of the ward-round lies within its potential to enable students to learn not only from experience but also as a result of participating in it. Dornan *et al* (2007) began to explore different forms that participation might take. This study has further developed these to show that the role of active observer can be both a self-directed active process involving setting oneself cognitive challenges and the result of being peripherally engaged in routine activities. Through reflection on their level of participation, the student-doctors realised that whilst being invited by a member of the team to participate was helpful, when they had greater clarity and confidence about their role within the CW, participation could be initiated by the student-doctors themselves. This moves the focus from Dornan *et al*'s (2007, 2009) emphasis on what

the teacher can do to support the students' learning to what the student-doctors can do to develop their own agency.

These ideas need to be tested in different situations; this relates to secondary care but could it equally be applied to primary care? The study was done in a school that does not have PBL as its curriculum. The suggestion is that similar problems occur within the PBL curriculum when students reach clinical practice, although we do not know enough about this, this is an area that requires further research. However, there are limits to replication in that this is descriptive research carried out in a naturalistic setting. Testing it across the next cohort will be the next step.

5.5.3 Practice

The project has become part of a curricular innovation to develop the professionalism component of the curriculum. Whilst this study has focused only on the student, the next cycle of the project will need to include faculty development, dialogue with students, clinicians, educators and researchers and further experimentation and evaluation. Such an approach may provide further clarity about what is needed to support pedagogical innovation. A project of this nature will need to work with those who are resistant to pedagogic change and will require clear institutional leadership to communicate the difficulties and possibilities. Future developments will require a partnership between the educational and clinical institutions. Without the explicit and tangible support of the clinical institution in which student-doctors are trying to learn and an acknowledgement by the School of Medicine of the value of different forms of knowledge and reflective practice, there will be severe limitations on what can be achieved. This will involve considerable investment in faculty development and a cultural change. A number of guidelines emerge from the study that may guide future development.

5.5.3.1 Guidelines for developing future practice

Firstly, since the new knowledge and understanding gained emerged from discussion of authentic clinical situations in which students had actually participated, the importance of contemporaneous incidents to underpin reflective discussions seems central to their success.

Secondly, the development of discussion groups to support critical reflection on practice may offer pedagogical practices that support development of students' professional and learner identity. However, re-formulating theories of practice in light of authentic case experiences and using peer sharing is challenging (Fook and Gardner, 2007). Understanding the importance

of making time for students to discover this learning for themselves will be central to adoption of this type of approach.

Thirdly, consideration needs to be given to the way reflection often generates negative connotations. Careful choice of label and teachers who are able and willing to guide this process is needed, if student-doctors' self-esteem and professional confidence are to be built through the use of critical reflection.

Fourthly, facilitators need faculty development in the area of critical reflection so that they are able to address the technical, moral, emotional, and political context of learning. Consideration should be given as to who is best to act as facilitator and create a learning environment supportive of reflective thinking allowing for high support and high challenge. This study has pointed towards three aspects of the facilitative role, which may be used both in selecting for and designing faculty training (Appendix 8f). Consideration also needs to be given to the power dynamics and specifically whether they should be linked to students' assessment (Delany and Watkin, 2009).

Fifthly, student doctors need to act purposefully. Much of the research on learning in clinical practice focuses on teachers and approaches to teaching. Where the student is considered, the research does not sufficiently address their preparedness and capacity to learn in clinical practice and seems to explore learning as outside the learner (Barnett and Hallam, 1999, p. 146). This will require a more fundamental shift in the way we view learning in clinical practice.

5.6 A new understanding of apprenticeship in the clinical workplace

This chapter has further developed the discussion, relating to factors influencing understanding of learning in the CW and how RLS and audio-diaries support student-doctors' understanding of the ward-round as a learning experience, by suggesting that apprenticeship may need to be re-framed or seen through a new lens. This new view of apprenticeship would acknowledge that affordances are constructed by the CW and opportunistic and that student-doctors need to learn to access these affordances through participation in the routine daily activity of practice. Furthermore, the power of the COP to influence student-doctors' understanding of the learning in the CW and their subsequent ability to participate, relates to the assumptions they make about the CW, forms of knowledge and the role of the teacher and student. This new view of apprenticeship would argue that even when clinicians feel they have no time to teach, they should not dismiss student-doctors' opportunities to learn. Whilst their participation in routine practice would be facilitated by the COP inviting them to participate,

the way the student-doctors perceive the CW and choose to engage is also dependent on their personal agency. Development of such agency would require a fundamental shift within the COP that facilitates student-doctors to self-direct their learning. Student-doctors need to feel they can negotiate learning experiences without risk of reprisal. Finally, space and time need to be provided for student-doctors to engage in guided critical reflection on authentic clinical experiences they have witnessed. This would provide an opportunity to explore assumptions, expose the complex and challenging nature of learning in the CW and the importance of development of personal agency. Engaging in critical reflection would enable student-doctors to understand their identity as learners and professionals and how their beliefs about knowledge, learning and power shape their learning experiences.

6 Conclusion

This action research study provides an empirical account of the super-complex CW in which student-doctors are attempting to learn. A complexity which produces uncertainty for student-doctors by challenging their understanding of knowledge; their professional and learner identity; their attempts to gain access to, and participate within, a COP, and the value of the ward-round as a learning experience. The study set out to explore how student doctors could be enabled to learn through participation on the ward-round, where opportunities for learning are not explicit and where few overt opportunities to participate are offered. My intention was to be pragmatic and cognisant of the “swampy lowlands” (Schön, 1987) and the goals and constraints of those who work in the CW. Furthermore, any intervention needed to work with the super complexity of the CW and not an idealised vision of changes in work organisation, which sought to prioritise teaching, or reduce workload. Through action research I was seeking to produce change that was both relevant and practically useful, to draw attention to and depict the complexity of the CW and to develop our understanding of learning within it, so that it can be applied to planning of future curricula.

Examining both the process and outcomes of a four week intervention comprised of audio-diaries (n=38) and RLS (n=3), the study was designed to engage student-doctors in a process of critical reflection about the factors that shape their understanding of learning in the CW, their role on the ward-round and the ward-round as a learning experience. Data from focus groups, pre, post and six months after the intervention, combined with the researcher’s diary were used to explore, develop and co-construct the analysis with the participants. In concluding this thesis, I will highlight the key results, its limitations and make recommendations for future research and changes to educational practice, some of which question the prevailing discourse and challenge prevailing practice. Before doing this, I will return to ethics and the choice points for quality and validity of research identified by Reason and Bradbury (2001) (see 3.1.9).

6.1 Ethics

6.1.1 Participating in the co-construction of data

Action research is understood as a participatory process (Kemmis, 2006). Whilst researchers like Heron and Reason (2006) propose that participants should be involved as co-researchers in the design, data collection, analysis and dissemination phases of the study, this was neither

achievable nor necessarily desired by the participants. Nevertheless, the student-doctors' participation was fundamental to this action research project and several of the participants commented that, compared with previous experiences, it required a greater level of commitment. When asked what she thought her role in the project would be, SD6 encapsulated several students' responses:

Just like a data collector, or something. I really thought it was just tell Sally what you thought and what you experienced and then she would do some really clever stuff and work out things that we ought to do and change, but that wasn't really how it turned out. (SD6 FG3)

The study was undertaken as part of an Educational Doctorate and needed sanctioning by the doctoral school before any student recruitment could occur. This meant that the theoretical framework and structured activities within this project were designed before the students became involved. This is something I would change in the future. The students agreed to be part of the project because they recognised that ward round-learning was not a fulfilling learning experience and so their views could be said to identify broadly with the research agenda; nevertheless the idea of research agenda was generated by me. In reality the extent of shared ownership is shaped by the project's aims – one of which was to be used in partial fulfilment for a professional doctorate.

With respect to data collection, the students were involved in all aspects of data collection and in deciding the direction the project should take (e.g. decision to present at Deanery meeting). Flexibility and empathy were key factors in facilitating student participation, specifically in relation to:

- How the data were recorded. Choice of using personal mobile phone or digital recorders. Some were uploaded to the central point on the university system but most were emailed to me. Some were in MP3 format, others had to be converted. A couple of student-doctors changed recording methods over time.
- Adjusting times of meetings and when audio-recordings needed to be submitted; taking into account everyone's commitments.
- Agreeing student-doctors could arrive late or leave early.
- Acknowledging the challenges the students faced in recording and uploading the diaries and in attending the meetings.

The students, through their generosity, gave us the material that formed the basis of the RLS in their diaries. Through the exercises, each group produced material in the form of flipcharts and I took that away and produced one mind map that encapsulated everyone's contribution. I then gave them these when we next met and they were encouraged to comment on what they had produced, and could add or change anything. However, there were two occasions when I sent two reminder texts because I had not received their diaries where, far from feeling like participants, they told me they felt like "research fodder". In future I will be more alert to the need to obtain agreement about how to respond to non-participation at the outset.

In this project, data collection and analysis have gone hand in hand and debriefing at the start of the second RLS marked the start of the analysis. The students were sent copies of the transcripts to comment on or correct (see Appendix 10). They rarely changed the transcripts, although some did send me emails with additional thoughts which linked to both the results and analysis. However, this does not mean that they did not feel engaged in the collection and analysis of data. SD8 rarely spoke, but sent a detailed email explaining the limits of timetabling. Furthermore, the sessions were rich with debate between the student-doctors and with the facilitator, something that the students themselves were aware of. When R2 asked "Do you feel like you were able to challenge what she said or debate with her?" Four other students stated they did, and SD2 summarised the following:

The nature of the discussion between all of us was very open ...it would have seemed very odd if she had just interjected or superimposed her own ideas on top of the group's discussion - it wouldn't have worked. If any one of us had tried to force our ideas on the rest of the group... Sally's level was she didn't pick a superior teacher level that was miles away from the rest of the group, and as such I think we would have treated her ideas similarly to the rest of ours. (SD2 FG3)

This suggests that these five student-doctors did feel they were valued participants who engaged in collaborative dialogue and whose contributions were valued. Over time, the level of engagement did fall. It was not easy maintaining commitment/enthusiasm when they had less to gain from the project and other commitments encroached on their time.

One milestone was the presentation of the project by the students to the Deanery team. Led by SD7, they decided to ask to do this and then prepared and presented the presentation. Whilst I offered suggestions on the draft presentation, this was very much led by the SDs, seven of whom attended. By entrusting task autonomy to the team, I demonstrated the trust I had in them. My sense was that out of this trust came even greater commitment to the project by those involved.

The time leading up to the presentation challenged me to consider the realities and dilemmas of the researcher and participants' role in action research. The date had been set and, despite numerous other commitments, the student-doctors were working hard on the presentation. I then received an email, informing me that the Dean was unable to attend and the presentation was being re-scheduled; no date had been confirmed but it was likely to be when the student-doctors were on holiday. My dilemma was whether I should tell them (my insider knowledge). As participants they were entitled to know; however, as a researcher I was concerned about a loss of momentum, the possible demotivating effect and the need to demonstrate the success of the project to bring about change. Part of how that would happen was the students delivering a presentation. In the end I did not tell them and negotiated for the presentation to go ahead without the Dean.

However, not all the students were equally involved and it was difficult at times to balance the obligation to offer all group members equal opportunities to be involved in dissemination activities with the desire to work more closely with those who had contributed more actively. To date, students have presented the project to the Deanery team and SD 7 and 11 have each co-written and presented a paper with me at conferences. So, although difficult, I have endeavoured to consider the role of the student-doctors as participants in each stage of the research process; I now recognise that this is a much more complex process than I originally thought and something that needs careful and sometimes uncomfortable discussion with all participants at the start and during the project.

6.1.2 The researcher's position

Herr and Anderson (2005) emphasise the need for clarity about the researcher's position as this will determine how ethical, epistemological and methodological issues are approached. As a lecturer struggling to narrow the theory-practice gap, studying my own institution, I was an organisational insider. I wanted to contribute to the development of the students' learning experience and, through my IFS and prior experience, had some understanding of the explicit and tacit knowledge and of the temporal, historical and cultural context in which students were working. As a nurse and educator, I was on the margins of the medical world and perhaps an 'outsider within' (Mannay, 2010), bridging the gap between theory and practice. It was then very hard to define my position as at different times I occupied all these roles. Furthermore, the group and my position within it were autonomous in that it was not convened to engage in or to respond to institutional demand for change.

Within the RLS, the dialogue was directed to secure intersubjectivity or shared understanding between the group members and myself, a more experienced practitioner. Billett (2011) reminds us that directed guidance of this nature can be a “pervasive form of social suggestion” (p68) and the guided discussions themselves could be perceived as another set of rules or habits (Bourdieu, 1990). Whilst suggesting an alternative perspective, one which viewed learning as multi-dimensional, on-going and requiring time for reflection, this was not introduced as rules but rather as suggestions and promoted as an opportunity to experiment. As the students felt they were gaining so little from their CW learning, they had little to lose through experimentation and quite a lot to gain; they were keen to explore possibilities.

I am aware I was very active within the discussions and drew the students’ attention to particular things. In the first RLS my question, ‘So what is medicine?’ was intentionally designed to get them quickly to focus on medicine as practice and clearly the fact that I had listened to all the audio-diaries meant that I chose what to draw attention to. Furthermore, although not a conscious decision, the fact that the first audio-diary I chose to discuss was SD10’s, perhaps one of the more vocal cognitivist learners in the room, made a difference. By enabling him to see the learning within an interaction that he had previously perceived as useless, I may have moved the group forward more quickly. Reflexivity, on points such as this, was vital both to my understanding of my position and this project and was operationalized within my researcher’s diary.

6.2 Quality and validity of research

When considering choice points for research quality and validity, Reason and Bradbury’s (2008) first point relates to the participative nature of action research. As discussed in 6.1.1, the student-doctors have been involved in the co-construction, analysis and dissemination of the data. Two of the students have recently co-presented the study with me at international conferences and others have contributed to curriculum change by presenting the research to the Deanery team and their student body. The second and third choice points consider the outcomes, whether different ways of knowing have been integrated and whether the methods were congruent with action research. This study did engage students in deep learning, which questioned and challenged their understanding of knowledge, learning and their role as learners and professionals, and was successful in enabling student-doctors to learn through participation on the ward-round. Furthermore, the study successfully engaged the student-doctors in discussion about authentic clinical experiences in which they had participated and the intervention respected and shared expertise of both the student-doctors and researcher.

The fourth point considers the value of the research. The study is important because it challenges medical education to perceive of the learner in clinical practice not as a passive participant but rather as someone engaged in a critically reflective learning process that integrates both clinician and student in a joint learning process. When learning is conceptualised in this way, the ward-round offers rich learning opportunities related to many types of knowing. The final choice point relates to the sustainability of the study. Whilst the curriculum development will continue the configuration, the next cycle of this research is not yet decided and its long term outcome is, as yet, unknown. Therefore, it remains to be seen whether or not it will influence the official knowledge base for medical education or future policy.

6.3 Study findings

One key finding was that the student-doctors' understanding of learning in the CW was influenced by their understanding of knowledge, prior learning experiences and concerns about performativity, resulting in them assuming a surface approach to learning that impacted on their wish/confidence to participate actively on the ward-round.

The discourse of participation and its centrality to student-doctors' engagement, identified by Dornan et al (2007), were re-affirmed by this study. Whilst the student-doctors valued and wanted to participate in routine ward-round activities, they lacked confidence and clarity about how to do so. By focusing on the nature of their participation, the student-doctors moved from being passive observers to active observers; some even developed the confidence to ask if they could examine or present patients, thus becoming actors in rehearsal (Dornan et al, 2007). Participation resulted in the students having a sense of purpose and, contrary to their expectations, requests for involvement were received positively by clinicians.

Engagement in critical reflection showed both the rich learning opportunities and significant challenges the ward-round posed for student-doctors and how individual engagement within the CW was both interdependent and intra dependent on the individual and the way they chose to engage with the CW.

Within the RLS, discussion of the audio-diaries provided examples of authentic clinical interactions that students had mainly found either mundane or confusing. By developing skills of critical reflection, the student-doctors were enabled to see that learning could not be separated from the context. Learning was situated within social practice (Lave and Wenger, 1991) and the constraints and affordances of the ward-round shaped both what and how they

learnt. Students engaged in critical reflection around role models, notions of power, hierarchy and knowledge, negotiation of learning opportunities, the student-doctors' agency and not, as they had anticipated, on how they could improve the teaching they experienced. This process facilitated change in the learners, by asking them to call into question the frames of reference they had taken for granted, to be more discriminating and critically reflective and to generate new understandings to guide their action.

For eight students, the result was the beginning of a transformation in their identities as learners, which has at least outlived the duration of the first cycle of the study. Through dialogue, personal goals were set to enable increased participation. This process helped learners to understand how learning happened individually and collaboratively, to develop an awareness of their own responsibilities for learning and to enact this new learning. This was considered vital to the project's success. By exploring ways in which they could make small changes, students were enabled to access and participate as legitimate members of the ward-round team. Equally, by accessing and understanding knowledge within clinical practice, beyond that of core science, students were empowered. They gained greater understanding of the opportunities for learning and this new knowledge helped them to develop a professional self-confidence and to articulate what they wanted to learn and how.

6.4 Limitations

Whilst this study offers a rich description of the super complex workplace in which student-doctors learn and challenges the traditional framework for understanding apprenticeship learning, it has limitations that should be acknowledged. Firstly, the School of Medicine has a particular curriculum and culture. Given these circumstances, it may prove difficult to transfer the findings. Decisions about transferability are left to the reader. Equally, in attempting to provide a thematic description of the entire data so that readers can make decisions about relevance to their own context, some depth and complexity have been lost. Secondly, as a nurse and lecturer, I have tried throughout to be reflexive on my role and its impact on the study; however it is hard to know how much of what was achieved related to my different perceptions as a non-clinician. My perspective has been strongly influenced by the theories outlined in Chapter 2, specifically work by Bandura, Lave and Wenger, Billett and Mezirow. Furthermore, I acknowledge that in co-constructing the data, there will be much I have missed or chosen not to see. Thirdly, the decision not to follow up non-responders, whilst methodologically consistent with action research, limited the available information on an important question: 'If the intervention was not helpful what else could we have done?'

Finally, as evidence emerges from the next cycle of the study, it will be imperative to show how the knowledge produced from this study has been used in practice. What I cannot claim is that this intervention is transferrable to the wider curriculum.

6.5 Study impact

The findings about the complexity of the ward-round are broadly in agreement with Dewhurst (2010), Jaye et al (2009) and Sheehan et al (2005). The understanding of participation as described by Dornan et al has been tested and further developed. Furthermore, the study has considered how Bandura's and Billett's work on personal agency, Mezirow's work on critical reflection and Lave and Wenger's work on boundary crossing can be applied to the CW. This suggests that this study is not atypical and will be relevant to others in health care education.

The study's impact can be considered at three levels: the student-doctors, the local curriculum and medical education. For eight of the eleven student-doctors we can see that they were enabled to learn through participation in routine ward-round activity and this learning was sustained for more than six months and transferred to other settings. For the local curriculum, professionalism will now be addressed through professional practice groups which are designed to facilitate critical reflection. Led by a consultant, students will bring examples of experiences they have witnessed to discuss in small groups, identify problems and explore potential solutions. By clearly articulating the underlying philosophy behind the principles of the design, my intention has been to enable curriculum developers to be clear about what may be gained and lost when they are making choices about what to preserve, adapt and potentially abandon (Varpio *et al*, 2011). With regard to the impact on medical education more broadly, the study has produced a number of recommendations.

Changes in the very nature of clinical practice may mean that medical educators are organising clinical education based on paradigms that pertained to their own education and that are no longer relevant to how clinical medicine functions in 2012. This study suggests that too little attention has been paid to how the clinical context in which students strive to learn has changed over time. We need to plan clinical education in the knowledge that the world of practice is extremely complex, dynamic and uncertain and that there is often a lack of authenticity and alignment between what occurs in the classroom and what is espoused in clinical practice (Malhotra *et al*, 2009). When asking students to adopt the role of apprentice, we need to equip them to learn in an environment where information is difficult to access, teams are rare and the rules of engagement are not explicit. Such support involves equipping

students with an understanding of how to learn actively and the confidence to negotiate roles and tasks.

The study has pointed to the CW, and specifically the ward-round, as a crucially important site for learning that offers a rich array of potential learning opportunities. It argues that by enabling student doctors to learn by participating in and critically reflecting on their authentic CW experiences, they gain valuable experience that cannot be gained in the classroom or in simulation. These are opportunities that may be hidden or ignored, depending on how the individual and the COP perceive, interpret and engage with them.

In considering the readiness of the workplace to afford opportunities, we may need to challenge the norms and work practices of the ward-round. Suggestions such as 'if there is no time to teach, students cannot learn' and the unstated requirement to stay for the whole of the ward round, may need to be replaced with an acknowledgement and recognition that student doctors are attending to learn more than core medical science, can learn through participating in routine clinical care and need time to reflect on what they have seen. Consideration may also be given to whether it is possible to reorganise practices to maximise opportunities for participation and to how clinicians could invite student-doctors' participation.

Current focus within medical education prioritises the importance of the clinical teacher in facilitating learning in the CW. This study suggests future policy development should pay greater attention to and acknowledge the need to develop student-doctors' agency. The student-doctors' sense of disempowerment, passive approach to learning and confusion about what to learn, all point to the need for guidance. If they are to participate effectively as legitimate members of a COP, they need to learn to be flexible, to be equipped to cope with uncertainty and to acknowledge and adapt to a changing, conflicting and usually implicit curriculum. One suggested response is the development of strategies for promoting critical reflection on ward-round experiences (for example audio diaries and guided reflection); an approach which would enable student-doctors to explore their role as learners and professionals.

6.6 Recommendations for research

Medical education research needs to attend to new curricula developments that promote learning through participation, focus on development of the students' personal agency and continue to explore the complexity of learning within the CW. It is hoped this particular study

will enter a second cycle that seeks, through engagement in critical reflection, to address the following questions:

How can critical reflection impact on student-doctors' responses to role models?

How can critical reflection enable student-doctors to understand and develop their role as learners in the CW?

6.7 Dissemination

To date, aspects of this study have been shared at conferences locally, nationally and internationally and with audiences of researchers, clinicians and medical educators. Forthcoming papers will address the use of audio-diaries and the viability of collaborative research, the analysis of ward-round interactions and critique the pedagogical strategies of reflective learning discussions and audio-diaries. In this way it will make contributions to methodological, pedagogical and theoretical discussions within social science and education and to the creation of new knowledge.

In order to influence other medical educators and the larger community of clinical teachers, the process of sharing the findings of this inquiry represents an attempt to place this work within a wider body of knowledge, within larger questions of knowledge claims and could even be perceived as challenging epistemology in medical education. If medical education is to continue to offer students an apprenticeship style of learning within clinical attachments, some greater clarity about how learning experiences are conceptualised is central to understanding learning and to planning how learning experiences in clinical practice can be designed, implemented and evaluated. This requires careful attention to the purpose and efficacy of experiences through which different kinds of learning emerge (Billett, 2009). We need to acknowledge that what student-doctors are learning about medical practice is intertwined with who they are and who they are becoming.

The suggestion Billett (2009) proposes is that current conceptualisations of learning (e.g. acquisition modes of learning; self-efficacy; COPs and legitimate peripheral participation) and practices (pedagogic strategies) emphasise and privilege either the socio-cognitive or socio-cultural contribution to these experiences. This results in either the role of the personal or social aspect of the experience being underplayed. It is argued that within medical education an account of learning is needed that recognises the contributions of personal experience, the individuals' cognitive experiences (their knowledge, the position through which they experience) and the intentions that shape that experience. Equally, an account of learning is

needed that validates the learning experience as a socio-cultural experience with specific interactions and activities that shape and afford learning opportunities. However, as Billett (2011) suggests, there is a need to go beyond the immediacy of either of these understandings to account more fully for the negotiated relationship that exists between both these accounts. Such an account may well mean that the historically derived and culturally constituted model of medical apprenticeship, which foregrounds the agency of the master in affording learning opportunities, may no longer be viable. Instead, a model of apprenticeship is needed which acknowledges the perceived super complexity of the CW, prioritises the development of the student-doctors' personal agency and capacity and seeks to develop pedagogical strategies which elaborate the purpose of learning to include empowering student-doctors to learn.

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Appendix 1: Recruitment Email

Dear x,

Between February 14th and March 18th I am doing a research project which is looking at how student-doctors learn on ward rounds. I'd like to invite you to take part. I am hoping that ten to fifteen 4th year students based at X Hospital (medical attachments) will take part.

What will happen during the research?

1. Week 1 and week 5 students will attend a 1 hour focus group and complete a short questionnaire.
2. Week's 2-4 students will be asked to record in a diary their observations about any ward round learning experience that they think is significant.
3. Week's 2-4 students will also attend a weekly lunch time discussion about ward round learning.
4. Week's 5 -8 some students will participate in a 30 minute interview

I am attaching an information leaflet which explains the project in more detail. I am more than happy to meet up and explain the study further if you would like to. I'd be very grateful if you could get back to me by February 1st letting me know whether you would consider taking part.

Many thanks,

Best wishes

Appendix 2: Student Information Sheet

1st February 2011

Dear Students

We are writing to invite you to participate in a collaborative research project exploring how to make the ward round a useful learning experience. We are researchers at the University of Cambridge, and one of us (Sally Quilligan) is also undertaking an Educational Doctorate at the Institute of Education, University of London. Sally is an experienced teacher and facilitator of professional learning. The following letter outlines the proposed research and what you can expect from it if you decide to participate

Why is this research being conducted?

It is widely agreed that learning from real patients is central to learning clinical medicine and that the ward round provides key moments of interaction with real patients and the clinical team. However, the complex clinical environment in which you are trying to learn can make learning on the ward round very challenging. This project explores the students' role on the ward round, looking in particular at the learning opportunities, and the level of student participation and whether it is possible to make the ward round a more useful learning experience. Its aims are to: (i) explore the students' perceptions of learning on ward rounds; (ii) explore the nature of students' participation on ward rounds; (iii) implement a programme of discussion sessions about ward round learning and (iv) evaluate the effect of these discussions.

Who will be in the project?

The project will focus on stage 1 students attached to medicine at x between February 14th and March 18th 2011. Students will be purposively chosen on the basis of willingness and interest in participating in the project.

What will happen during the research?

5. Week 1 and week 5 students will attend a 1 hour focus group and complete a short questionnaire.
6. Week's 2-4 students will be asked to record in a diary their observations about any ward round learning experience that they think is significant.
7. Week's 2-4 students will also attend a weekly lunch time discussion about ward round learning.
8. Week's 5 -8 some students will participate in a 30 minute interview

Both the focus groups and discussions will be audio recorded and transcribed. We will use these diaries and recordings as material for reflection in the meetings, and in our research. The diaries will be used to draw out general themes for these discussions, however; no individual student's specific observations will be identified in the session by the researcher. Students may disclose anything they choose. No one except for us will listen to any of the recordings unless you have explicitly given us permission to use them for scholarly presentations.

The results of the research will be published in practitioner and academic journals. We hope that participating students will join us in authorship of some of these publications and/or dissemination of findings in conferences and similar activities.

What are the potential benefits of participating in the research?

The main purpose of this research is to collect ideas to help other students, teachers, and policy-makers in future by gaining a better understanding of how to support ward round learning. The project will also offer participating students opportunities to reflect on their role in a supportive and challenging environment, which will likely benefit the participating students and their attachment teams. Interested students will also be offered the opportunity to participate in authorship of articles stemming from this research. Participants will also receive a certificate for their professional portfolio.

Who will know that you have been in the research?

As conventional in such research, we will keep digital recordings and notes in a safe place, and will change all the names in our reports – and the name of the school – so that no one knows who said what. There is only one exception to this rule which is if a participant requests to be identified, for example, as author of an article.

Are there any risks with participation in the research?

We hope that the participating students will enjoy collaborating with us on this project, and that they will find it professionally productive and stimulating. Some students may feel stressed about discussing their ward round learning experiences, or about having their activity discussed by others. We will do our utmost to make everyone comfortable with this process, including respecting participants' wishes to not participate in an activity, to not take part in a discussion or to withdraw from the research at any time.

Furthermore, we will not play any of the audio-recordings to anyone outside of the group without the relevant student's express permission, and will not share what we have heard with anyone, including other clinicians, teachers or the Deanery team. The only exception to this rule is in the unlikely event that we think someone might be at risk. If so, we will talk to you first about the best thing to do.

If you should have any problems with the project, please tell one of us or Diana Wood dfw23@medschl.cam.ac.uk.

Who is funding the research?

The research is not funded.

This project has been reviewed by the Research Ethics Committee of the Institute of Education. Thank you for reading this letter. We'd be happy to answer any questions you might have, and to discuss ways of adapting the research to best fit your needs and interests. Thank you for your consideration.

Best wishes,

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Appendix 3: Student Consent Form

Consent form

Making the most of the ward round

February 14th – April

I have read the information leaflet about the research. (Please tick)

I will allow the researchers to access my diary (please tick)

I agree to attend the focus groups (please tick)

I agree to attend the discussions ((please tick)

I agree to be interviewed (please tick)

I agree to be audio-recorded (please tick)

Name _____

Signed _____ date _____

Researcher's name _____

Signed _____ date _____

Appendix 4a: Focus Group 1 Questions and plan of approach

Introduction

Hello I think I've had a chance to meet you all but I'm delighted to introduce R2 who will be joining me for the group sessions of this project whenever she can. R2 introduces herself. Thank you very much for coming. Each of you has been chosen because we are really keen to hear what you think. I'd also like to take a moment to say how much I appreciate you volunteering to be part of this project which with your help will be the first step to really make a difference to clinical education at x. As you know I'm interested in hearing about your experiences of learning on ward rounds. In a few minutes I'm going to ask some questions starting off quite general looking at learning and then get more focused on ward round learning specifically. I'm also keen to identify if there are any other interactions like bedside teaching that are occurring perhaps in the place of the ward round. There are of course no right answers and I just want to remind you that this is all completely confidential. Does anyone have any questions?

The idea of a focus group is that apart from my asking the questions it is a discussion. Please feel free to ask each-other questions and to talk amongst yourselves. The only time I might interrupt is if so many people are talking at once that we won't be able to hear the responses. You will almost certainly agree with some of the answers your colleagues give and disagree with others. It is important that you make it clear to us when you agree and disagree. Any questions

Warm up

I'd like you all to introduce yourselves and perhaps say something about what you hope to get out of taking part in this project.

Clarification of terms

I'm going to be asking you about ward round learning. What I mean by this is any occasion when you have had the opportunity to discuss a number of patients at the bedside or close to their bedside and this discussion has focused on their assessment and or management. It would include both business and teaching rounds and it may also include some aspects of bedside-teaching. Does anyone have a question?

Questions?

Can you tell me a bit about the teaching approaches when you were in years 1-3? What were the main ways you learned?

What have you found different about the approach to teaching and learning in stage 1?

What are the main ways you're learning now?

What about specifically in clinical practice?

Since becoming clinical students what has surprised you about ward round learning?

Some students I spoke to during my first study didn't value the ward round as a learning experience – how do you feel about the ward round as a learning experience?

From your experience so far what sort of things does the ward round help you learn about?

Some of the research I've read suggests there may be positive and negative learning outcomes in relation to three areas;

Attaching learning to real patients (remembering patients and specific things about them e.g. disease processes and impact of disease)

Probe: what other opportunities does learning from real patients offer?

Probe: learning practically e.g. presenting patient, writing in notes

Probe: are there negative aspects to learning from real patients?

Practical Outcomes

What do you acquire knowledge of?

What about skills?

What about learning?

What practical outcomes would you like to achieve?

What else does the ward round offer as a learning opportunity?

What factors help you learn on ward rounds?

What factors hinder your learning on ward rounds?

Probe: patients, doctors, knowledge of curriculum (students and doctors) other team members other teaching activities.

Do you get other opportunities to discuss patient management at the bedside? If so what do those involve?

One way of learning is by observing. Observation can be passive or active what can you learn from passive observation on the ward round?

What have you learned from active observation on the ward round? E.g. a consultant sets a task which you have to feed back on.

What practical tasks have you participated in on ward rounds? What do you learn through this type of participation?

Are there things you could do that would positively affect your ability to participate on ward rounds?

Allow each person to respond

What are these things?

Why do you not do them now?

Members Check

Ok we're nearly out of time can I just summarise what I think are the main issues you've identified. We're not going to discuss these any more but I'm just going to ask each of you to say what you feel about each of these points.

Closing Statements and Questions?

Thank you all very much. This is really interesting and a valuable insight. What we hope to do now is go away and think about how we can use our next three sessions to perhaps begin to address some of these issues.

Give time date and venue for next meeting.

Are there any last questions?

Appendix 4b: Focus Group 2 Questions

March 18th

Introductions

I wanted this project to be participatory and collaborative and so today is about getting your ideas and suggestions about whether or not we have made a difference. If you remember, the title you gave the project is “making the most of the ward round” so I’m really keen to hear what you think and also about your experience of being part of the project to date. The aim was to make a difference but perhaps it hasn’t. I need you to tell me how it is – how you felt about it.

Has this project made a difference to your learning on the ward round and if so how?

Probe: How do you feel now about the ward round as a learning experience?

Probe: Confidence to learn and negotiate opportunities?

At this point in the project what does passive learning mean to you? What does active learning mean to you and why?

Do you think these categories are a useful way to think about participation?

Are there different levels within each?

Probe: role, practical tasks, observing.

Has your understanding of the opportunities for learning on the ward round changed?

Thinking back to the mind map we produced did what we suggested relate to your experiences?

What have you learnt about how learning relates to the environmental, social and cultural context of the ward round?

Cultural: views about learning/medicine

Now I want to move on to consider the three different strategies we’ve used.

The audio diaries were designed to help you step back and unpick the everyday experiences, to get you reflecting on your approach to learning, your role in the situation and how you crystalize the learning you take from a ward round.

Did they make a difference and if so in what way?

Tell me a bit about when you made them and what sort of things you were doing when you made them? How did you fit them into your day?

What did you find difficult about them?

Would you have preferred a written diary?

Would anyone use this sort of approach in the future?

Are they something we should encourage new clinical students to do?

With the active learning discussions my aim was to produce an environment in which you could think in a generic way about ward round learning and explore the connections between things, the importance of different things, consider your experience in relation to others and explore the relative strengths and weaknesses of yourselves and the curriculum.

Did these make a difference and if so what was useful? What didn't work?

Should these be part of the curriculum and if so led by whom?

E.g. senior students, FYs, lecturers, supervisors.

Being part of an action research project

From my perspective you've all been crucial to this project my hope was that by participating together we would work out what some of the difficulties are, what changes we could make because clearly you have the best insight into your situation.

But now I need to know from you what it's felt like being part of the project

Research fodder-----partner

Where would you place yourself on this continuum and why?

Where do we go next – publication?

Data analysis

Dissemination

Appendix 4c: Focus Group 3 Questions

(Questions developed jointly by R1 & R2; focus group run by R2)

Ownership of Project

What was their role in the project – did this change over time and if so when and how did this occur?

What did they see as Sally's role - did this change over time?

(Who did they think SQ represented part of the medical school, a CCS lecturer and or researcher?)

Thinking about the reflective learning sessions what were they like?

How were they run?

How much contribution did Sally make? Did you feel able to debate any issues she raised? If so how was this achieved? If not what stopped this from happening?

Can you talk about your experiences of learning from each other in the reflective learning sessions?

Thinking back what did you feel was in it for you at the start of the project? How, if at all, has that changed?

(How has taking part in the study helped you to learn?)

What stopped you from gaining more from the study?

Have you continued to reflect on your clinical experiences and whether you are maximising the learning experience? If so how?

What has been the impact for you of being involved in the research project?

(E.g. approaches to learning, involvement in research, in curriculum development, the opportunity to be heard)

Appendix 5: Excerpt from Focus Group 1 Transcript

So first of all can I just ask you generally why you agreed to take part in the project?

- | | | |
|------|--|---|
| SD1 | I agreed to take part in the project because I think it's important the ward round is a difficult place to learn and it is very variable across the hosp/ all hospitals and the experience that one person has doesn't necessarily correlate with what someone else has. If this group is going to help students make better use of the ward round then I think that's a good thing. | socio-cultural - difficult place to learn complexity |
| SD11 | Also on a more personal level it helps you identify where your weaknesses are and where you could learn better on the ward round and that's what I hope. | Personal - role of learner identify weaknesses how you could learn better |
| SD2 | I just find ward rounds quite often very unsatisfying you put in a lot of effort get up early be in the right time the right place, be ready to answer questions and then quite a lot of the time nothing happens. I find that when you're normally quite motivated to do things and you get very little out of it, I find that quite destructive. | Personal - unsatisfying
Cognitive - ready to answer questions nothing happens not taught |
| SD3 | But equally you can get a huge amount out of it and it can set up your morning very well if you have a good team. You do a good ward round you meet the patients you're well set up for the rest of the day. If we can find areas that you can pick off and improve so that you can have more of those that would be a very good thing to do. | Personal - satisfying
socio-cultural - good team, know patients
Cognitive - ward round can structure Learning |
| SD4 | yes I know there are bits that I could get more out of the ward round and it's just that I'm not doing something to get the most out of the doctors and it would be nice to recognize what we can do to help the doctors because they are ridiculously busy and having us | Personal - more I could do
socio-cultural - complexity incredibly busy
personal - what we can do to help |

	around isn't always the easiest thing to deal with.	Cognitive - ? acquisition get most out of doctors
SD5	It would be good if next year's stage ones didn't have to go through all the bad experiences of ward rounds before they work it out they could just have good experiences from the start.	personal - need to work it out
SD6	I think from a selfish point of view it is a way of making myself go to ward rounds because sometimes they've been so bad or there have been so many people that it is like sometimes you'll see it and there's about 10 people all about to start and you think oh I won't do it today and maybe this will just push me to go.	Personal - make myself attend socio-cultural complexity large team numbers
SD7	same kind of thing for me really because when I was in Ipswich I had really good experiences of ward rounds where I was involved and got to do a lot and I've heard that it is notoriously difficult to get as much out of it on your x medical placement. So I thought if I do something like this it'll show me how I can get something out of it and be good for other people as well.	Socio-cultural - got to do a lot Personal - positive past experiences felt involved Personal - how I can get something out of it recognises own responsibility
SD2	I just feel it would be quite difficult to talk to doctors on the round about it I think they appreciate that if you're just following them you're not getting much but you don't feel you can say this is rubbish to them, to their face you know can you talk to me more, so this is a good way of hopefully improving things	Cognitive - talk to me learning through acquisition? Unclear how to learn <i>(NB SD8,9 and 10 didn't say)</i>
R1	and just to clarify the way in which I'm viewing ward rounds is not just as consultant led rounds but kind of any time when you have that opportunity to see the doctors assessing a patient managing that patient, you know	

planning that patient's management and that might be the senior or junior doctor

R1	Ok so just to go back just take me back to the teaching approaches you had in years one to three. Tell me a bit about that	Socio-cultural-exploring prior experience of learning
SD4	Pretty much entirely sitting in a lecture and being told what needed learning. It just felt very spoon-fed that you were just rote learning lists	Cognitive - acquisition
SD1	But equally you knew what you were supposed to be learning	Cognitive - clear curriculum
SD8	Yes	
SD9	And you knew that if you went to a lecture you would gain something some information. You didn't feel like you might waste three hours of your life.	Cognitive - explicit learning
SD3	Well (laughter) the point is you had to, you had targets to meet along the way and you knew if you weren't meeting those you were going to suffer later on. Here you are not so sure I suppose you know what you need to do at the end but you don't have that structure as you go along over the months.	Cognitive - targets learning structured
SD2	They were all packed full of stuff you had to learn, there were very few lectures where you'd come away with just a few things you have to learn, you'd look at the hand out and think oh my God how am I going to learn all of that (laughter).	Cognitive - rote learning facts
SD7	but as well you have someone supervising your learning and making sure you were staying, particularly at my college we have several supervisions a week with someone who	Cognitive - learning closely supervised

knew what your progress was and knew if you had paid attention to your lectures and such like and it did provide the motivation then for you to work yourself it's a bit more difficult here.

R1 Tell me a bit about you know everything you had to learn

SD6 We had more of a curriculum and there was always like learning objectives and things like that and certainly for subjects like anatomy they were like you need to learn this this and this and this. Whereas now it feels like we all have different supervisors some of them are really good and then some people just have really terrible it seems like it's not very structured or standardised

Cognitive - clear curriculum

socio-cultural learning in clinical practice not standardised

SD4 For instance in pharmacology we're just told learn any drugs that come up, what it is a I think at one point we were just told learn everything in the hand out.

Cognitive - rote learning

SD1 and even at the beginning of every lecture they would often have a set of learning objectives for that lecture and it's very clear always very clear what you are supposed to be learning and how much.

Cognitive - learning explicit

SD2 And if you didn't know your supervisor could clear it up for you

Cognitive - teacher had answers

SD1 Yes

SD2 And you could look at the paper at the end and think aahh I didn't think I needed to know that.

- SD7 They just clearly outlined anything core you needed to know contained within that lecture what extra reading and often there'd be references for the extra reading so you knew where to go and look for the extra staff but you also knew you didn't really need to know that as long as you knew what was in this chunk over here. Cognitive - learning very contained
- SD3 I think that was fine for that period for the preclinical years I don't know to what extent that would be useful Personal - ? Approach to learning would work
- SD1 I'm not sure how you could possibly do it in this setting socio-cultural - in this setting
- SD3 I'm not sure it would be useful at all though even if you could implement I don't think it would work at all. agreement with SD1
- R1 Ok so just because I haven't experienced the undergraduate years have I got this right. You would go to a lecture be given clear objectives and a hand out which contained all the core material?
- SD3 + Yep
- R1 So essentially are you saying that if you learnt that core material on that hand out you knew what you had to do?

Appendix 6a: Audio-Diaries Prompt Sheet

Please keep an audio record of your ward round activities and experiences. We would like this to cover a number of aspects of these interactions and have included some prompts below to guide you. Please note that we wish to seek your reflections on **ALL** aspects of your experiences in this context – in particular around the knowledge, skills (whether clinical, communication-based or other), attitudes and behaviours of a doctor that you may have observed.

Prompts for Diaries

Who was present on ward round?

Briefly outline the case (age of patient, diagnosis, what was discussed). Please ensure you maintain patient confidentiality and anonymity by not using patients' real names.

What was your role?

Why did you record this learning experience?

What will you take away from this experience that is relevant to your future role as a doctor? (knowledge, skills, attitudes, behaviours, ideas about role of the doctor).

What if anything made the experience more or less beneficial for you?

If you were running this ward round what would you do to improve the students' learning experience?

The number of cases you comment on during a ward round is your choice. Most of you will probably identify one case per ward round. However, you may wish to comment on several cases in relation to a particular issue or theme. Equally you may wish to summarise what you've learnt with reference to specific cases. Whichever way you approach it, the idea is to record as much detail as you can about the experience.

You will need to make a minimum of one audio recording per week but may wish to make more.

Technology

Audio diaries will either be made on your smart phone or a digital recorder.

iPhone, the voice memo is saved in iTunes. Just in case you don't know when it comes to finding the file to upload, you have to go through a few folders and scroll through all of your artists to find the Voice Memos.

Android please upload the following ap if you have difficulty downloading the file to your computer <http://www.android.com/market/free.html#app=voicerecorder>

Appendix 6b: Focus of Audio-Diaries and Student Role

	Week 1	Week 2		Week 3	Week 4 (diaries not requested but were produced)
SD1	No diary	<p>Confidence in role of learner Dividing up the students improves learning</p> <p>Student Role – rehearsing doctors role Presented patient Received feedback Asked questions Shown signs</p>		<p>Confidence in role of learner Introducing myself and stage worked!</p> <p>Student Role – rehearsing doctors role Clerked patient Examined Patient Presented patient to consultant Received feedback</p>	No diary
SD2	Away	<p>Knowledge Acute renal failure Patient Experience</p> <p>Student Role – active observer Held charts –felt engaged and useful</p>	<p>Complexity of ward round learning Turned up for ward round that didn't happen</p>	<p>Confidence in role of learner You have to be brave and try to make big changes and then you will manage to make small changes If you ask for opportunities to examine then sometimes it'll work. Going in pairs may help</p> <p>Knowledge Patient management</p> <p>Student Role – rehearsing doctors' role Chest examination</p>	No diary

	Week 1	Week 2	Week 3	Week 4 (diaries not requested but were produced)
SD3	<p>Complexity of ward round learning 5 students sent away from ward round – told more useful to clerk patients</p> <p>UNABLE TO PARTICIPATE</p>	<p>Emotional response to professional communication Discussing patient's difficult situation no transplant while still drinking</p> <p>Student Role Active observer Observed examination Answered questions</p>	No diary	<p>Knowledge Managing acutely unwell patient in respiratory failure Hearing effect of drugs on patient's breathing</p> <p>Teamwork Value of synergistic teamwork to treat an acutely unwell patient Recognising other team members (nurses) may be able to help you</p> <p>Confidence in role of learner Introductions worked as a way of getting quickly involved.</p> <p>Student Role – rehearsing doctors role Pushing trolley Writing in patients notes Examining patient's chest</p>

	Week 1	Week 2	Week 3	Week 4 (diaries not requested but were produced)
SD4	<p>Complexity of ward round learning Unclear about ward round time</p> <p>Student Role – rehearsing doctors role Examined patient</p>	<p>Complexity of ward round learning Speed of round, number of conversations/interruptions ? Ward round or meeting</p> <p>Emotional response to professional communication Corridor conversations – difference between with patient and with professionals Need for honesty about potential for treatment and not give patients false hope. Respect confidentiality.</p> <p>Teamwork Value of nurse being present to ensure clear communication</p> <p>Student Role – passive observer Large team – didn't know No briefing about patients Felt angry and helpless.</p>	<p>Knowledge Detailed learning about 2 cases specifics not stated.</p> <p>Confidence in role of learner Saying who you are helps. Dividing up ward round into 2 splits up students and improves learning.</p> <p>Emerging role as professional Style of teacher I'd like to be one that offers students the chance to participate and involves them in discussions.</p> <p>Student Role –rehearsing doctors role Doing HX, Examination asking and answering questions</p>	<p>Knowledge Collating all the emerging information from patient and several specialists to try to work out patients DX Patient management Causes of inspiratory crackles Relevance of JVP Pressures of clinical care</p> <p>Doctor patient relationships Different approaches to 2 patients with DKA based on past history.</p> <p>Student Role –rehearsing doctors role Engaged with team Answered questions Reported on observations using PDA</p>

	Week 1	Week 2	Week 3	Week 4 (diaries not requested but were produced)
SD5	<p>Knowledge Young man post cardiac arrest Uncertainty of diagnosis</p> <p>Confidence in role of learner Read about possible causes then return to look in patients notes Scared to ask questions but did</p> <p>Teamwork Some leaders can be intimidating to non-medical staff</p> <p>Student Role – active observer Tried to think of possible diagnoses</p>	<p>Communication Doctors and patients perceptions of what is bad news may differ need to be aware of this. Knowledge On-going medical management of patients with bowel disease</p> <p>Student Role – active observer Didn't know some patients Answered questions Held the bowl Helped lean patient forward felt part of team</p>	<p>Knowledge Parenteral nutrition</p> <p>Doctor patient relationships Negotiating treatment change with reluctant patient. Theory/practise <u>Role of teacher</u> Keen teacher who knew us really helped</p> <p>Student Role – active observer Briefed about patients and asked questions?</p>	<p>Complexity of ward round learning Set goals but be flexible. Have a couple to choose from If you prepare for the round and ask to present you feel part of the team. Manage nerves by doing presentation early in round if possible</p> <p>Knowledge Alcoholic liver disease Signs How to present start with symptoms and identify feature features that confirm or deny specific differential diagnoses. Patients experience</p> <p>Students role Rehearsing doctors role Presenting patient Receiving feedback</p>

	Week 1	Week 2	Week 3	Week 4 (diaries not requested but were produced)
SD6	<p>Student Role - active observer Briefed about patient Observed examination Noted key signs Discussed diagnosis Answered questions Handed doctor drug chart “involved us”</p>	<p>Complexity of ward round learning Taken patients history in preparation to present patient but found she was on wrong ward round – frustrating. Didn’t know patient or team member it’s hard to learn anything when can’t participate in discussion. Collaborative learning can create a tension ways need to be found to involve everyone. Helps to be given a summary of the pt. Attendance on round resulted in opportunity to do a task after round</p> <p>Student role – Passive observer Not briefed Ignored</p>	<p>Confidence in role of learner Conclusion some ward rounds are not suitable for learning.</p> <p>Student Role –Passive observer</p>	<p>Confidence in role of learner Ward rounds help identify patients to come back to.</p> <p>Knowledge Signs and symptoms of Parkinson’s disease Long term steroid use How to assess a patient for osteoporosis</p> <p>Student Role – active observer Seeing a patient with signs makes it much easier to remember</p>

	Week 1	Week 2		Week 3	Week 4 (diaries not requested but were produced)	
SD7	<p>Emotional response to professional communication Teams response to a distressed patient</p> <p>Complexity of ward round learning Need to see patients pre-round.</p> <p>Student Role – Passive observer 1st round -didn't know team? Didn't know patient Felt helpless</p>	<p>Complexity of ward round learning Only 30 minutes for ward round Frustration patients prepared for already seen. Registrar didn't know stage of students</p> <p>Student Role – Passive observer</p>	<p>Knowledge Importance of re-checking the original history</p> <p>Complexity of ward round learning Wasn't asked to present even though I knew the patient – was ignored.</p> <p>Emerging role as professional As a teacher important to establish who knows what about the patient</p> <p>Student Role – active observer Briefed about patients Read out observations Asked questions</p>	<p>Knowledge Diagnosis multiple melanoma</p> <p>Doctor patient relationships Re DNAR Sensitivity required – take care re assumptions Discussion with whole team</p> <p>Student Role – active observer Triggered to follow up learning re melanoma Questioning what is observed</p>	<p>Knowledge Signs and symptoms of patient in heart failure Jaundice in an Indian man What is common</p> <p>Confidence in role of learner Explaining time constraints didn't diminish learning experience</p> <p>Student Role – doctor in rehearsal Examined patient Feedback Answered questions – felt appreciated.</p>	<p>Knowledge ECGs How to assess how unwell a patient is</p> <p>Confidence in role of learner If you know the patient ask to present</p> <p>Student Role – Active observer Invited to join ward round Asked and answered questions Triggered things to follow up</p>

	Week 1	Week 2	Week 3	Week 4 (diaries not requested but were produced)
SD8	<p>Complexity of ward round learning Unable to attend ward round due to timetable Exam assesses clerking need to practise that UNABLE TO PARTICIPATE?</p>	<p>Complexity of ward round learning Taken patient's history in preparation to present patient but found he was on wrong ward round – frustrating. Student Role – passive observer</p>	<p>No diary Had we lost you from this point of the project?</p>	<p>No diary</p>
SD9	<p>Emotional response to professional communication Response of team to a distressed patient – you questioned was this right? Student Role – Passive Observer Unable to help patient Or active observer? Observing carefully the interaction and questioning what you saw</p>	<p>Teamwork Seeing doctors and nutritionist working together <u>Role of teacher</u> Enthusiastic friendly teacher who taught lots. Student Role -Active observer Briefed about patients Answered questions</p>	<p>Confidence in role of learner People with differing levels of expertise can all be learning in the same bedside episode. Student Role -Active observer Interacted with team Answered questions</p>	<p>No diary</p>

	Week 1	Week 2	Week 3	Week 4 (diaries not requested but were produced)
SD10	<p>Knowledge Failure to delegate excluded team members and delayed round.</p> <p>Student Role – active observer – thinking about why the ward round wasn't working and what would have made it</p>	<p>Knowledge When taking a history underlying medical conditions may not be what you expect, so important not to narrow down too quickly and misdiagnose something as something else. What makes for an efficient ward round</p> <p>Confidence in role of learner Team members won't always know so use Oxford handbook during round</p> <p><u>Role of teacher</u> Frustration that teacher doesn't appear to have time to give brief outline of key feature</p> <p>Student Role – active observer</p>	No diary	<p>Doctor patient relationships Exploring and negotiating treatment options Focusing on the patient and taking the time needed to understand the patient's concerns.</p> <p>Emerging role as professional Effective patient management and teaching is possible on a business ward round.</p> <p>Student Role active observer Observe Answer questions</p>

	Week 1	Week 2	Week 3	Week 4 (diaries not requested but were produced)
SD11	<p>Complexity of learning in CW Didn't know how to find out about organisation of ward rounds Effect of interruptions</p> <p>Student role Active observer >Passive observer Knew 1st patient Asked questions Didn't know subsequent patients felt Ignored.</p>	<p>Knowledge Parenteral nutrition its use and complications Assess patients for fluid replacement</p> <p>Student Role -Active observer Briefed about patients Asked questions Looked in patients mouth</p>	Away	<p>Confidence in role of learner</p> <p>Called away to teaching Hard to judge what is most useful. Before you leave the ward round renegotiate to re-join the ward round when you return from teaching.</p>

Appendix 7a: Exercises used in Reflective Learning Sessions

Reflective learning session 1

Working in groups note down anything you could possibly learn about on the ward round

Discussion of audio-diaries

Goal setting

Reflective learning session 2

Discussion around previous week's mind map re possibilities for learning on the ward round

Working in groups note down anything you could do to get more involved in the ward round. I want you to divide into three aspects: prior to; during and after the ward round

Discussion of audio-diaries

Goal setting

Reflective learning session 3

Discussion around previous week's mind map re how to get more involved on the ward round

Discussion of audio-diaries – focusing on the need to draw out the specific learning points

Listening to an audio diary (pilot study student with permission) to identify all the possible learning points

In groups what does observation of clinical practice involve and how can you make your observation more efficient?

Goal setting

Appendix 7b: Excerpt from Reflective Learning Session 2

- R1 but you are engaged, you are thinking about what you're seeing as you're watching, you're asking yourself questions you're making notes.
- SD2 I suppose the problem is it just doesn't feel like being active. Sure you might be writing things down but you don't feeling engaged even if you are a bit. What feels good is having something to do being able to contribute.
- R1 I mean I absolutely get that's what in an ideal world you would want and that's what I'd be aiming for when I eventually speak to the consultants, but am also sort of thinking about what are the possibilities really, how can you make it so that you're not feeling totally disengaged? I think that's the difference isn't it. What about you guys at the bottom are you thinking there's just no way?
- SD11 I was thinking about x's point that they may be think, if you ask to see only three patients they maybe think you're being a bit bossy. But the same time the consultants don't notice whether their Junior staff have come or gone and there is quite a lot of changeover even on the Ward round. So if you just say "is it alright if I only stay for this long" I wouldn't envisage anyone saying they have a problem with that given that their own team do that anyway.
- SD3 you could combine that with the introduction say "hello I'm such and such, um I'd love to come on the Ward round however I do have another commitment at such and such a time, would it be okay if I just came on the Ward round for a few patients" I'm sure that would work out well wouldn't it?
- SD2 I suppose the other thing is you know doctors are very pushed for time and it's the behaviour they'd expect of themselves if not from students. You know they don't have time to aimlessly follow around a Ward round, maybe some of the, yer a consultant doesn't have time to follow a Ward round that

is not productive for them so why should a student follow a round that is not productive for them.

R1 So my question is what are you all going to do in the next week?

SD2 shall I be arrogant? (laughter)

SD3 don't blame us for the consequences!

SD2 why not well what's the harm(laughter)?

R1 I'd be really

SD3 don't answer that question (laughter)

SD2 apart from my end of placement assessment what's the(laughter) harm?

SD7 You can just blame it on Sally that's okay

R1 I would be really surprised if you appear to have really thought about what you want from this Ward round that someone will mark you down for negotiating. Because that's what you're doing you're just negotiating. Okay x

SD2 because I can either play softly softly and try and answer more questions and so on, but I know that won't work if I try and make small changes I won't make big enough changes for it to make any difference. So I can go full lock and (laughter) this is going to be interesting.

SD3 I can't see you coming across as arrogant so I

- R1 no I can't either. Anyone else got any thoughts about what they going to do
- SD11 I'm going to go back to my suggestion last week because will be going back to the same Ward round format - just to get more involved.
- R1 remind us what that was.
- SD11 It was to get more involved with the individual patients so if they've got anything needs done to chase that up, or just see if they've got any investigations going on that I could go to.
- R1 anyone else?
- SD3 well again just to introduce myself to at least the Jr doctors, perhaps also just say I've got X amount of time, I'm looking to leave it at a certain time this morning
- R1 Okay,
- SD7 I'm going to ask some questions and maybe try and do some jobs as well.
- SD2 just to summarise it I'm going to be more selfish (laughter)
- SD10 I'm going to do the same as I did last week because I found that
- R1 you found that really helpful?

SD10 Yes

R1 so just a reminder for the tape

SD10 the think about the management during a consultation, what I'd like to do and what's actually done and compare the two.

SD9 I might try and do the same thing with the obs and drugs charts but still pay attention to what's going on (laughter)

R1 what are you trying to achieve out of that?

SD9 sort of see what drugs different patients are on with their conditions

R1 Ok great

SD5 I'm going to try and go on the same Ward round again and pick up patient that is fairly early on in that Ward round and interview them and try and present because I've never done that and other people have and say it's quite useful

Okay and something you did x after the last round was actually went and looked back at the patient's notes after the round wasn't it?

Appendix 7c: Limits of the Reflective Learning Sessions

There were limits on the effectiveness of the RLS; it was difficult to balance the desire to enact change without being too directive. Issues relating to inclusivity, timing of session and lack of skilled facilitation need to be acknowledged. Although all the students participated in the discussions, some were clearly more vocal than others. Although I was conscious of this and strove to include everyone, I was aware that some students were not always able to voice their thoughts. SD 9 confirmed my suspicions when, having read her transcripts, she wrote:

"I know that I tend to be quite quiet in large group discussions generally, but it did feel sometimes in the focus groups and learning discussions that some people were a lot more vocal and it could be hard to get a word in edgeways sometimes! The lack of comments by me isn't always because I didn't have anything to say" (SD 9 Email Sep 14).

In future I would try to make group size no more than eight and attend even more closely to inclusiveness.

The pace of the RLS was important to maintain students' enthusiasm and engagement. However, the time limit of one hour meant that on occasions there was insufficient time to deconstruct and analyse issues in suitable depth and then develop goals prior to the next session. This had a number of consequences. Firstly, critical reflection needs to find a place for emotions. There were occasions when student-doctors began to explore their emotional response to complex situations, such as corridor conversations, which once voiced were not further explored. Although emotions were acknowledged in the context of student-doctors' frustrations and in relation to confidence building, they were not explored in any depth. To some extent this was deliberate. The time restriction, size of the group and the nature of much of the discussion meant this would have been very difficult. Even so, there is a second example which I handled poorly. SD9, one of the quieter group members, recorded a diary about a patient who was distressed and appeared to be ignored by the medical team. Without asking her whether she wished to discuss it, I used it as an example of a point I was trying to illustrate; by doing so I made it my story and failed to offer her an opportunity to discuss it:

"So, patient who was crying and, you know, what do you do, and the discomfort that that creates for you, and that's what that affective box is about, it's about, you know, how you feel being on the ward, how you feel when the consultant says, you know, no I'd rather you weren't here" (R1 RLS1)

On reflection, I think this was a result of the time limitation and wanting to move the group on, while giving her experience a chance to be heard. Nevertheless, I acknowledge that sometimes healthcare professionals can feel there is an embargo

on discussion of emotions and this would be an important issue to be aware of in planning the next cycle of the project(White, Fook and Gardner, 2006). Secondly, there were two occasions when, to save time, I deliberately short circuited the group discussion in RLS 1; this was when discussing apprenticeship and the nature of medical practice. This meant that I was more interventionist at the outset than I would have chosen to be. There were also occasions when, even though I was aware not everyone had spoken, I felt I had to move the discussion on and this may have had a more controlling effect on the group than I realised at the time. Thirdly, particularly in RLS 3, I tried to do too much within the available time. As a teacher I was very aware that this was the last session and I had identified a couple of exercises which I thought would really help them articulate their learning more clearly. However, as my diary recalls:

“With only 8 minutes to go I asked them to review their goals from last week and set goals for next week. What was I thinking of? Even worse I let them know the time pressure by saying they need to do it quickly. The outcome was so disappointing because I completely miss the fact that only SD1, 4, 6 and 8 review last week’s goals. Luckily I managed to get most of the others from their audio diaries” (R1. 08.03.11 RD)

Furthermore, during my analysis I realised that at the start of RLS 3 I should, following our previous debate, have re-presented my thoughts on levels of participation for them to re-consider; this would have been valuable. Although the focused group activities proved to be very effective tools for learning, I would not use more than one in a session in future. They took between ten to thirty-five minutes and within one hour the primary focus should be on the students’ discussion of their experiences.

Finally, whilst I would be considered by colleagues to be an experienced facilitator, there are many moments within the facilitation where, when listening to the recordings I have sat and cringed, wishing I could improve the facilitation. One example was when SD5 was discussing his experience with the nurse who was stressed as a result of her interaction with the consultant p x. Instead of interjecting with my own analysis, I could have thrown this open to the group and asked “What might be the effect of this behaviour on the nurse?”. This points to the qualities of the facilitator and the importance of preparation and training.

Appendix 8a: Thematic Analysis

Outcome themes identified

Changing understanding of knowledge	Changing nature of participation	Developing Identity
Knowledge as facts	Forms of participation	Learner identity
Embedded in social context	Effect of participation	Professional identity
Sources of knowledge		

Process themes identified

Sharing experiences	Goal setting	Facilitating critical reflection
Struggles	Small achievable goals	Creating a safe and trusting environment
Successes	Sense of achievement	Challenging assumptions and exploring alternative perspectives
Identifying learning opportunities	Achieving goals increases confidence	Developing ability to self- direct learning
Sharing strategies	Reviewing own performance	
Complexity of learning		
Value of sharing		

Appendix 8b: Subthemes for identity as Learner and Professional

Identity as Learner

Learners' perception of how they are seen	In the way Unwanted Taggers on Anonymous/invisible A burden A slacker	
Outcome of perception	Frightened Worried about stepping out of line Wary of trying new things	
Understanding of learner role on ward round	To be taught To be seen (attendance) To be noticed	
Factors that shape understanding	Media Prior learning Prior clinical experiences	
Feelings about learner role	Frustration Uncertainty Sense of lack of control	What to learn How to learn
Accepts responsibility for own learning	Developing strategies to support learning through participation	Going alone Making yourself known Getting to know team Doing small tasks Setting yourself tasks Asking for opportunities
Recognising learner has rights	To make choices To plan To manage time	
	Outcome of trying new strategies	Teams' positive responses Gaining confidence Taking risks

Identity as Professional

Learning the role of the doctor	One day we'll be doctors Learning to do something we will do when we qualify	How the team behaves How you know your role The different roles
Doctors as role models	Positive	Seeing theory applied in practice
	Negative	Medical hierarchy Relationship with other health care professionals Responses to patients
Learning the roles of the doctor	Communicators Managers Teachers Experts	
Seeing how doctors behave	Emotional detachment Focus on facts People or signs and symptoms?	

Appendix 8c: Indicative Data for Learner Identity

Identity as Learner

Perceptions of how learner is seen

In the way

sometimes you feel like you are in the way, no-one wants to talk to you you just feel like you're a bit of an add on so no I'm not confident I can learn SD 3 FG 1 | 602

Unwanted

Silly little things, that you know you're already being ignored and then they clearly well sometimes they just don't want you there SD3 FG 1

And you know when they don't want you there as well SD 1 FG 1

because they've still tolerated you being there SD7 FG 1

Taggers on

Being told they don't want you there. (laughter) I got that once (laughter) the consultant said, "Um have you seen any of these patients before?" I said "Well no it's a Monday and they all came in sort of yesterday morning um". "So what is the point in you being here? Are you learning anything?" And he just said it in such a tone it was quite clear he was neither interested in me um I was just one of a crowd of taggers on to this great big surgical ward round SD 3 FG1 |

Anonymous/Invisible

if you're on a surgical ward round it only lasts say 20 minutes and then you get to the end of the ward round and you've been ignored SD 7 FG 1

Perceived as a slacker

I wonder if some of the doctors think we're just slacking off when we don't turn up because we got teaching, but you don't want to always say oh I've got to go to teaching now because then it sounds really like petty. SD6 RLS3

A burden

it would be nice to recognize what we can do to help the doctors because they are ridiculously busy and having us around isn't always the easiest thing to deal with SD 4 FG 1 L 38

Outcome of perception

Frightened

if it is a huge ward-round with a consultant that doesn't even look you in the face I wouldn't introduce myself ever because I would be too terrified And that's saying something because I'm quite a confident person. SD 1 RLS 2

You're frightened of doing the wrong thing SD3 RLS 2

Scared of stepping out of line

I hadn't met any of the people before and so I hadn't really spoken very much but, and I didn't really, on ITU I didn't really want to ask questions SD 5 RLS 1 I

But you feel like you can't walk away at that point because then it'll be like well where are you going, so you feel like you have to stay there and endure it SD 2 FG 1 I

might try asking a question after each patient about their patient... tend to worry that I'm going to annoy them SD 5 RLS 1 I

My role on this was perhaps pretty much minimal again perhaps because I was a bit nervous because I didn't seem to know anyone I wasn't sure when I should be asking questions SD 2 AD Week 3

I was thinking about x's point that they may be think, if you ask to see only three patients they may be think you're being a bit bossy. SD11 RLS 2

Wary to try new things

I did it once but I never did it again because (laughs)... Because it wasn't snappy and good quick enough and they were all frankly not interested in waiting for me to be ramble bumble my way through (laughs) a nervous history. SD1 FG 1 I 933

However looking back I wish that I had the courage to just say "I'm sorry I just have to go to this teaching I would like to follow you around still if that's okay". So although this is a bit of a nan- experience for me it something that could potentially have really helped if I'd just felt able to say could I re-join and not felt to embarrassed because I had left in the first place SD 11 AD Week 4

Understanding of learner role

Attend to be taught

The FY2 would occasionally answer questions, well when asked directly, but the registrar and the FY1 were both seemingly too busy to acknowledge or teach student SD 10 AD Week 1

be in the right time the right place, be ready to answer questions SD 2 FG 1 L29

Do something to be noticed – competitive nature of medicine

Attend to be seen (performativity)

I think sometimes I go just so that the consultant can see I've turned up SD 8 FG 1

Attend to be noticed (competitive nature of medical culture)

but there's so many of us that you have to do that something that is a little bit different just to get someone to pay attention to you SD 7 FG 1

Factors that shape understanding of learner role

Media

You know you watch TV shows and whatever and they always have the consultant firing questions off at various scared medical students and yes that sounds scary but it would also be great. We just don't get that in ward rounds. SD 2 FG 1

Prior learning

'I guess the basic science we are taught in our first three years, the patients we see in our clinical years, imaging and investigations is taught in seminars and that kind of thing so it was really nice having it all almost given to us on a plate in a package SD 8 RLS 1

Pretty much entirely sitting in a lecture and being told what needed learning. It just felt very spoon-fed that you were just rate learning lists SD4 FG1

But equally you knew what you were supposed to be learning SD1 FG 1

I suppose you know what you need to do at the end but you don't have that structure as you go along over the months SD 3 FG1

They were all packed full of stuff you had to learn, there were very few lectures where you'd come away with just a few things you have to learn, you'd look at the hand out and think oh my God how am I going to learn all of that (laughter). SD 2 FG1

but as well you have someone supervising your learning...with someone who knew what your progress was and ...did provide the motivation then for you to work yourself it's a bit more difficult here. SD 7 FG 1

We had more of a curriculum and there was always like learning objectives and things like that ... Whereas now ...it's not very structured or standardised SD 6 FG 1

and even at the beginning of every lecture they would often have a set of learning objectives for that lecture and it's very clear always very clear what you are supposed to be learning and how much SD 1 FG1

They just clearly outlined anything core you needed to know contained within that lecture what extra reading and often there'd be references for the extra reading so you knew where to go and look for SD 7 FG 1

And you knew that if you went to a lecture you would gain something some information. You didn't feel like you might waste three hours of your life. SD 9 FG1

Previous clinical experiences

But actually one of the consultant's said that the ward rounds aren't really that useful because unless if you've seen the patient who's going to be seen on the ward round. So he suggested coming in in the morning at 8 O'clock in the morning to clerk the patients before anyone else has seen them which seems a bit early to me SD 8 AD Week 1

same kind of thing for me really because when I was ...I had really good experiences of ward rounds where I was involved and got to do a lot SD7 FG 1

my first medical firm in ...was very useful because again it comes down to the people the F1 would hand me the notes, would get me to examine as well, if she heard a particularly interesting sign she's get me to get my stethoscope out SD 3 FG 1

But on my last medical placement I would always always go in for the ward round because I was basically just being another junior doctor and sometimes I'd get to lead the ward round under the supervision of someone else. So really it really depends on your placement. SD 7 FG1

on a surgical placement and the reg just seemed like he didn't want to be there. There was an F1 there I was there and even just touching the curtains set him off. So um but that's in contrast to my previous experience ...I In the medical one I went in for virtually every ward round, in the for the surgical one I went in there three times and we didn't even do a ward round for one of those times. SD3 FG1

Response of team members

But equally you can get a huge amount out of it and it can set up your morning very well if you have a good team SD 3 FG 1

you might be lucky to have a firm with a junior team who are really interested in you in which case I'm convinced that you definitely learn a lot more than if you've got one who are not interested in having you around SD 2 FG 1

Actually I think you're right the biggest factor in your learning is how interested your doctors are in having medical students SD 1 FG1

Appendix 8d: Indicative Data for Participation

Forms of participation

Codes initially searched for:

Passive observer

Active observer

Doctor in rehearsal

Doctor in performance

Passive Observer

I prefer to learn actively and rehearsing but if you don't get the opportunity then you're forced to learn passively SD1 FG1

It's a useless ward round because no-one is interacting with you and you stand at the back and can't see anything, there's 15 people on this ward round and then you can't get away you spend three hours wandering, following the back of someone else not really learning anything SD1 FG1

I think sometimes I go just so that the consultant can see I've turned up SD8 FG1

I just find ward rounds quite often very unsatisfying you put in a lot of effort get up early...be ready to answer questions and then nothing happens SD2 FG1

so when he was speaking to the patient I didn't, he didn't sort of involve me in any way I was just watching SD 5 AD Week 1

I do find that sometimes if you're not doing anything and they're talking about something that you don't understand, you're sort of staring out the window thinking about something else and then if someone does talk to you it's really surprising and if you've not been listening for a while [laughter] or it might just look rude to the patient if you suddenly realise that you've been staring out the window while the doctors been talking to them I suppose you're a passive observer. SD9 RLS1

I had only seen one of the patients that I joined the ward round with. The registrar was aware that I had seen this patient but did not ask me to present. I think if the consultant had been more friendly (rather than completely ignoring me) then I would have been more assertive in asking to present. SD 7 Email 4.3.11

So when we went to meet the patient it was mostly just the registrar who was leading the ward round who spoke to her, so he asked her how she had been feeling and how she had changed in terms of health in the last day or two, because she'd been in hospital for a week. We didn't really say anything at this point. I felt like I didn't really know the patient well enough to interject with any extra information SD 6 AD Week 2

As students we weren't given any particular roles other than to open and close curtains and for most of it were there as passive observers, rather than taking an active part in the ward round SD 10 AD Week 1

they were sort of mumbling amongst themselves about the patient so we didn't really get a chance to look at the notes and see who this next patient that we were seeing was and what her medical circumstances were... So what was my role in this experience? I don't think I had a role, I don't think I learnt anything and yer I didn't learn anything we actually left after those two patients to do something more useful we did some clinical examinations instead.SD 8 AD Week 2

it would have been quite nice when they were going through the patients notes to present the patient to us so we'd have an idea of who we are going to see and what kind of thing we might be looking for rather than going blindly to see the patient and I guess just appearing well it felt kind of like part of the furniture really I didn't really contribute to anything at all that was useful.SD 8 AD Week 2

My role was to basically just stand round and observe but also help fetch notes for the F1 who was writing up in the notes SD 3 AD Week 2

My role on this was perhaps pretty much minimal again perhaps because I was a bit nervous because I didn't seem to know anyone I wasn't sure when I should be asking questions and bearing in mind that I haven't done much resp before I didn't really know what questions to be asking.SD 3 AD Week 3

Active Observer

Doing a task

Or even if you are in a pair just taking the initiative and just picking up the obs chart or the drugs chart and having them open ready for the junior doctors to look at. It just puts them in a slightly better frame of mind with the idea that you're there.SD4 FG1

In everything I've done so far I've been an observer, I've had maybe one or two occasions where I've been passed a blood folder or I have been passed an obs chart or once where the registrar asked me to look at the date of a pick line insertion in one of the patients records and then I actually felt like I had a job but apart from that all I have been doing is watching the ward round rather than actually participating in it which is at times very frustrating SD 7 Email 15.2.11

With regard to your level of participation do you feel you are actively involved if you're reading out the obs? R1 Emailed question to SD 7

No, I don't really feel actively involved when I'm reading from the obs chart. Most of the time 'reading' from the chart just involves finding the right page for the doctor to look at and then handing it over. Seldom does anyone ask me what the obs actually are, or if I'm worried about any of them. In fact, I find that the obs are often ignored by the ward round as the consultant seems to assume that the juniors would inform her if anything were wrong. Perhaps my level of participation on my last firm has affected the way I feel about this. I did offer to scribe at one point this week but was turned down, which made me feel quite disappointed and 'useless'. SD 7 Email 4.3.11

today just walking around on the ward round I was just given, like, a lot of, on IDA they have some really big sort of charts that you can write up the bloods and obs and so on, I was carrying those and it, it was such a small thing, but it actually made me engaged significantly more, because whenever we came up to a patient, patient bed, find that they, bit annoying,

they didn't say, you know, write now going to go and speak to Mrs such and such, and I had to kind of work that out. But then, you know, I'd spend my time rifling through and I'd have something to do and I was staying engaged and I'd look at the bloods myself and I could pass that on to someone, you know, the doctor when he asked to look at them SD 2 RLS 1

So, one of the things that I was sent to do, I remember being really excited, I had to go and get a BNF and look up a drug, and saying to myself 'oh I know how to do this!' [laughter] I know it's again a really small thing, but it made you feel like you were involved.SD 11 RLS 1

I think I'm going to be more active about asking people if they can delegate things to me rather than just standing and chancing and waiting for something to be given to me SD 2 RLS 1

Generally on the ward round my role was staying in the background but I did try and do things like pick up the notes sometimes and look through but I wasn't very quick at finding the right date so often if she asked for something I would hand it to them because I didn't get it fast enough. SD 5 AD Week 3

I was in charge of the obs chart and did highlight a temperature spike that the patient had had overnight, which indicated to the doctors that there may be some sort of infective process going on, alongside all the other symptoms the patient described.SD 10 AD Week 2

so he wanted her to lean forward so I held that bowl for a little while and that kind of thing and even though that is obviously quite a small thing it makes you feel a bit more like you're part of the team, you're sort of helping and stuff SD5 AD Week 2

we also sort of helped out finding the drug chart, so small roles.SD 6 AD Week 1

This happened to be the patient that x and I had talked to in the morning so we knew a bit about her background and what was going on.SD11 AD Week 1

I went on the ward half an hour before it was scheduled to start, spoke to the F1 on the ward and asked if I could clerk a patient who was likely to be on the ward round. So I spoke to a gentleman who'd come in in the middle of the night with chest pain and he was due to be on the post take ward round.SD 6 AD Week 2

She wanted me to hold the bloods folder and get the results for each patient ready, but then she always snaps her fingers at me and takes it off me anyway SD7 AD Week 1

Generally on the ward round my role was staying in the background but I did try and do things like pick up the notes sometimes and look through but I wasn't very quick at finding the right date so often if she asked for something I would hand it to them because I didn't get it fast enough. SD 5 AD Week 3

I tried to go on a consultant ward-round on Thursday and the consultant was late so I just went with the F2 and we saw some patients, he was asking me questions, showing me things and that was really good SD9 RLS 3

Asking questions

so I asked a question about what were the causes apart from the bottle that he'd been talking

about, the pills that he's been taking what other causes could there be for someone of this age to have VF and instead of answering it he said like you go and look up causes of VF and then have a think about it and then go and read his notes and then like came and talk to me the next day SD 5 AD Week 1

she had had a recent X-ray so we went to look at the X-ray. On looking at the X-ray of the abdomen we had the chance to ask the consultant what was going on and why was she having bowel surgery when she didn't actually have any bowel cancer. SD11 AD Week 1

I thought it was really useful that the doctors involved us in what we thought could be the case and then talked through some of the more serious things that they were trying to rule out. SD 6 AD Week 1

I asked a few questions which popped into my head some of them I asked just to ask a question, I'll be honest, but they were worthwhile I learnt something from them, and the ones that I really was interested in were I got pretty useful answers to, so that was good. SD 3 AD Week 3

set off with just the F2 and we went to see some patients and that was really good because I got to see him talk to the patient's and then he'd asked me questions about them SD 9 AD Week 3

Being asked questions also encourage me to ask him further questions about the management of the patients we were seeing and made me feel fully involved in the cases that we saw. SD 4 AD Week 3

She was really happy to answer all my questions and was very interested in me and so I made sure I kept on asking questions SD 7 AD Week 3.

I tried to take full advantage of Dr O. leading the round by asking a lot of questions as we went and he was very keen to answer those, although in a lot of cases he immediately would answer my question with another question, and then tell me to go and look it up. SD 7 AD Week 4

Setting yourself a cognitive challenge

Sometimes it can be a reverse puzzle as it were, if you don't know the patient you pick up the drugs chart and see the drugs and work out what they've got SD10 RLS 1

Based upon the experience I'd had beforehand (where the consultant had asked us in the corridor what we had simply seen around the bed of a patient) I realised that there was quite a bit of potentially useful information that I'd missed. It did also start new trains of thought for me as well; for example, one patient had an opened fortisips drink on his table but looked to have pretty normal body habitus. He was in a hospital gown (so no clues such as loose fitting clothes) but it suggested that he might have a long term weight loss (or perhaps malnutrition). That sort of information can immediately send you down a particular avenue of thought regarding a potential diagnosis which was quite useful to realise (perhaps because I didn't think I knew enough to do that sort of thing!). SD 10 AD Week 2

So I would say specific learning points from this ward round would be observation; I don't mean observing the consultant do things, I mean learning how to observe the items around the patient's bed and what use each of those might be. How to assess if the patient is well, unwell or very unwell, how to read an ECG and, something that I am going to take away with me and learn, is how to interpret different changes on the ECG especially past MI and what each of those changes mean. SD 7 AD Week 4

Rehearsing the role of the doctor

Being given a job learning to do something that you're going to be doing when you qualify. So letting you take the notes or if you're the one who leads, or interviews the patient or you are the one who listens to the patient's chest or something I find that really useful SD 7 FG1.

So one of the FY1's suggested that the ward round was split into two to accommodate the students which I thought was really good. They then asked us to clerk patients to be presented back which we did was good and we received feedback. SD1 AD Week 2

So he kind of looked at myself and the other Stage 1 medical student and said he wanted one of us to do an abbreviated mini mental examination. SD 6 AD Week 2

I was told to go and clerk one of the new patients with one of the registrars and the FY one and then present it back to the consultant when they got round to that patient SD 1 AD Week 3

often the consultant will do a quick exam or listen to the chest or something and you don't really appreciate what he's looking for or listening to. So this time when he listened I just said "do you mind if I have a listen?", said the same to the patient, and he just kind of stepped away and let me get on with it. So I did and it was really worthwhile I could have a good listen and heard exactly what he, he was describing. Which was good both because it felt like I was able to appreciate the same signs as he was, shows I wasn't you know deaf or something like that, but also it was another chest that I could add to the, to my database of the things I've listened to I suppose SD 2 AD Week 3

And then when I went to see him the SHO asked the patient if he'd be happy if I did the examination today and so I listened to his lungs, looked for his JVP, looked for oedema in his feet, I checked for ascites and it was really good because she then asked me "what signs did you find? What else would you want to look for?" SD 7 AD Week 3

So I presented the history and it was a couple of minutes and after that he spent a few minutes asking me why did you ask? Did you ask this? The sort of things I should be thinking on differential and to tell me the questions I should be asking, as well as saying why the things I did ask were good. So he gave me some teaching on those things so that was really good. It felt quite long because it was just him talking to me and I felt quite under pressure but it was probably ten minutes maybe he was talking to me, giving one on one teaching so it was holding the ward round up a bit but it was really useful for me. SD 5 AD Week 4

Physically writing in the notes, which I haven't done before, and it was a challenge because it was just the CT doctor and I was having to write down what I thought he wanted me to write down

Appendix 8e: Outcomes of Goal Setting

SD	Week 1		Week 2		Week 3	
	Task	Outcome	Task	Outcome	Task	Outcome
SD1	Be on time, attend same round and say good morning	It worked! Presented patient and did all the notes	Present a patient (left RLS 1 early but set own goal).	<i>Attended a ward round and presented a patient and received feedback</i>	Do diagrams, plan learning before round focus on one aspect.	Not evaluated
SD2	Be more active	Introduced myself asked some questions and chased some information	Be Brave / more selfish	Asked questions when normally I wouldn't have, examined patients	Build more rapport with teams and try to get some continuity e.g. if in clinic ask when that doctor is doing a ward round.	Not evaluated
SD3	Get on ward round	Negotiated with registrar and attended ward round with F1 and registrar	Introduce myself and explain time constraints	Yes achieved	Find patients to go back to	Not evaluated
SD4	Get details and try to get on a ward round	Introduce myself and have a specific aim – managed to introduce myself once not the other time – didn't have specific aims (goal developed)	Left early but set own goal	<i>Attended a ward round and clerked a patient and received feedback and teaching on clerking</i>	Have a notebook and take short notes things to look up	Not evaluated
SD5	Ask a question about each patient	Made more of an effort and did ask questions but felt over ambitious	Same ward round and present patient	Same round didn't present	Try and remember one point about each patient	Presented patient (revisited week 2 goal)

	Week 1		Week 2		Week 3	
SD	Task	Outcome	Task	Outcome	Task	Outcome
SD6	Find out from FY order of ward round and clerk patient prior to round	Spoke to FY re round, clerked patient – went on wrong round so couldn't present patient <i>however identified learning</i>	Find a good ward round	No in spite of attending pm ward round still unsuccessful	Find good consultants ward round	Attended a ward round and took notes about patients
SD7	Not present		Ask questions and do some jobs	Yes actively involved in ward round	Say when I know patients and ask to present	<u>Unsuccessful but clearly identified learning</u>
SD8	Think how I would communicate	<u>Didn't know patient so felt he couldn't achieve</u>	Speak to doctor and go on an afternoon ward round	<u>Unsuccessful sent away</u>	Look for good consultants ward round	Not evaluated
SD9	Read up on TPN	Look at chart – I did it but difficult (changed goal)	Look at drugs charts but still concentrate on what's happening	Not evaluated	Ask questions	Not evaluated
SD10	Think what I'd do for management plan and compare with actual plan	Did it for a few patients and it was really helpful, helped concentration	Think what I'd do for management plan and compare with actual	Not evaluated	Observe the environment more closely e.g. position of patient what's in IV	Yes discusses how patient had high protein drink on locker and yet looked normal BMI
SD11	Clerk a patient and get involved in their care	Brilliant ward round didn't need any strategies!	Get more involved follow up patients	Not present at ALD 3	Not present at ALD 3	

Appendix 8f: Facilitating Critical Reflection

Creating a safe and trusting environment

What was done or said	Evidence of outcome where apparent
<p>Lay out of room was carefully considered. We all sat around a table in room that wasn't normally used for teaching</p>	<p>Students felt comfortable</p> <p>because it was like a big table, so everybody could say stuff and it wasn't like a person on a podium talking – or a lecture SD6 FG3</p> <p>I think her sitting down as well SD4 FG3</p>
<p>Encouraged contributions</p> <p>R1: Can you can you just say a bit about what you did record and then a bit about what the questions were? RLS 1</p> <p>R1: Now you've had a week to think about it I just wonder what your thoughts are in terms of that at the moment? SD7 you weren't there maybe it would be good to hear your view. RLS2</p> <p>R1 You say about it rather than me RLS 2</p> <p>R1: I'd just like to know from you whether you think I'm on the right track? RLS 2</p> <p>R1: so where are you I'm not getting a you're very quiet today (laughter)... not getting a sense of... this recording is going to be very quiet RLS2</p> <p>R1: What about you guys at the bottom are you thinking there's just no way? RLS 2</p> <p>R1: What else would you like to add? RLS 3</p>	<p>Able to contribute</p> <p>I guess she probably had an idea that those were the flowcharts we should be producing but then all of the content, it felt like it came from us. So I suppose she had the idea that we should be producing these things for frameworks but it felt like we were doing it.SD6 FG3</p> <p>Humour</p>

What was done or said	Evidence of outcome where apparent
<p>Validating contributions</p> <p>R1: SD3 Tell us about your ward round because I think it's really interesting RLS 1</p> <p>R1: from your diaries I've picked up some really useful ideas RLS 1</p> <p>And you actually elicited something no-one else seemed to have got. RLS 2</p> <p>R1: Anyone else got any thoughts about what they going to do RLS 2</p> <p>R1: SD8 did me a brilliant summary this week RLS 2 R1: You tried really hard going to that ward round at 4:30pm RLS 3</p>	<p>She seemed to take everything that we said both in the discussions and on the recordings very seriously and very genuinely SD2 FG3</p>
<p>Inclusion</p> <p>R1: You had that in your diary didn't you SD5, this, this week?</p> <p>SD5: Oh yes</p> <p>R1: ...Do you want to say a bit more about that? RLS 1</p> <p>R1: So, I'm going to ask you, one group to start talking it through and then I'm going to ask others to add on [pause] what they've got that the others haven't RLS 1</p> <p>R1: What do the rest of you think? RLS1</p> <p>R1: Because I'm going to ask each of you to think about one thing you could try this week RLS 1</p> <p>R1: Do you want to come in on this? RLS 2</p>	<p>Some students felt included</p> <p>there were twelve people and there were people who were more talkative and people who were less talkative but I felt like everyone got the chance to say what they wanted to say and even the quieter people got drawn out She would ask more questions to draw them out more SD5 FG3</p> <p>"I know that I tend to be quite quiet in large group discussions generally, but it did feel sometimes in the focus groups and learning discussions that some people were a lot more vocal and it could be hard to get a word in edgeways sometimes! The lack of comments by me isn't always because I didn't have anything to say" (.SD 9 email Sep 14).</p>

What was done or said	Evidence of outcome where apparent
<p>Examples showing students felt able to express uncertainty or disagree</p> <p>SD4: I think the other thing is, stage 3 we spend a lot of time where we're basically meant to be shadowing the F1's at that point so it's a bit difficult to know how much, sort of doing all this stuff now RLS 1</p> <p>SD5: It's quite tricky to find a ward round I find RLS 1</p> <p>SD3: It would be good to be allowed to go on a ward round RLS 1</p> <p>SD2: it feels passive regardless of whether it is or not, it definitely feels like you're not doing anything active RLS 2</p> <p>R1 Okay if it was delivered as the kind of just trying to be helpful, "don't think this is going to be very useful for you"</p> <p>SD 11 Makes more sense to actually listen to them then and think okay will it be useful for me because as much as we think okay I can get more out of the ward now some ward round will still not be very useful. You could actually then take that advice and go somewhere else. FG2</p>	<p>Students felt able to challenge</p> <p>Do you feel like you were able to challenge what she said or debate with her? R2 FG3 Absolutely, I can't think of a specific example, but it never felt that she was forcing us in any particular direction. I'm sure we must have disagreed with her on any number of occasions SD2</p> <p>Sally's level was she didn't pick a superior teacher level that was miles away from the rest of the group, and as such I think we would have treated her ideas similarly to the rest of ours. SD2 FG3</p>
<p>Offer suggestions</p> <p><i>R1: are you thinking about how people prioritise problems and things like that?</i> RLS2</p> <p>See developing ability to self-direct learning</p>	<p>But it also felt like she didn't have her own agenda, or her own exact way – she'd offer suggestions but again she was very receptive to what we were saying and she helped guide us but not push us SD3 FG3</p>

What was done or said	Evidence of outcome where apparent
<p>Empathy</p> <p>it's a really difficult thing to do I know I appreciate that RLS 1</p> <p>It's really hard I'm not suggesting it isn't RLS 2</p> <p>R1: I mean that sounds like a pretty horrible RLS 2</p> <p>R1 I think several people have had really hectic weeks RLS 2</p> <p>R1: I read that and felt frustrated</p>	<p>I was really impressed by how much she cared about what we were saying SD 6 FG3</p> <p>I had a pretty rubbish experience and I had to leave whichever meeting it was early, and she came out after me and just said ' Look I'd like to bring up quite how bad that particular session was with the ...school is that ok?SD4 FG3</p>
<p>Showing I cared made it possible to challenge</p>	<p>She seemed to take everything that we said both in the discussions and on the recordings very seriously and very genuinely. There were things that we might just say offhand and then she'd really ask us some quite detailed questions about them.SD2 FG3</p>
<p>Making it clear at outset I didn't know the answer</p> <p>R1: and the reason for this project is really to try and think about can, can you still learn on ward rounds in 2011?RLS 1</p>	<p>But it also felt like she didn't have her own agenda, or her own exact way – she'd offer suggestions but again she was very receptive to what we were saying SD3 FG3</p>

Challenging assumptions and exploring alternate perspectives

What was done or said	Intention and outcome where apparent
<p>Challenging assumptions</p> <p>R1: did you learn something about teaching as well? RLS 1</p> <p>R1: Do you think they're not important? So you were saying that, sort of, petty RLS 1</p> <p>R1: Do you all introduce yourselves? RLS 1</p> <p>R1: Did he get no teaching? RLS 3</p>	<p>I think the key thing that Sally did was guide, focus and control the discussion and lead us off into areas that we maybe hadn't thought about at the time and provoke us to think more deeply about something that we had just mentioned very briefly SD 2 FG3</p>
<p>Exploring alternative perspectives</p> <p>R1: One of the things that the consultants used to say last year was the thing they found most difficult was when a whole bunch of students and they had no idea what they wanted to get out of the ward round RLS 1</p> <p>R1: So what was the effect on her? RLS 1</p> <p>R1: It's really trying to see the bigger picture and thinking about the clinicians you know what kind of pressures they're going to be under as well I think RLS 3</p> <p>R1: Okay, so then clearly there's the academic knowledge, what other kinds of knowledge are there that you can gain from ward rounds? RLS</p>	<p>I think one of the most useful things we discussed was what it's like on the ward-round from the consultant or doctors point of view. And actually we only discussed it briefly I think, but actually if you turn up the ward-round and you've not met the Dr before your first thought is oh God this is terrible for me because I don't know anyone here and it's all a bit awkward. But then when you think actually the consultant had no idea who you are and what you're doing and he thinks that you're just expecting him to impart his knowledge to you, it kind of makes you want to introduce yourself better, interact better with him and show more actively that you're keen to learn rather than just expecting him to do everything for you, or her.SD2 FG2</p>

Developing ability to self-direct learning

What was done or said	Intention and outcome where apparent
<p>Exploring possibilities</p> <p>R1: Anything to do with drug charts that you can do? RLS 1</p> <p>R1: do you remember we started off last week saying that you had a very set curriculum for, up for the first three years and now its very much harder to work out what, or perhaps this is actually a bit about what your curriculum is RLS 1</p> <p>R1: are you thinking about how people prioritise problems and things like that? RLS2</p> <p>R1: lost that potential moment to crystallise something in your mind, to link it to a patient</p>	<p>Sort of nudge strategy, gently nudging us, not in the right direction, because there is no right direction, but nudging us to keep us on track and focused and come up with some productive solutions.SD2 FG3</p>

What was done or said	Intention and outcome where apparent
<p>Pushing thinking</p> <p>R1: it's this supportive participation that I'm really wanting us to think about and that is, on those occasions when you are attending the ward round, what are the kinds of things that you could be questioning yourself about? For example, so that you are taking a role or what are the kinds of actions that you can take RLS 1 R1: Any thoughts about what those tasks might be? RLS 1</p> <p>R1: Ok so what on here is particularly difficult? RLS 3</p> <p>R1: If I said to you what were the specifics of what you learnt from that do you think you could draw out four or five points from that? RLS 3</p> <p>R1: several of you wrote this is a really good ward round but didn't necessarily identify particular learning points RLS 3</p> <p>R1: So if you were trying to make that into a stronger learning opportunity at the point at which you're observing the examining what would you do? RLS 3</p> <p>SD1: listening to the care plan being read out</p> <p>R1: okay so what does that teach you? RLS 3</p> <p>R1: sometimes we put things broad-brush, like communication skills or whatever, what specifically was he looking at? RLS 3</p>	<p>There were things that we might just say offhand and then she'd really ask us some quite detailed questions about them.SD2 FG3</p>

What was done or said	Intention and outcome where apparent
<p>Sharing learning</p> <p>R1: he also told you to go up and read about it and then go back and look at what was written in the notes on the round, didn't he? RLS 1</p>	<p>I think also hearing that other people have had really positive experiences makes you feel more determined that you could have a good one to SD11 FG2</p> <p>knowing that other people have done that and then you try it and then it does seem to help you, that was a key point as well in starting your learning on the ward-round having those techniques to get things going SD2 FG2</p> <p>See sharing experiences.</p>
<p>Focusing on learners responsibility</p> <p>R1: What other kinds of ideas do you have about things that perhaps could help you to be more involved? RLS 1</p> <p>R1: Yes small things which might make people take notice RLS 2</p> <p>R1: Something that you could do that would help you to get more out of the ward round</p> <p>RLS 1</p> <p>how can you make it so that you're not feeling totally disengaged? RLS 2</p> <p>So my question is what are you all going to do in the next week? RLS 2</p> <p>R1: did you say anything? Did you say I've seen this patient</p> <p>SD 8 No I didn't so it was probably my fault really?</p> <p>RLS 2</p>	

What was done or said	Intention and outcome where apparent
<p>Learners rights</p> <p>R1: the other thing that I think is having reflected on how very little time, ...you've actually got well</p> <p>RLS 2</p> <p>R 1: because your time is so precious RLS 2</p>	<p>I really liked having someone tell me that actually my time was valuable too SD2</p>
<p>Specific suggestions</p> <p>R1: and I think maybe it is about saying I can only stay on the ward-round three patients because I have to leave RLS 2</p> <p>R1: Absolutely think if you find yourself at the back of 10 people you should be asking yourself what am I doing here? RLS 3</p>	

Appendix 9: Researcher Diary

21.07.11

So that's it the SDs have just finished their presentation to 9 of the 10 deanery members. They did a great job now what I want to think about is some of the more challenging responses we got from the deanery team.

Their responses – i.e. well you couldn't roll this out across the curriculum, audio-diaries wouldn't work couldn't you put some of this on paper? Just write down the generic issues you've identified and future students could use that.

1. When writing about this I need to try and contextualise for the reader why ward rounds are so daunting described by D P (consultant) very effectively this evening as “a deeply unnerving experience”, where you're never quite sure what you're going to be asked, scared to ask for fear of humiliation.
2. The thing that seemed to make a difference was having the conditions right for students to be able to reflect inadvertently on the events they had directly experienced.

Getting an opportunity to present a patient during the ward round is an interesting example to use here. So there were a number of steps students had to negotiate/ learn for themselves before they were in a position to present.

So say a student set themselves the goal of presenting on a ward round what did they have to do?

Firstly they couldn't present if they didn't get on a ward round. This is a lot more difficult than it sounds. Students found it difficult to establish when ward rounds were and turned up to ward rounds that didn't happen. Secondly, having established when a ward round was, they needed to have made time to see the patient. Timetabling made this quite difficult and they had to work out when it was possible. For some students this meant realising that they had to go in and see patients at 8am and this early start was a shock to some students. Thirdly, they needed to make sure they were on the ward round when the patient was being discussed. Again students sometimes turned up to one ward round only to be told to attend a different one or found that because they had had teaching and so couldn't be there for the start of the ward round, their patient had already been discussed. Fourthly, they needed to feel ready to make the presentation. Fifthly, they needed to say could they present the patient. Again more difficult than it sounds some students might not have seen the patient for a few days felt they didn't have the latest information and so shouldn't offer to present. Or alternatively may not have felt they had the space to ask if they could present. Students were sometimes completely ignored or made to feel unwelcome and some needed help to speak up, such as someone asking, “Who knows this patient?”. After each of these moments it would have been easy for the student to give up but I think sharing their experiences with each other and problem solving together meant they kept persevering and most of them actually managed to present a patient. The success

and feeling of being a member of the team that this produced then began to change their perception of the value of the ward round and they tried out other strategies to engage more. For example, after seeing the consultant examining a patient, asking if they could listen as well. What they found was the more they participated the more the team responded to them and the more satisfied they became with the round experience.

3. So why did this work when so many other initiatives linked to reflection haven't? And were the audio- diaries gold standard or essential to the process?
- a. It came from the student's own experience
 - b. It wasn't didactic
 - c. It was immediate, the audio- diaries were an instant snap shot of what was happening in that ward round – not what they could remember some time later
 - d. Also it challenged students to think about their role, their level of involvement and whether they could do more to increase that – I think this may have been key.
 - e. They had given it some thought at the time – evident in the learning points they pull out towards the end of the diary. Gave them practise at ordering their thoughts, dictation something they will do later and also was perhaps useful for presenting.
 - f. I had listened to the diaries and so could trigger discussion around certain issues
What did the active learning sessions add?
 - g. Students shared experiences and learnt from each other
 - h. They set targets which were revisited? there was some pressure to follow these through
 - i. A major issue was lack of confidence in the ward round setting and by getting students to think about their role that's how we accessed this. If you're passive why are you being passive? What might you do to try to be more active? Also part of the passivity was linked to having no aim/idea about why they were attending the ward-round or what they hoped to get out of it.
 - j. Through these discussions we began to explore processes of learning and the model of empty vessels that they were socialised into in the first 3 years of medical education.
 - k. There were a lot of failures but by learning that others had been successful they kept trying.
 - l. Unknowing reflection – introduced to reflection by undertaking it and realising it worked for themselves without ever being told to reflect.

Interesting point made about using associate supervisors this year – we currently have a group of students who don't value the ward round as a learning experience – so run a major risk of reinforcing this negative message. This requires very careful thought when implementing change. When it does happen it should be the stage 1 being taken to the ward by the associate supervisor shown around and pointing out who is who and then the stage 1 should approach the staff ask for a patient etc.

Rolling this out. How can we move the enthusiasm and the positive experience and roll it out to the year?

Students have to be enabled to get on ward rounds more easily:

Timetabling and information

If we are to implement some sort of reflective learning in relation to ward round learning we need to consider.

When this should happen – timing will be crucial. Catching people early might mean you need to do less work as resistance/patterns are not set. However, too soon and they won't have had enough clinical contact to make sense of what they're doing. They need to have experienced some ward rounds to understand what the challenges are.

What form should it take?

Should diaries be used and if so oral/written or either?

If oral what are the technical practical aspects that need to be considered here

How many reflective discussions are needed?

Who should run the discussions?

What preparation would they need to run the sessions?

Then how do we roll it from year to year when the current group of students involved in the project are no longer around?

Other excerpts from diary to show the 4 guises of reflexivity

Inter-subjective

"SD 8 never speaks unless I ask him to. Why did he volunteer? Is the project giving him anything? He makes me feel very uncomfortable when I do ask him something differently when he replies with his monosyllabic responses. But yet each week he comes so perhaps he is getting something from it. Be more positive". Audio diary 28.2.11

"I spoke with a consultant at lunch today and he said he thinks I've got some interesting ideas and that ward rounds are important – first person in ages but having listened to the students diaries I'm convinced ward rounds are key moments of medical practice and so they must also be key to learning in clinical practice mustn't they?" Handwritten April 2011

The participative relationship

Equally I use the diary to question and describe how the students have been enabled to act as participants in the research process. After the meeting to discuss the Deanery presentation I

recorded *"Today felt like a real turning point for the project in terms of the students becoming research partners. I started by saying that although I was there to help I felt this was the point at which they should take control of the project. So I think at the outset I made it clear that this was to be their presentation. SD7 suggested that a good starting point would be to review the project as a way of refreshing our minds about the project. I was careful to say "okay you talk through it and I'll chip in if I think there's something you may be missing". Audio diary June 2011*

11.7.11 Audio diary

"met with the students to run through presentation for the Deanery team. SD7 arrived first and I could see she was very stressed; she feels as though she is the only one who is giving the time to the presentation. Yet she has just as much on as the others. She's currently doing GP in x and that means 12 hr. days and she has an exam on Monday. Apparently SD11 emailed last week to say she couldn't do her slides and then SD4, 3 and 9 had all said they would do them. Then nothing happened so when SD 7emailed again. SD 4 said she'd do them and then emailed later to say she had a friend visiting and so now couldn't and SD 7was left to do SD11's slides as well as her own. As a teacher I know this is good preparation for professional practice, an opportunity to develop presenting skills and that these kind of pressures reflect the world of medicine. However, I also feel guilty about the way the group is not taking responsibility for the activity they have committed to and the burden SD 7 is feeling and I wanted to speak to the group about this. Yet as the researcher I knew this is their bit of the project and that I shouldn't interfere. I was hugely relieved when SD1 and SD 3, who weren't involved in preparing the slides, turned up and were keen to help SD 7"

Reflexivity as social critique

Here I reflect on the complexity of the action research project and how the researchers can begin to lose control as it moves into its next iteration. *"From the moment we presented to the Deanery team it's no longer our research it's become institutional development. It's now part of major curriculum development for the whole of the next cohort (monthly student-led RLS as part of the professionalism theme planned for 2014). This is exciting we really could make a difference but also presents me as the researcher with significant logistical, political, theoretical and methodological issues. I worry that the students (who have been so committed to this project) will feel it is no longer their project, that others who are being asked to facilitate will belong to an acquisition mode of learning and for me personally the suggestion that*

because I am not a doctor I won't be able to facilitate highlights and challenges my professional identity". (Handwritten Oct 2011).

Development as a researcher

"In the focus group it was easy for the students to be clear about my role, I was the researcher, but today what will they see me as the researcher, the facilitator or the teacher? My aim is to try to bring about change so I am trying to facilitate their learning but what we discuss will be the data. I need to try and explain this clearly". Audio Diary 21.2.11

Listening to my audio-diaries I became more aware of my assumptions.

"I wanted to see if I can perhaps get him thinking that even within that situation there was perhaps other things that he was or rather find out if there were other things he was noticing – oh dear I must be careful not to just assume they see what I do". Audio diary 21.2.11

*P (consultant surgeon) asked me about the research today and when I told him what I was doing he gave me a puzzled look and then said 'but clearly your study can't be reliable you must see you're skewing the results'. I felt that awful feeling of here we go again will I ever feel more comfortable justifying my research to those who see the world so differently?
Handwritten April 2011*

Appendix 10: Email to Student-Doctors 10.9.11

Dear X,

We have done a lot of work recently with regard to implementing change in the curriculum. In contrast, this email is asking for your help with the EdD component of the project.

I am now well into analysing the data and want to check on the decisions we have made regarding use of transcriptions and anonymity of data. I am asking for responses from you to five different ideas that relate to data analysis and dissemination of findings.

I need to be sure that you will be happy with me using any of the transcript as anonymised quotations, either within my thesis or in subsequent presentations and publications. I am attaching the transcripts and would be really grateful if you could have a look through them and reply to this email stating whether or not you're happy for me to use the data and indicating if there are any specific quotes you would not want me to use. In doing this I would like you to try and think about how you might feel in a couple of years' time, as well as how you feel now. I know they look very long!! but if you use the 'find' feature in word it will highlight just your transcriptions.

As far as possible my intention with future publications and presentations is to get your agreement about how data is used. This would involve sending you copies of presentation and draft publications. Is this something that you would want?

We originally discussed that I would refer to you as x in the data, can you please let me know if you're happy with this?

I am also keen to acknowledge the contribution you have made to the research project and would like to include your name in a list of people who have been co-researchers in both the thesis and on the department web site. What do you think about this as an idea? Is there any other way I could acknowledge your contribution?

For my thesis I am keen to develop a greater understanding of your thoughts about the whole research process. One way we might do this would be for you to meet with Ruth Diver (who co-facilitated some of the active learning sessions) to discuss this with her. Is this something you would be interested in doing?

Finally, and most importantly, as a result of reading the transcripts is there anything particular that strikes you or you would like to add - if so do let me know.

Thank you so much for your continued commitment and particularly for the amount of time, effort and above all your enthusiasm for the project.

Kind regards
Sally